
**EIGHTH
MALAYSIA PLAN
2001 - 2005**

ISSN 967-99911-2-1

For further technical information refer to:

Director General
Economic Planning Unit
Prime Minister's Department
Block B5 A B6
Federal Government Administrative Centre
62502 Putrajaya
MALAYSIA

http://www.epu.gov.my
email: epu@epu.gov.my

Tel: 603-8883333
Fax: 603-8883755

Released on 23 April 2001

Some copies are obtainable from:

General Manager
Pencetakan Nasional Malaysia Berhad
Jalan Chan Sow Lin
60554 Kuala Lumpur

FAX: 03-92224773

Cover Design by:
Economic Planning Unit
Prime Minister's Department, Malaysia

Price: RM70

Publisher's Copyright ©

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means electronic, mechanical, photocopying, recording and/or otherwise without the prior permission of Economic Planning Unit, Prime Minister's Department, Malaysia.



PRINTED BY
PERCETAKAN NASIONAL MALAYSIA BERHAD
KUALA LUMPUR BRANCH
501

APB01039418

NASKAH PEMELIHARAAN
PERPUSTAKAAN NEGARA MALAYSIA

21 SEP 2001

011-1077

RUKUNEGARA

DECLARATION

*O*UR NATION, MALAYSIA, being dedicated

to achieving a greater unity of all her peoples;

to maintaining a democratic way of life;

to creating a just society in which the wealth of the nation shall be equitably shared;

to ensuring a liberal approach to her rich and diverse cultural traditions;

to building a progressive society which shall be oriented to modern science and technology;

*W*E, her peoples, pledge our united efforts to attain these ends guided by these principles:

Belief in God

Loyalty to King and Country

Upholding the Constitution

Rule of Law

Good Behaviour and Morality



**PRIME MINISTER
MALAYSIA**

Foreword

The Eighth Malaysia Plan charts the next steps that we, as a nation, will have to take towards becoming a united and fully developed nation in our own mould by the year 2020. In formulating this plan we considered the progress achieved, took stock of our current position as well as the considerable challenges ahead. The strategies and programmes presented are aimed at putting the nation on a stronger footing and to be more resilient and competitive. The Plan is also the first phase in the implementation of the Third Outline Perspective Plan for 2001-2010.

The recent financial crisis clearly demonstrated the need for resilience, both economically and socially. It served to remind us that we can no longer depend on past formulas for our future success. During the Eighth Malaysia Plan period, we will be faced with even greater challenges from globalization and liberalization as well as the rapid development of information and communications technology. We will have to enhance the competitiveness of the economy, strengthen our economic resilience and improve our total factor productivity. To do that, we will have to shift the growth strategy from being input-driven towards one that is knowledge-driven. Emphasis will be given to improving management and organizational techniques, upgrading R&D and science and technology, as well as strengthening innovative capacity. This will enhance potential output growth and accelerate structural transformation within the agriculture, manufacturing and services sectors.

We will also have to enhance the value added of all productive activities through knowledge utilization and also create new knowledge-intensive industries. In this respect, the Eighth Malaysia Plan emphasizes the creation of a strong human resource base to support the development of the knowledge-based economy as well as to enhance productivity and competitiveness. Efforts will be undertaken to develop an efficient and responsive education and training system to meet the demand for a labour force that is knowledgeable, highly skilled and equipped with positive values.

As we develop, the integrity of our family structures, our communities and our efforts at social integration will be tested. We will have to ensure that society remains resilient, able to withstand any negative influence that may affect social harmony and tolerance. We will have to continuously foster the spirit of neighbourliness and harmonious living among the various communities as we go about building a resilient nation through fostering unity, inculcating the spirit of patriotism, cultivating a more tolerant and caring society and raising the quality of life of the people.

The Government will ensure that all segments of society, particularly rural society, enjoy and benefit from the opportunities available, including education, employment and access to social services. Every effort will be made to ensure better coverage and improvement of social amenities, including improved working conditions as well as better health and environmental quality.

To ensure social and political stability and the achievement of national unity, we will continue the strategy of developing an equitable society. The poverty eradication programmes will be more target-specific to address pockets of poverty in rural and urban areas. The distributional strategy will emphasize reduction of the economic disparities among ethnic groups and improving Bumiputera corporate equity ownership. The cooperation and support of the private sector, NGOs and members of all ethnic groups will be needed in fulfilling the Government's initiatives in this aspect. The ultimate effort, however, will have to be made by the Bumiputera themselves in developing the requisite values, skills and capabilities to take advantage of the innumerable opportunities available and emerge as successful entrepreneurs.

Although we have made significant progress over the past five years, we must not become complacent. We will have to respond to the changing patterns of trade and investment arising from an increasingly competitive global economy. We will have to cultivate the right mind-set and value system in order to develop

a culture of high productivity and excellence and ensure that our success is sustainable. We will have to work hard at meeting the challenge of establishing a mature, liberal and tolerant society in which all Malaysians are free to profess their customs, cultures and religious beliefs. Only then, can we be truly on our way towards forging a united Malaysian nation with a sense of common shared destiny, a nation at peace with itself, ethnically integrated, living in harmony and full and fair partnership made up of one *Bangsa Malaysia*, loyal and dedicated to the nation.

The preparation of the Eighth Malaysia Plan involved extensive consultations with the public as well as the private sector, and it took into account the recommendations of the Second National Economic Consultative Council (MAPEN II). I wish to place on record the deep appreciation of the Government for the cooperation given by all concerned. The Plan has been formulated to hasten the pace of development as we begin the Third Outline Perspective Plan and the National Vision Policy. Let us now direct all our efforts towards full implementation of the Plan. The sacrifice, selfless service and determination of all are called for to make the Plan a success and our country a progressively better place to live in as we progress towards our vision of a fully developed country.



DR. MAHATHIR BIN MOHAMAD
Prime Minister, Malaysia

Putrajaya
23 April 2001

CONTENTS

	<i>Page</i>
CHAPTER 1 – POLICY OBJECTIVES AND FRAMEWORK	
I. INTRODUCTION	3
II. NATIONAL VISION POLICY (NVP)	4
III. DEVELOPMENT THRUSTS OF THE EIGHTH PLAN	5
Maintaining Macroeconomic Stability	6
Poverty Eradication and Restructuring of Society	9
Productivity-Driven Growth	11
Enhancing Competitiveness in Key Sectors	12
Expanding the Usage of Information and Communications Technology	14
Enhancing Human Resource Development	15
Achieving Sustainable Development	16
Enhancing the Quality of Life	17
Addressing Social Issues	18
Strengthening Moral and Ethical Values	19
IV. CONCLUSION	20
CHAPTER 2 – MACROECONOMIC PERFORMANCE AND PROSPECTS	
I. INTRODUCTION	23
II. REVIEW OF MACROECONOMIC PERFORMANCE, 1996-2000	24
Macroeconomic Progress	24
<i>Aggregate Demand</i>	25
<i>International Trade</i>	29
<i>Balance of Payments</i>	32
<i>Sectoral Output</i>	34
<i>Employment and Prices</i>	37
<i>Resource Balance</i>	37

III. MACROECONOMIC FRAMEWORK FOR THE EIGHTH MALAYSIA PLAN	38
Macroeconomic Strategies	38
International Economic Outlook	39
The Malaysian Economy	40
<i>Growth Prospects</i>	40
<i>Aggregate Demand</i>	41
<i>Sectoral Output</i>	42
<i>International Trade</i>	45
<i>Balance of Payments</i>	47
<i>Terms of Trade</i>	47
<i>Price Development</i>	49
<i>Resource Balance</i>	49
<i>Public Sector Account</i>	49
IV. CONCLUSION	51

CHAPTER 3 – POVERTY ERADICATION AND RESTRUCTURING OF SOCIETY

I. INTRODUCTION	55
II. PROGRESS, 1996-2000	56
Poverty Eradication	56
Income Distribution	60
Restructuring of Ownership and Control of the Corporate Sector	62
Employment Restructuring	65
Development of the BCIC	68
III. PROSPECTS, 2001-2005	72
Poverty Eradication	73
Income Distribution	75
Ownership and Control of the Corporate Sector	76
Employment Restructuring	79
Development of the BCIC	81
IV. CONCLUSION	83

CHAPTER 4 – POPULATION, EMPLOYMENT AND HUMAN RESOURCE DEVELOPMENT

I.	INTRODUCTION	87
II.	PROGRESS, 1996-2000	88
	Population	88
	Labour Force	89
	Employment by Sector	91
	Employment by Occupation	93
	Wages and Productivity	97
	Human Resource Development	98
	<i>Education Programmes</i>	98
	<i>Skill Training Programmes</i>	107
	<i>Participation of the Private Sector in Education and Training</i>	109
III.	PROSPECTS, 2001-2005	111
	Human Resource Policy Thrusts	111
	<i>Expanding the Supply of Highly Skilled and Knowledge Manpower</i>	112
	<i>Increasing Accessibility to Quality Education and Training</i>	113
	<i>Improving the Quality of Education and Training Delivery System</i>	113
	<i>Promoting Lifelong Learning</i>	114
	<i>Optimizing the Utilization of Local Labour</i>	115
	<i>Increasing the Supply of S&T Manpower</i>	115
	<i>Accelerating the Implementation of the Productivity-Linked Wage System</i>	116
	<i>Strengthening the Labour Market Information System</i>	116
	<i>Developing and Promoting Malaysia as a Regional Centre of Educational Excellence</i>	117
	<i>Reinforcing Positive Values</i>	117
	Population and Labour Force	117
	Employment by Sector	118
	Employment by Occupation	119
	Human Resource Development	121
	<i>Education Programmes</i>	121
	<i>Skill Training Programmes</i>	125
	<i>Participation of the Private Sector in Education and Training</i>	126

	<i>Page</i>
IV. ALLOCATION	127
V. CONCLUSION	128

CHAPTER 5 – REGIONAL DEVELOPMENT

I. INTRODUCTION	133
II. PROGRESS, 1996-2000	134
Population, Employment and Labour Force	134
<i>Population</i>	134
<i>Employment</i>	136
<i>Labour Force</i>	136
State Economic Activities	138
<i>Per Capita Gross Domestic Product</i>	138
<i>Structure of the State Economics</i>	140
<i>Agriculture</i>	140
<i>Mining</i>	140
<i>Manufacturing</i>	141
<i>Construction</i>	142
<i>Services</i>	142
Quality Of Life	143
Urban Development	144
Rural Development	148
Growth Triangles Cooperation	149
III. PROSPECTS, 2001-2005	150
Population Growth and Employment by State	150
State Economic Growth	151
Strategies for Balanced Regional Development	152
<i>Diversifying Economic Structure of the Less Developed States</i>	152
<i>Improving the Quality of Urban Services</i>	153
<i>Accelerating Development in Rural Areas</i>	154
<i>Promoting Growth Triangles Cooperation</i>	155
IV. CONCLUSION	156

CHAPTER 6 – PUBLIC SECTOR PROGRAMME AND ITS FINANCING

I.	INTRODUCTION	159
II.	PROGRESS, 1996-2000	160
	Development Expenditure by Sector	161
	<i>Expenditure for Rural Development</i>	166
	<i>Development Expenditure for Poverty Eradication</i>	167
	Development Expenditure by State	167
	Current Expenditure	168
	Sources of Revenue	169
	Consolidated Public Sector Financing	171
III.	PROGRAMMES AND FINANCING, 2001-2005	173
	Development Allocation	173
	Development Allocation by Sector	174
	<i>Allocation for Rural Development</i>	176
	<i>Development Allocation for Poverty Eradication</i>	177
	Development Allocation by State	177
	Current Expenditure	178
	Sources of Revenue	178
	Consolidated Public Sector Financing	179
IV.	CONCLUSION	180

CHAPTER 7 – PRIVATIZATION

I.	INTRODUCTION	183
II.	PROGRESS, 1996-2000	184
	Projects Privatized	184
	Benefits of Privatization	184
	Bumiputera Participation	190
	Training Programme	193
	Market Capitalization	193

Regulatory Authorities	195
Technology Development	196
Monitoring of Privatized Projects	197
III. PROSPECTS, 2001-2005	197
Strengthening and Streamlining the Privatization Process	198
Strengthening the Regulatory Framework	199
Enhancing Bumiputera Participation	200
Promoting Wider Public Participation in the Capital Market	200
IV. CONCLUSION	201

CHAPTER 8 – AGRICULTURAL DEVELOPMENT

I. INTRODUCTION	205
II. PROGRESS, 1996-2000	205
Growth Performance	206
Employment	206
Land Utilization	208
Agricultural Production	209
<i>Agricultural Industrial Commodities</i>	209
<i>Food Commodities</i>	211
Local Processing	216
Restructuring of Agricultural Agencies	217
Agricultural Programmes	217
<i>In-situ and New Land Development</i>	218
<i>Agricultural Support Services</i>	218
III. PROSPECTS, 2001-2005	221
Policy Thrust	222
<i>Agricultural Production</i>	223
<i>Food Commodities</i>	223
<i>Agricultural Industrial Commodities</i>	225
<i>Specialty Natural Products</i>	227
Employment	227
Restructuring of Agricultural Agencies	228

	<i>Page</i>
Agricultural Programmes	228
<i>In-situ and New Land Development</i>	228
<i>Agricultural Support Services</i>	229
IV. ALLOCATION	231
V. CONCLUSION	232

CHAPTER 9 – INDUSTRIAL DEVELOPMENT

I. INTRODUCTION	235
II. PROGRESS, 1996-2000	235
Growth Performance by Industry	235
Export of Manufactured Goods	237
Employment, Productivity and Training	237
Manufacturing Investment	241
Development of Small- and Medium-Scale Enterprises	245
Industrial Technology and R&D	247
Other Initiatives to Support Industrial Development	249
III. PROSPECTS, 2001-2005	250
Growth Prospects of the Manufacturing Sector	250
Positioning Industries for Globalization	251
Strengthening the Industrial Clusters	252
<i>Electrical and Electronic Products Industry</i>	252
<i>Automotive Industry</i>	253
<i>Aerospace Industry</i>	253
<i>Strategic Resource-based Industries</i>	254
Strengthening the Manufacturing-Related Services	257
Providing More Focused Incentives for High Value-Added Industries	258
Increasing the Use of Technology and Developing Strong Domestic Capability	258
Enhancing Local Production of Capital and Intermediate Goods	260
Developing New Initiatives in Export Promotion	260
Enhancing Competitiveness Through Productivity Improvements	261

	<i>Page</i>
Increasing the Use of Information and Communications Technology	261
Developing Resilient SMEs	262
IV. ALLOCATION	263
V. CONCLUSION	264

CHAPTER 10 – INFRASTRUCTURE AND UTILITIES

I. INTRODUCTION	267
II. PROGRESS, 1996-2000	267
Roads	268
Urban Transport	271
Rail Transport	273
Ports	274
Airports	278
Communications	281
Water Supply	282
Sewerage	285
III. PROSPECTS, 2001-2005	286
Roads	287
Urban Transport	288
Rail Transport	291
Ports	292
Airports	295
Communications	296
Water Supply	297
Sewerage	299
IV. ALLOCATION	300
V. CONCLUSION	301

CHAPTER 11 – ENERGY

I.	INTRODUCTION	305
II.	PROGRESS, 1996-2000	305
	Energy Demand	306
	Energy Supply	308
	<i>Crude Oil</i>	308
	<i>Natural Gas</i>	311
	<i>Coal</i>	315
	<i>Electricity</i>	315
	Renewable Energy	324
	Energy Efficiency	324
	Regulatory Framework	325
	Vendor Development	325
	Research and Development	326
III.	PROSPECTS, 2001-2005	326
	Energy Demand	327
	Energy Supply	328
	<i>Crude Oil</i>	328
	<i>Natural Gas</i>	328
	<i>Coal</i>	331
	<i>Electricity</i>	331
	Renewable Energy	333
	Energy Efficiency	334
	Development of Energy-related Industries and Services	334
	Research and Development	334
IV.	ALLOCATION	336
V.	CONCLUSION	336

CHAPTER 12 – SCIENCE AND TECHNOLOGY

I.	INTRODUCTION	339
II.	PROGRESS, 1996-2000	339
	Review of S&T Policy	340

	<i>Page</i>
National R&D Expenditure	341
Public Sector Expenditure on R&D Programme	342
Industrial-based Technologies and Emerging Industries	345
Technology Inflows	346
Standardization and Quality Assurance	346
S&T Manpower	349
Commercialization of Research and Technology	351
S&T Awareness and Promotion	351
III. PROSPECTS, 2001-2005	352
The Thrust for S&T Development	352
Adopting an Integrated National Approach in the Use of R&D Resources	353
Accelerating the Rate of Commercialization of R&D Findings	354
Further Enhancing Private Sector Participation in R&D Activities	354
Increasing the Supply of S&T Manpower	355
Acquiring New and Imported Technologies	356
Promoting Development of Indigenous S&T Capabilities in Strategic and Key Technologies	356
Strengthening the Technological Capability of the SMEs	359
IV. ALLOCATION	359
V. CONCLUSION	360

CHAPTER 13 – INFORMATION AND COMMUNICATIONS TECHNOLOGY

I. INTRODUCTION	363
II. PROGRESS, 1996-2000	364
Utilization of ICT	364
National IT Agenda	367
Development of the Multimedia Super Corridor	369
MSC Flagship Applications	370

	<i>Page</i>
Development of Communications Infrastructure	375
Electronic Commerce	375
Human Resource Development for ICT	377
Funding for ICT Industry	378
III. PROSPECTS, 2001-2005	379
Positioning Malaysia as a Global ICT and Multimedia Hub	380
Upgrading and Expanding ICT Infrastructure	381
Enhancing Human Resource Development in ICT	382
Promoting Electronic Commerce	383
Fostering Local Capabilities in Content Development	384
Rolling-out the MSC Flagship Applications	386
Nurturing ICT-based SMEs	386
Promoting R&D on Soft Factors	387
IV. ALLOCATION	387
V. CONCLUSION	388

CHAPTER 14 – FINANCE

I. INTRODUCTION	393
II. PROGRESS, 1996-2000	394
Banking System	394
<i>Assets and Deposits</i>	394
<i>Loans</i>	394
<i>Structural Changes in the Banking System</i>	397
Islamic Banking	402
Special Funds	403
Development Finance Institutions (DFIs)	405
Other Financial Institutions	406
Capital Market	407
<i>Funds Raised and Secondary Market Activity</i>	407
<i>Development of the Capital Market</i>	408
<i>Unit Trust Funds</i>	412
Venture Capital Financing	413

	<i>Page</i>
Insurance	414
Labuan International Offshore Financial Centre (IOFC)	418
III. PROSPECTS, 2001-2005	421
Banking System	422
Capital Market	424
Venture Capital Financing	426
Insurance	427
Labuan International Offshore Financial Centre (IOFC)	429
IV. ALLOCATION	430
V. CONCLUSION	430

CHAPTER 15 – TOURISM

I. INTRODUCTION	433
II. PROGRESS, 1996-2000	433
Tourist Arrivals	433
Tourism Receipts and Expenditure	435
Domestic Tourism	436
Investment	437
Employment and Training	438
Tourism Products	438
Marketing Strategies and Promotions	444
III. PROSPECTS, 2001-2005	445
Sustainable Tourism Development	446
Holistic and Integrated Approach	446
Creating A Carnival Atmosphere	447
Product Development and Promotion	448
Human Resource Development	451
Accessibility	452
Ensuring the Comfort, Safety and Security of Tourists	452
Strategic Alliances and International Cooperation	452
IV. ALLOCATION	453
V. CONCLUSION	454

CHAPTER 16 - DISTRIBUTIVE TRADE

I.	INTRODUCTION	457
II.	PROGRESS, 1996-2000	457
	Developments in Distributive Trade	458
	E-commerce	462
	Bumiputera Participation	462
	Establishing Closer Linkages with Other Sectors	464
	Ensuring Adequate Supply of Essential Goods	465
	Consumer Protection and Education	466
III.	PROSPECTS, 2001-2005	466
	Enhancing Competitiveness	467
	Development of New Distribution Modes	469
	Expanding E-commerce	470
	Increasing Bumiputera Participation	470
	Strengthening Linkages with Other Sectors	471
	Ensuring Price Stability	472
	Consumer Education and Protection	472
IV.	ALLOCATION	473
V.	CONCLUSION	474

CHAPTER 17 - HEALTH

I.	INTRODUCTION	477
II.	PROGRESS, 1996-2000	478
	Promotive and Preventive Health Services	478
	Medical Care Services	482
	Health Manpower	487
	Medical Research and Development	489
III.	PROSPECTS, 2001-2005	490
	Promotive and Preventive Health Services	491
	Medical Care Services	493

	<i>Page</i>
Health Manpower	495
Medical Research and Development	496
IV. ALLOCATION	497
V. CONCLUSION	498

CHAPTER 18 – HOUSING AND OTHER SOCIAL SERVICES

I. INTRODUCTION	501
II. PROGRESS, 1996-2000	501
Housing	502
Other Social Services	505
<i>Services in the Local Authorities</i>	505
<i>Fire and Rescue Services</i>	507
<i>Library Services</i>	508
<i>Sports</i>	508
<i>Information and Broadcasting</i>	510
<i>Culture</i>	512
<i>Community Development</i>	513
<i>Family Development</i>	514
III. PROSPECTS, 2001-2005	518
Housing	518
Other Social Services	522
<i>Services in the Local Authorities</i>	522
<i>Fire and Rescue Services</i>	523
<i>Library Services</i>	524
<i>Sports</i>	524
<i>Information and Broadcasting</i>	526
<i>Culture</i>	528
<i>Community Development</i>	530
<i>Family Development</i>	531
IV. ALLOCATION	534
V. CONCLUSION	535

CHAPTER 19 – ENVIRONMENT AND SUSTAINABLE RESOURCE MANAGEMENT

I.	INTRODUCTION	539
II.	PROGRESS, 1996-2000	539
	Environmental Management	539
	Natural Resource Management	544
	Other Initiatives	547
III.	PROSPECTS, 2001-2005	548
	Environmental Management	549
	Natural Resources Management	551
	Other Initiatives	553
IV.	CONCLUSION	554

CHAPTER 20 – WOMEN AND DEVELOPMENT

I.	INTRODUCTION	557
II.	PROGRESS, 1996-2000	557
	Population, Labour Force and Employment	557
	Educational Attainment	560
	Skills and Entrepreneur Development	561
	Research and Development	562
	Health Status	563
	Poverty among Female-headed Households	564
	Supportive Legislation	564
	National Machinery for the Advancement of Women	565
III.	PROSPECTS, 2001-2005	566
	Increasing Female Participation in the Labour Force	567
	Providing More Education and Training Opportunities	567
	Enhancing Women's Involvement in Business	568
	Reviewing Laws and Regulations	568
	Improving the Health Status	568

	<i>Page</i>
Reducing the Incidence of Poverty among Female-headed Households	569
Strengthening Research Activities	569
Strengthening the National Machinery and the Institutional Capacity	569
IV. CONCLUSION	570

CHAPTER 21 – YOUTH IN DEVELOPMENT

I. INTRODUCTION	573
II. PROGRESS, 1996-2000	573
Youth Population and Employment	573
Youth Development Programmes	577
III. PROSPECTS, 2001-2005	581
Youth Population and Employment	582
Youth Development Programmes	582
IV. CONCLUSION	586

CHAPTER 22 – DEVELOPMENT THROUGH INTERNATIONAL COOPERATION

I. INTRODUCTION	589
II. PROGRESS, 1996-2000	589
Bilateral Cooperation	590
Regional Cooperation	593
Multilateral Cooperation	595
South-South Cooperation	599
III. PROSPECTS, 2001-2005	603
Bilateral Cooperation	604
Regional Cooperation	604
Multilateral Cooperation	605
South-South Cooperation	606
IV. CONCLUSION	607

CHAPTER 23 – ADMINISTRATIVE IMPROVEMENTS FOR DEVELOPMENT

I.	INTRODUCTION	611
II.	PROGRESS, 1996-2000	611
	Administrative Response to the Economic Crisis	612
	Quality Management	612
	Information and Communications Technology Development	614
	Accountability and Management Integrity	617
	Strengthening Organizational Structure and Human Resource Management	619
	Implementation of the Malaysia Incorporated Policy	622
III.	PROSPECTS, 2001-2005	623
	Policy Thrusts	623
	<i>Reinforcing Quality Management</i>	624
	<i>Electronic Government</i>	625
	<i>Developing ICT Infrastructure</i>	626
	<i>IT Strategic Planning and Resource Sharing</i>	627
	<i>Adopting a More Responsive Work Culture</i>	628
	<i>Malaysian Civil Service Link and Information Dissemination</i>	628
	<i>Continuous Improvements in Management Integrity</i>	628
	<i>Organizational Development and Human Resource Management</i>	630
	<i>Collaboration with the Private Sector and Non-Governmental Organizations</i>	631
IV.	CONCLUSION	631

LIST OF TABLES

	<i>Page</i>
<i>Table 2-1</i> Contribution of Factors of Production, 1991-2005	25
<i>Table 2-2</i> Gross National Product by Expenditure Category, 1995-2005	26
<i>Table 2-3</i> Direction of Trade, 1995-2000	30
<i>Table 2-4</i> Merchandise Trade, 1995-2000	31
<i>Table 2-5</i> Gross Imports by End Use and Broad Economic Categories, 1995-2000	33
<i>Table 2-6</i> Gross Domestic Product by Industry of Origin, 1995-2005	35
<i>Table 2-7</i> Resource Balance, 1995-2005	38
<i>Table 2-8</i> Commodity Production and Exports, 1995-2005	46
<i>Table 2-9</i> Balance of Payments, 1995-2005	48
<i>Table 2-10</i> Consolidated Public Sector Development Expenditure, 1995-2005	50
<i>Table 3-1</i> Incidence of Poverty and Number of Poor Households, 1995, 1997 and 1999	57
<i>Table 3-2</i> Poverty Line Incomes, 1995-1999	58
<i>Table 3-3</i> Distribution of Households by Monthly Gross Household Income, 1995 and 1999	61
<i>Table 3-4</i> Mean Monthly Gross Household Income by Ethnic Group, 1995 and 1999	61
<i>Table 3-5</i> Mean Monthly Gross Household Income by Income and Ethnic Groups, 1995 and 1999	62
<i>Table 3-6</i> Ownership of Share Capital (at Par Value) of Limited Companies, 1995 and 1999	64
<i>Table 3-7</i> Employment by Sector and Ethnic Group, 1995 and 2000	66
<i>Table 3-8</i> Employment by Occupation and Ethnic Group, 1995 and 2000	67
<i>Table 3-9</i> Registered Professionals by Ethnic Group, 1995 and 1999	69
<i>Table 4-1</i> Population Size and Age-Structure, 1995-2005	89
<i>Table 4-2</i> Employment by Sector, 1995-2005	92
<i>Table 4-3</i> Employment by Major Occupational Group, 1995-2005	94
<i>Table 4-4</i> Employment by Selected Occupation, 1995-2005	95

	<i>Page</i>
<i>Table 4-5</i> Student Enrolment in Local Public Institutions, 1995-2005	99
<i>Table 4-6</i> Enrolment and Output for First Degree Courses from Local Public Educational Institutions, 1995-2005	105
<i>Table 4-7</i> Enrolment and Output for Diploma and Certificate Courses from Local Public Higher Educational Institutions, 1995-2005	106
<i>Table 4-8</i> Output of Skilled and Semi-Skilled Manpower by Course, 1995-2005	108
<i>Table 4-9</i> Development Allocation for Education and Training, 1996-2005	128
<i>Table 5-1</i> Population by State, 1990, 1995, 2000 and 2005	135
<i>Table 5-2</i> Labour Force, Employment and Unemployment by State, 1995-2005	137
<i>Table 5-3</i> Gross Domestic Product by State, 1995-2005	139
<i>Table 5-4</i> Approved Manufacturing Projects by State, 1996-2000	141
<i>Table 5-5</i> Mean Monthly Household Income and Incidence of Poverty by State, 1995-1999	143
<i>Table 5-6</i> Selected Socio-Economic Indicators by State, 1995-2000	145
<i>Table 5-7</i> Urbanization Rate by State, 1995, 2000 and 2005	146
<i>Table 6-1</i> Public Sector Development Allocation and Expenditure, 1996-2005	160
<i>Table 6-2</i> List of Non-Financial Public Enterprises (NFPEs), 1999	162
<i>Table 6-3</i> Federal Government Development Allocation and Expenditure by Sector, 1996-2005	164
<i>Table 6-4</i> Federal Government Development Allocation and Expenditure by State, 1996-2005	168
<i>Table 6-5</i> Federal Government Expenditure and Financing, 1995-2005	169
<i>Table 6-6</i> Federal Government Revenue, 1995-2005	170
<i>Table 6-7</i> Consolidated Public Sector Expenditure and Financing, 1995-2005	172
<i>Table 7-1</i> Number of Privatized Projects by Sector and Mode, 1996-2000	185
<i>Table 7-2</i> Efficiency and Productivity Indicators of Selected Privatized Entities	186
<i>Table 7-3</i> Traffic Accidents by Road Classification (OPs Statik V, 18-31 December 2000)	188
<i>Table 7-4</i> Results of Medical Examination on Foreign Workers, 1998-2000	189

	<i>Page</i>
<i>Table 7-5</i> Proceeds, Savings and Reduction in Public Sector Employees, 1996-2000	190
<i>Table 7-6</i> Equity Ownership of Privatized Entities Upon Privatization, 1996-2000	191
<i>Table 7-7</i> Equity Ownership of Privatized Entities	191
<i>Table 7-8</i> Vendor Programmes Undertaken by Selected Privatized Companies, 1996-2000	193
<i>Table 7-9</i> Expenditure on Training of Selected Privatized Companies, 1996-2000	194
<i>Table 7-10</i> Market Capitalization of Privatized Companies Listed on KLSE, 1996-2000	194
<i>Table 7-11</i> Paid-up Capital and Market Capitalization of Listed Privatized Companies	195
<i>Table 7-12</i> Establishment of Sector-Based Regulators	196
<i>Table 7-13</i> Major Entities/Projects Approved in Principle for Privatization	198
<i>Table 8-1</i> Agricultural Value Added, 1995-2005	207
<i>Table 8-2</i> Employment and Productivity in Agriculture, 1995-2005	207
<i>Table 8-3</i> Agricultural Land Use, 1995-2000	208
<i>Table 8-4</i> Agricultural Production, 1995-2000	210
<i>Table 8-5</i> Self-Sufficiency Levels of Food Commodities, 1995-2005	212
<i>Table 8-6</i> Exports and Imports of Food, 1995-2005	213
<i>Table 8-7</i> Local Processing and Utilization of Agricultural Industrial Commodities, 1995-2005	216
<i>Table 8-8</i> Replanting, Land Consolidation and Rehabilitation Programmes by Agency, 1996-2005	219
<i>Table 8-9</i> New Land Development, 1996-2005	220
<i>Table 8-10</i> Development Allocation for Agriculture, 1996-2005	231
<i>Table 9-1</i> Growth of Manufacturing Industries, 1995-2000	236
<i>Table 9-2</i> Exports of Manufactured Goods, 1995-2000	238
<i>Table 9-3</i> Employment in the Manufacturing Sector by Category of Workers, 1995-2000	240

	<i>Page</i>
<i>Table 9-4</i> Approved Manufacturing Projects, 1996-2000	242
<i>Table 9-5</i> Approved Manufacturing Projects by State, 1996-2000	243
<i>Table 9-6</i> Lending of Commercial Banks to the Manufacturing Sector by Industry, 1995-2000	244
<i>Table 9-7</i> Development Allocation For Industrial Development, 2001-2005	264
<i>Table 10-1</i> Major Road Projects Implemented, 1995-2005	269
<i>Table 10-2</i> Road Development Indicators, 1995-2005	270
<i>Table 10-3</i> Number Of Berths and Cranes, Port Capacity And Throughput At Ports, 1995-2005	276
<i>Table 10-4</i> Number Of Ships Calls And Volume of Cargo Handled, 1995-2005	277
<i>Table 10-5</i> Traffic Handled At Malaysian Airports, 1995-2005	279
<i>Table 10-6</i> Urban And Rural Water Supply Coverage And Non-Revenue Water Rate, 1995-2005	284
<i>Table 10-7</i> Major Road Projects, 2001-2005	288
<i>Table 10-8</i> Development Allocation For Infrastructure And Utilities, 2001-2005	300
<i>Table 11-1</i> Final Commercial Energy Demand by Source, 1995-2005	306
<i>Table 11-2</i> Final Commercial Energy Demand by Sector, 1995-2005	307
<i>Table 11-3</i> Primary Commercial Energy Supply by Source, 1995-2005	308
<i>Table 11-4</i> Natural Gas Production, 1995-2005	313
<i>Table 11-5</i> New Generation Capacity, 1996-2005	317
<i>Table 11-6</i> Installed Capacity, Peak Demand and Reserve Margin, 1995-2005	318
<i>Table 11-7</i> Fuel Mix in Electricity Generation, 1995-2005	319
<i>Table 11-8</i> Transmission Network Capacity, 1995-2005	320
<i>Table 11-9</i> Distribution Network Capacity, 1995-2005	321
<i>Table 11-10</i> Rural Electrification Coverage by Region, 1995-2005	322
<i>Table 11-11</i> Investments by Utilities and IPPs in Electricity Supply Industry, 1995-2000	322
<i>Table 11-12</i> Performance Indicators of the Electricity Supply Systems, 1995 and 2000	323

	<i>Page</i>
<i>Table 11-13</i> Development Allocation/Investments and Expenditure for Energy Sector Programmes, 1995-2005	335
<i>Table 12-1</i> IRPA Programme Approvals by Area of Research, 1996-2000	343
<i>Table 12-2</i> Technology Inflows by Industry Groups, 1995-2000	347
<i>Table 12-3</i> Technology Inflows by Type of Agreement, 1995-2000	348
<i>Table 12-4</i> Output of Degree Courses, 1991-2000	350
<i>Table 12-5</i> Development Allocation for Science and Technology, 1996-2005	359
<i>Table 13-1</i> IT Expenditure By Sector, 1995-2000	365
<i>Table 13-2</i> Selected ICT Indicators, 1995 and 2000	367
<i>Table 13-3</i> Internet Subscribers by State, 2000	368
<i>Table 13-4</i> Development Allocation For ICT-Related Programmes and Projects, 2001-2005	388
<i>Table 14-1</i> Total Assets, Deposits and Loans of the Banking System, 1995 and 2000	395
<i>Table 14-2</i> Loans of the Banking System By Sector, 1995 and 2000	397
<i>Table 14-3</i> Key Indicators of Kuala Lumpur Stock Exchange, 1995-2000	409
<i>Table 14-4</i> Selected Indicators of Unit Trust Funds, 1995-2000	413
<i>Table 14-5</i> Type of Companies Established in Labuan IOFC as at December, 2000	420
<i>Table 14-6</i> Development Allocation For Finance, 1996-2005	430
<i>Table 15-1</i> Selected Tourism Indicators, 1995, 2000 and 2005	434
<i>Table 15-2</i> Tourist Receipts By Country, 1995-2000	435
<i>Table 15-3</i> Composition of Tourist Expenditure, 1995 and 2000	436
<i>Table 15-4</i> Meetings, Incentives, Conventions and Exhibitions, 1996-2000	443
<i>Table 15-5</i> Development Allocation for Tourism, 1996-2005	453
<i>Table 16-1</i> Number of Franchises by Sector and Ethnic Group, 2000	459
<i>Table 16-2</i> Development Allocation for Distributive Trade, 1996-2005	473
<i>Table 17-1</i> Selected Indicators of Health Status, 1995 and 2000	479
<i>Table 17-2</i> List of Hospital Projects Approved During the Seventh Plan Period	483

	<i>Page</i>
<i>Table 17-3</i> Public Health Facility and Coverage, 1995 and 2000	485
<i>Table 17-4</i> Number and Ratio of Doctors to Population by State, 1999	488
<i>Table 17-5</i> Selected Health Manpower Distribution and Requirements, 1995 and 2000	489
<i>Table 17-6</i> Development Allocation for Health Services, 1996-2005	497
<i>Table 18-1</i> Public and Private Sector Housing Targets and Achievements, 1996-2000	503
<i>Table 18-2</i> Housing Needs by State, 2001-2005	519
<i>Table 18-3</i> Public and Private Sector Housing Targets, 2001-2005	520
<i>Table 18-4</i> Development Allocation for Housing and Other Social Services, 2001-2005	534
<i>Table 19-1</i> Emission of Pollutants to the Atmosphere by Source, 1995-1999	540
<i>Table 19-2</i> River Water Quality, 1995-1999	541
<i>Table 19-3</i> Solid Waste Generated, 1996-2000	543
<i>Table 20-1</i> Employment Distribution by Gender Within Sectors, 1995 and 2000	559
<i>Table 20-2</i> Employment Distribution by Sector and Gender, 1995 and 2000	559
<i>Table 20-3</i> Employment Distribution by Occupation and Gender, 1995 and 2000	560
<i>Table 20-4</i> R&D Personnel by Gender and Qualification, 1998	562
<i>Table 21-1</i> Population by Age Group, 1995-2005	574
<i>Table 21-2</i> Youth Employment by Sector and Ethnic Group, 1995 and 2000	575
<i>Table 21-3</i> Youth Employment by Occupation and Ethnic Group, 1995 and 2000	576
<i>Table 22-1</i> Technical Assistance Received By Source, 1996-2000	592
<i>Table 22-2</i> Malaysia's Contribution to Multilateral Organizations, 1996-2000	600
<i>Table 23-1</i> Number of Posts in Public Sector Agencies by Type of Service, 1995 and 2000	620
<i>Table 23-2</i> Number of Training Courses Conducted by INTAN, 1996-2000	621

LIST OF CHARTS

	<i>Page</i>
<i>Chart 2-1</i> Gross Exports of Manufactured Goods, 1995 and 2000	32
<i>Chart 2-2</i> Gross Domestic Product by Industry of Origin, 2000 and 2005	43
<i>Chart 9-1</i> Major Export Destinations for Manufactured Products, 1995-2000	239
<i>Chart 11-1</i> Crude Oil Reserves, 1995 and 2000	309
<i>Chart 11-2</i> Crude Oil and Condensate Production, Export Volume and Value, 1995-2005	310
<i>Chart 11-3</i> Natural Gas Reserves, 1995 and 2000	312
<i>Chart 11-4</i> Gas Supply Projects, 2000-2005	314
<i>Chart 11-5</i> Gas Utilization, 1995-2005	329
<i>Chart 13-1</i> Approved MSC-Status Companies by Sector and Country	371
<i>Chart 19-1</i> Quantity of Scheduled Wastes Generated, 1995-1999	543

Chapter 1

Policy Objectives and Framework

1

POLICY OBJECTIVES AND FRAMEWORK

I. INTRODUCTION

1.01 The Eighth Malaysia Plan, covering the period 2001-2005, is the first phase in the implementation of the Third Outline Perspective Plan (OPP3), 2001-2010. The OPP3, which embodies the National Vision Policy (NVP), will chart the development of the nation in the first decade of the 21st century. The Eighth Plan will incorporate the strategies, programmes and projects designed to achieve the NVP objectives of sustainable growth and strengthen economic resilience as well as create a united and equitable society.

1.02 The Seventh Plan was marked by rapid economic growth except in 1998, when the economy was adversely affected by the economic crisis. The sharp economic contraction was short-lived as the economy staged a dramatic turnaround following the implementation of effective monetary and fiscal policies and strategies by the Government as well as favourable external sector performance. In 2000, the economy reverted to the growth rate of the pre-crisis level with relative price stability and low unemployment rate. The poverty level was significantly reduced and improvements were made in the quality of life.

1.03 During the Eighth Plan period, the Malaysian economy will face greater challenges as a result of increasing globalization and liberalization as well as the rapid development of technology, especially information and communications technology (ICT). To enhance the competitiveness of the economy and strengthen economic resilience, concerted efforts will be undertaken to improve total factor productivity (TFP) as well as facilitate the development of a knowledge-based economy. Priority will be accorded to increasing the supply of quality manpower, enhancing research and development (R&D) efforts and accelerating the development of growth sectors. Emphasis will also be given to strengthen positive values among Malaysians and promote a united and equitable society.

II. NATIONAL VISION POLICY

1.04 The NVP incorporates the critical thrusts of the previous development policies, namely the New Economic Policy and the National Development Policy with the overriding objective of national unity. Eradicating poverty irrespective of race, restructuring of society and balanced development will remain as key strategies. The NVP is also guided by the strategic challenges of Vision 2020, which laid out the directions for Malaysia to become a fully developed nation by 2020.

1.05 In essence, the NVP represents the consolidation of all past development efforts and is aimed at establishing a united, progressive and prosperous *Bangsa Malaysia* that lives in harmony and engages in full and fair partnership. To address the challenges faced by the nation in its quest to become a fully developed nation in its own mould, emphasis will also be given to the building of a resilient, competitive nation and an equitable society to ensure unity and social stability. In order to realize these objectives, the NVP will encompass the following critical thrusts:

- ❑ *building a resilient nation by fostering unity, inculcating the spirit of patriotism, nurturing political maturity, cultivating a more tolerant and caring society with positive values, and raising the quality of life as well as increasing economic resilience;*
- ❑ *promoting an equitable society by eradicating poverty and reducing imbalances among and within ethnic groups as well as regions;*
- ❑ *sustaining high economic growth by strengthening the sources of growth, the financial and corporate institutions as well as macroeconomic management;*
- ❑ *enhancing competitiveness to meet the challenges of globalization and liberalization;*
- ❑ *developing a knowledge-based economy as a strategic move to raise the value added of all economic sectors and optimizing the brain power of the nation;*
- ❑ *strengthening human resource development to produce a competent, productive and knowledgeable workforce; and*
- ❑ *pursuing environmentally sustainable development to reinforce long-term growth.*

- ❑ *strengthening and streamlining distributional strategies and programmes to ensure balanced participation among and within ethnic and income groups as well as regions;*
- ❑ *enhancing productivity growth through improvement in workers' knowledge, skills and expertise as well as upgrading of R&D and science and technology (S&T);*
- ❑ *increasing competitiveness and economic resilience through accelerating the shift of the key economic sectors towards more efficient production processes and high value-added activities;*
- ❑ *expanding the usage of ICT within and across sectors to accelerate the growth process;*
- ❑ *strengthening the human resource base to ensure the availability of manpower with higher levels of knowledge, technical and thinking skills;*
- ❑ *adopting an integrated and holistic approach in addressing environmental and resource issues to attain sustainable development;*
- ❑ *enhancing further the quality of life through improving accessibility to social services as well as developing the aesthetic aspects of life; and*
- ❑ *intensifying efforts to nurture and inculcate positive values and attributes among Malaysians through the education system, social and religious organizations and the media.*

Maintaining Macroeconomic Stability

1.10 Macroeconomic stability is critical to maintain sustainable growth with resilience. Efforts to maintain macroeconomic stability will include pursuing sound macroeconomic management, ensuring prudent fiscal and monetary policies, attracting quality domestic and foreign investments, enhancing the development of the growth sectors and maintaining a healthy balance of payments position.

1.11 *Pursuing sound macroeconomic management.* Malaysia will continue to aim for rapid economic growth with low inflation and sustainable budgetary and external accounts. To become a developed country by 2020, the real GDP of Malaysia will need to grow at a minimum of 7.0 per cent per annum. This growth rate will be achieved in line with the long-term potential of the economy while

maintaining sound macroeconomic fundamentals, particularly in the form of price stability and a surplus in the fiscal and external accounts. During the Eighth Plan period, growth will be targeted at 7.5 per cent per annum through the implementation of measures to further increase potential output. Efforts will be made to improve efficiency in the utilization of capital, undertake productive and quality investments, enhance labour productivity and increase the contribution of TFP to economic growth.

1.12 While pursuing higher growth, experience from the 1998 economic crisis has underscored the need to strengthen the resilience of the economy to withstand unexpected shocks and have the ability to recover with minimal adverse effects. Malaysia will continue to be exposed to the risks of unregulated short-term speculative capital flows in the light of the highly integrated global financial system. Sound macroeconomic management will be implemented to avoid imbalances as well as contribute to enhancing economic resilience and competitiveness.

1.13 *Ensuring prudent fiscal and monetary policies.* During the Eighth Plan period, the Government will continue its prudent fiscal policy to ensure long-term sustainability and a manageable debt service ratio. The tax system and its administration will be further strengthened to generate revenue and promote greater economic efficiency and productivity. The monetary policy will reinforce the fiscal policy in promoting long-term sustainable growth. In this context, liquidity will be judiciously managed to facilitate economic growth without causing inflation. Monetary policy will also ensure that bank lending will not be a source of instability that could result in asset price inflation, which ultimately leads to inflationary pressures. A positive real rate of return on deposits will be maintained to promote savings to support economic growth. In addition, the bond market will be developed to complement the banking system in meeting financial requirements, particularly for large infrastructure projects.

1.14 *Encouraging more domestic investment and attracting quality foreign direct investment (FDI).* Efforts will focus on promoting domestic private investment in order to build upon the endogenously driven growth strategy and strengthen economic resilience. The Government will continue to adopt a pro-business policy in order to provide a conducive environment for businesses to prosper. The private sector will be encouraged to raise the quality of investment and expand into higher value-added activities. In this regard, local entrepreneurs will be encouraged to increase knowledge utilization in their operations and benchmark

against international standards and practices in order to raise competitiveness and productivity. In addition, outsourcing will be increasingly important especially for small- and medium-scale enterprises (SMEs) for market expansion, both domestically and internationally. The privatization policy will continue to be pursued as a means of strengthening the role of the private sector in economic development and enhancing Bumiputera participation in the corporate sector.

1.15 The Government will also continue to promote FDI, particularly in high technology manufacturing, ICT, energy and other strategic activities. FDI that is accompanied with R&D will be encouraged as well as those that bring significant benefits in terms of human resource development, technology transfer and access to new markets. Multinational companies (MNCs) will continue to be encouraged to strengthen domestic linkages by sourcing a greater portion of their inputs locally. Foreign investors will also be encouraged to establish strategic alliances and partnerships with domestic SMEs.

1.16 *Maintaining a healthy balance of payments position.* The Government will continue to adopt the two-pronged policy of reducing the deficit in the services balance and increasing the merchandise surplus in order to maintain a healthy balance of payments position. To address the deficit in the services account, the service industries will be further developed to increase foreign exchange earnings from tourism, travel and education, shipping and insurance as well as finance and construction. In addition, the Government will continue to provide a conducive environment for the further expansion of the export sector to sustain export earnings. Concerted efforts will also be made to reduce the import bill through the active promotion of SMEs to produce intermediate inputs for domestic industries.

1.17 During the Plan period, local industries will be facing more intense competition arising from greater liberalization in line with the ASEAN Free Trade Area (AFTA) and World Trade Organization (WTO) agreements. The maturing of other developing economies and those in transition will increase the intensity of global competition for Malaysia. Further efforts will continue to be undertaken to improve the quality of infrastructure and create a more conducive environment for private initiatives as well as to enhance the development of competitive industry clusters.

1.18 *Enhancing efforts to develop a knowledge-based economy.* In line with global trends, there is a need to increase the knowledge content of all economic activities so as to strengthen value added and generate employment. The knowledge-

based economy will also serve as an important strategy to increase productivity in terms of TFP and raise the level of potential output. It will provide the basis to sustain international competitiveness in the short- and medium-term. The development of the knowledge-based economy will, among others, require concerted efforts to further develop human resource, strengthen R&D and S&T, upgrade ICT infrastructure and ensure appropriate financing facilities.

1.19 Malaysia will need to urgently build a critical mass of creative and innovative manpower. Towards this end, the education system will be reviewed to produce the required skills. A system of lifelong learning will be introduced and skills upgrading strengthened to support the development of a learning society, while a coordinated brain-gain programme will be initiated to attract highly skilled and talented Malaysians abroad as well as foreigners to work in Malaysia. Efforts to strengthen R&D and S&T will include the upgrading of domestic capability to undertake R&D, streamlining the public sector financing mechanism for R&D, encouraging the private sector to allocate a greater proportion of their revenue for these activities, re-focusing R&D efforts to strategic areas, and improving the diffusion of research findings and increasing their commercial applications. To facilitate the growth of knowledge-based activities, the Government will continuously upgrade its communications and multimedia infrastructure, promote the development of local content of industries and ensure a supportive regulatory regime. The financial system will be realigned to meet the needs of a knowledge-based economy. In addition, the development of the venture capital industry and the capital market will be accelerated to serve as important sources of financing for innovative and high technology ventures.

Poverty Eradication and Restructuring of Society

1.20 Emphasis will continue to be given to the distributional agenda with the aim of building a united and equitable society. Towards this end, the implementation of distributional strategies and programmes will be strengthened and streamlined to ensure balanced participation among and within ethnic and income groups as well as regions. The Government will review and rectify weaknesses in the implementation of current strategies and programmes to ensure that the objectives are met.

1.21 *Consolidating poverty eradication programmes.* During the Plan period, the thrust of poverty eradication will be directed towards reducing the incidence of absolute poverty to 0.5 per cent by 2005. The rapid economic growth that

is anticipated during the Plan period is expected to generate more opportunities for the poor to further increase their income and move out of poverty. In addition, the *Program Pembangunan Rakyat Termiskin* (PPRT) and other anti-poverty programmes will be consolidated under the *Skim Pembangunan Kesejahteraan Rakyat* (SPKR). The SPCR will be implemented as an integrated package encompassing economic, social and physical components, targeted towards eradicating poverty in areas and among groups with a high incidence of poverty.

1.22 The Government will continue to address the issue of income imbalance, particularly between ethnic groups, urban-rural population and regions. Efforts will be undertaken to intensify the creation of a bigger and more prosperous middle-income group as well as to improve the income of the lower-income group. More income generating activities to increase the household income of the poor and low-income group will be introduced. Among others, an income augmentation mechanism for smallholders will be established to assist them during difficult periods. To meet the objectives of balanced development between different regions and states, the Government will undertake measures to increase the growth rates of less developed states through the promotion of the manufacturing, tourism and modern agriculture sectors.

1.23 *Restructuring of society.* With regard to ownership restructuring, various programmes such as the allocation of reserve shares, unit trust schemes and privatization, will continue to be implemented to increase and sustain the Bumiputera share capital ownership and control of corporations. The proportion of Bumiputera equity ownership in the corporate sector will be increased to at least 30 per cent by 2010, as stipulated in the OPP3. Bumiputera trust agencies and institutions will be expected to assume a greater role, especially in mobilizing Bumiputera resources and creating new wealth. Bumiputera entrepreneurs will be encouraged to establish joint ventures and strategic partnerships with both non-Bumiputera and foreign counterparts, to benefit from their advanced technology, market access and management expertise.

1.24 Greater efforts will be undertaken to enhance the implementation of employment restructuring strategy and programmes in various sectors of the economy and at all levels of occupations to reflect the ethnic composition of the population. Education and training will continue to be an important mechanism to achieve the employment restructuring objectives. In this regard, more advanced vocational and training institutions will be established during the Plan period

to enable workers and graduates of vocational and training institutions, especially Bumiputera to upgrade their skills and knowledge.

1.25 During the Plan period, the development of the Bumiputera Commercial and Industrial Community (BCIC) will focus on creating more sustainable, self-reliant and world-class Bumiputera entrepreneurs. Direct Government support and intervention will continue to be necessary on a selective basis. The implementing agencies, however, will establish an exit policy that will determine the time frame for the participants to graduate from the programmes, thus allowing other Bumiputera entrepreneurs to also benefit from such programmes. Consistent with the objective of creating a bigger and more prosperous middle-class Bumiputera community, current measures will be further enhanced and new strategies implemented to strengthen the resilience of Bumiputera entrepreneurs. In addition, efforts will be undertaken to inculcate in them positive values such as trustworthiness, discipline and accountability. The private sector, including the chambers of commerce and trade associations, is expected to participate more actively in initiating new programmes to create a more dynamic and resilient BCIC.

Productivity-Driven Growth

1.26 Enhancing productivity growth is essential for the achievement of high growth with price stability. In view of limited resources and capacity in capital accumulation as well as stiff competition in attracting foreign investments, it is necessary to accelerate the shift in the economic development strategy from input-driven to one that is productivity-driven by enhancing the contribution of TFP. The improvement in TFP will enable the economy to move to a higher production frontier, with more efficient use of capital and labour. Emphasis will be given to enhancing the education, skills and expertise of the labour force, improving management and organizational techniques, upgrading R&D and S&T, strengthening innovative capacity and protecting intellectual property rights as well as expanding the usage of ICT.

1.27 The success of the productivity-driven growth strategy will hinge on the availability of a quality and talented workforce. During the Plan period, the education and training delivery system will be reoriented to increase the pace of human capital accumulation. This is crucial because knowledge and skills learnt are rapidly becoming obsolete due to the rapid technological changes. Through improvements in the training and retraining programmes, the quality

of the workforce will be enhanced, thus shortening the learning curve and gestation period associated with the application of more advanced production processes and the acquisition of new technology. The Government will intensify efforts to build a critical mass of skilled and knowledge manpower which will increase the utilization of knowledge throughout the value chain.

1.28 The Government will continue to encourage local firms to undertake R&D and technological innovation activities through the provision of fiscal and financial incentives as well as appropriate infrastructure facilities. Emphasis will be given to co-financing and encouraging joint research programmes between industry and public sector institutions as well as commercializing R&D findings. In view of the high risks and costs associated with investments in R&D and the development of strategic industries, an integrated national approach will be adopted. Specific research institutions, singularly or jointly with industry partners, will be provided with resources to develop targeted areas of industrial technology. Recognizing that biotechnology is one of the key technologies for the 21st century, a national biotechnology policy will be formulated to ensure a comprehensive and coordinated approach in its development.

Enhancing Competitiveness in Key Sectors

1.29 The liberalization process and advancement in ICT, together with the changing consumer market, will increase competition in the global market. One of the critical development thrusts, therefore, will be to enhance the nation's competitiveness, particularly in key sectors in order to attain sustainable economic growth. In this regard, measures will be undertaken to ensure a more proactive administrative machinery and provide a conducive environment including the formulation of a fair trade policy and law. The manufacturing, services and agriculture sectors will be the main economic drivers during the Plan period.

1.30 *Industrialization for the future.* During the Eighth Plan period, competition among countries will intensify with economies competing for investments, production and markets. Besides the increase in competition, challenges brought about by rapid advances in technology will influence industrial development. To meet these challenges and sustain the growth momentum in the manufacturing sector, the strategic thrust will be to develop industries capable of meeting the high expectations of consumers. In addition, strategic alliances with foreign companies will be forged to enhance competitiveness and increase opportunities abroad.

1.31 In line with the Second Industrial Master Plan, industries will have to move up the value chain of activities with focus on increasing innovation and application of new technologies. These activities include R&D, product design and development, high-tech manufacturing, process engineering, logistics and strategic marketing. Emphasis will be given to the development of dynamic industry clusters. In this regard, the electrical and electronic industries will continue to shift from labour-intensive processes to high-technology applications while the resource-based industries, particularly the petrochemical, pharmaceutical and food product industries will be encouraged to move to higher value-added activities.

1.32 The Government will promote diversification among and within the key industry clusters as a balanced mix of industries will contribute to sustainable growth and minimize vulnerability to fluctuations in demand. At the same time, industries will be encouraged to adopt more knowledge-intensive processes to enhance productivity and growth. The Government will continue to encourage FDI in high value-added and technology-intensive industries as well as emphasize skill training to support their demand for skilled manpower.

1.33 *Nurturing a stable and efficient financial sector.* During the Plan period, emphasis will be on the consolidation and strategic positioning of the financial sector in a globalized and liberalized market environment. The thrust is to create a competitive, strong and resilient financial sector, which will provide the catalyst for higher growth in the economy. Towards this end, the Financial Sector Master Plan together with the Capital Market Master Plan will provide a comprehensive framework for the strategic development of the financial sector over a 10-year period.

1.34 Under the Financial Sector Master Plan, efforts will be focused on the establishment of a core group of strong domestic banking institutions. At the same time, banking institutions will have to continue to assume a dynamic role in supporting the economy, whilst preserving the stability of the Malaysian banking system. The potential of Islamic banking will be further developed as a viable and sophisticated system for the mobilization of savings and allocation of resources for investments. The necessary institutional framework and market infrastructure will be enhanced to enable the system to operate smoothly. The research and development of Islamic financial instruments will also be encouraged to generate innovative products that are customer-oriented.

1.35 The Capital Market Master Plan provides for the development of competitive intermediaries and institutions in core areas to facilitate efficient mobilization of resources and to build a domestic base for a strong financial services sector. Measures will be taken to further develop the key segments of the capital market such as the bond and derivatives market as well as the fund management industry. Emphasis will also be placed on developing the venture capital industry to facilitate the financing of high-growth technology-related industries. Another area of focus is the development of Malaysia as an international centre for Islamic capital market activities.

1.36 *Maximizing the potential of tourism.* A holistic and integrated approach will be emphasized to enable the tourism industry to achieve a higher level of success. Sustainable tourism development will be an integral part of tourism planning and implementation. Efforts will be focused on programmes that will have the greatest impact on attracting tourists and improving tourism revenue. Malaysia will be projected as a top-of-the-mind tourist destination, with festivities and attractive events throughout the year. In addition, continuous improvements in product development, marketing and promotion, comfort and safety of tourists will be actively pursued. Human resource development will be accorded due priority in line with the need to upgrade the quality of tourism products and services. Strategic alliances and international cooperation will be fostered to further enhance tourism promotion and development.

1.37 *Revitalizing the agriculture sector.* During the Plan period, the transformation of the agriculture sector into a modern, dynamic and competitive sector, integrated with other sectors of the economy, will be accelerated. The main focus will be to increase food production, enhance competitiveness of industrial crops through consolidation of areas under cultivation, and develop new sources of growth. Measures will also be implemented to optimize resource utilization by intensifying R&D and adopting new skills and technologies. Institutional and support services will be improved to further encourage organized farming and active private sector participation in agricultural activities. Commercialization of agricultural products will be promoted through greater concentration in applied R&D activities and closer interaction with potential investors.

Expanding the Usage of Information and Communications Technology

1.38 ICT has a strategic role in accelerating the economic growth process by increasing the efficiency and productivity of all sectors in the economy. Efforts

will be made to accelerate the implementation of ICT-related programmes and projects nationwide during the Plan period. Towards this end, the diffusion and usage of ICT within and across sectors will be further expanded. A conducive institutional, regulatory and legislative environment to support the development of ICT and its related activities will be provided.

1.39 Efforts will also be undertaken to accelerate the development of the Multimedia Super Corridor (MSC) and to facilitate the rolling out of MSC flagship applications. In addition, Malaysia will be developed as a global ICT and multimedia hub. ICT-based SMEs will be developed to support the knowledge-based economy. To ensure the effective implementation of ICT programmes, human resource development will be emphasized to provide adequate knowledge and skilled workers. Furthermore, ICT awareness will be enhanced among the population through nationwide campaigns and ICT education. Measures will also be undertaken to address the digital divide between the rich and poor, the rural and urban areas as well as between economic sectors to ensure that all Malaysians benefit from ICT.

Enhancing Human Resource Development

1.40 During the Plan period, the principal thrust of human resource development will be the creation of a strong human resource base to support the development of a knowledge-based economy and enhance productivity and competitiveness. In this regard, efforts will be undertaken to develop an efficient and responsive education and training system to meet the demand for a knowledgeable and highly skilled labour force that is equipped with positive values and attitudes. In addition, the teaching of ethics and moral values will be strengthened by incorporating these values in the curriculum and in the training of teachers. Special emphasis will be given to produce a larger number of higher level R&D and S&T manpower. As part of the effort to enhance accessibility to knowledge, improving English proficiency will be a key priority at the school and tertiary levels. More residential schools will be built to improve the performance of students, especially in Mathematics and Science. In line with the liberalization in the provision of education and training, the participation of the private sector, particularly at the tertiary level will be intensified. The private sector will be encouraged to set up more new institutions and campuses, and conduct more twinning programmes with local public universities and foreign institutions of higher learning as well as expand their distance learning programmes. In addition, local public and private universities will be encouraged to develop centres of excellence comparable with those in reputable foreign universities.

1.41 Accessibility to quality education and training will be increased through the provision of adequate teaching and learning facilities, especially in remote and outlying areas. The provision of adequate financial assistance to pursue tertiary education and training in both public and private institutions will also increase education and training opportunities, particularly among students from low-income families.

1.42 As youths and women will account for 19.1 per cent and 49.5 per cent of the population, respectively, by 2005, they will constitute an important pool of human resource that can contribute to the nation's development objectives. Youths will have to be guided and provided with the appropriate skills and knowledge, and at the same time inculcated with the right attitudes and values necessary to face the challenges of a rapidly changing environment. Efforts will also be undertaken to further integrate and provide access for women to reach their full potential as equal partners in development.

Achieving Sustainable Development

1.43 Emphasis will be placed on addressing environmental and resource issues in an integrated and holistic manner. Steps will be taken to identify prudent, cost-effective and appropriate management approaches that yield multiple benefits in order to ensure that development is sustainable and resilient. The Government will adopt early preventive measures and will apply the precautionary principle to address environment and natural resource management issues. It will also put in place the enabling conditions for effective policy change, and this will include strategies to create opportunities for the private sector to participate in environmental mitigation measures.

1.44 Steps will be taken to strengthen the database for environmental decision-making by introducing the use of sustainable development indicators. This will enable the Government to better ascertain impacts and plan remedial actions. Efforts to address air pollution, particularly from mobile sources, will continue. A National Water Policy will be formulated to ensure that water resources will be managed more efficiently and effectively. In addition, a comprehensive waste management policy to address issues of waste reduction, reuse and recycling, will be introduced.

1.45 Land use planning will be strengthened and regulations introduced to control access to biological resources, and to address biosafety issues relating to genetically modified organisms. The overall management of marine affairs

will be reviewed to address multiple-use conflicts in marine areas, alleviate pressure on the marine environment and to enhance marine and coastal biological diversity. The Government will continue to monitor and participate in international environmental negotiations to ensure that measures proposed at these fora do not impose restrictions on Malaysia's development or discriminate against products based on their environmental characteristics.

Enhancing the Quality of Life

1.46 Efforts to sustain economic growth will be accompanied by the provision of better opportunities for all Malaysians to enhance their quality of life. In this regard, the provision of and access to social services is essential to ensure that people are able to live with dignity and participate fully in society. The Government will continue to ensure that all segments of society are recipients of the benefits of development through the provision of adequate and quality social services that are accessible to all, especially the lower income group and the disadvantaged as well as those with special needs. Efforts will be directed towards providing better opportunities to education, increasing accessibility to better health facilities and affordable housing. In addition, measures will be implemented to increase cultural and recreational amenities as well as promote healthy lifestyles.

1.47 The Government will continue to provide and improve educational facilities, which are important for a better quality of life. To increase enrolment rates at the pre-school, secondary and tertiary levels, particular attention will be given to the enrolment and quality of education in rural areas.

1.48 The thrust of the health sector will be to further improve the health of the population through expanding health development programmes as well as ensuring accessibility to quality health services for all. The private sector will be encouraged to expand their coverage of health services to complement the public health sector. A regulatory mechanism will be put in place to ensure that quality healthcare is provided at a reasonable cost by both the public and private sectors.

1.49 During the Plan period, focus will be given to the provision of adequate and affordable housing for the lower- and middle-income groups. In addition, housing and infrastructure facilities aimed at improving the quality of life of the

rural population will continue to be emphasized. Efforts will be undertaken to provide a wider coverage of utilities such as water, electricity and sewerage. Priority will be given to expand the coverage of water supply in rural areas from alternative sources such as groundwater, rivers and streams. Emphasis will also be given to increase the capacity of and accessibility to infrastructure in the less developed areas, while in the urban areas focus will be on enhancing efficiency and improving transport services.

1.50 The aesthetic aspects of the quality of life will continue to be emphasized with greater participation in arts and cultural activities. These will be promoted through campaigns, exhibitions and performances at the state and district levels and complemented with the development of the necessary physical facilities. The quality of cultural performances will also be improved through the training of artistes and the identification of new talent.

1.51 Sports will continue to be promoted to develop world-class sportsman and encourage a healthy lifestyle as well as strengthen the spirit of solidarity, comradeship and *esprit de corps* among the various ethnic groups. To contribute towards the development of a disciplined and competitive Malaysian society, participation in sports will be encouraged through the implementation of appropriate programmes.

1.52 As part of the efforts to improve consumer welfare, consumer education and protection measures will be intensified to increase consumer awareness and safeguard their interests. To meet the higher expectations and demand of consumers, the producers and traders will need to continuously improve their efficiency and productivity to provide quality goods at competitive prices.

Addressing Social Issues

1.53 Economic development and urbanization will have consequences on the nation's social and cultural institutions and norms. In addition, globalization will have an impact and may even threaten the integrity of the family structure and traditional communities as well as influence cultural values and norms in social integration and nation-building. It is necessary that concerted efforts are undertaken to ensure that society is resilient to withstand the negative influences that may affect the foundation of social harmony and tolerance. Inability to cope with these social changes, including changes in lifestyles and family structure, will give rise to various social problems and negate the benefits of economic development. Consequently, there is the need to formulate relevant social development strategies and programmes as well as to institute appropriate social support mechanisms.

1.54 A social action plan, *Pelan Tindakan Sosial* (PINTAS), formulated in 1998, to provide a framework for integrating the various components of social development in the country into a coordinated system, will be implemented nationwide. PINTAS will focus on the promotional, prevention, intervention and rehabilitative aspects in addressing social issues. Through this system, services and resources provided by government and non-government agencies will be integrated and coordinated to support social development efforts more effectively. In this regard, the commitment and cooperation of all state governments, non-governmental organizations, the private sector, the local community and individuals are necessary to ensure the prevention and professional management of social problems.

1.55 Recognizing that the family unit forms the basis for social stability and building a caring society, emphasis will continue to be given to strengthen the family unit. Efforts will continue to be undertaken to equip families to face the challenges arising from rapid economic development as well as ensuring stability and harmony within the family unit. In addition, the family development programme will continue to be implemented to ensure that families and society in general are resilient.

Strengthening Moral and Ethical Values

1.56 A good value system that emphasizes moral and ethical behaviour based on religion, customs and tradition, will be an important component of all development efforts. Attributes such as honesty, discipline, diligence, integrity, commitment, respect and tolerance will continue to be nurtured and inculcated through the education system, religious, social and business organizations as well as the media. Greater emphasis will be given to instil these positive values among youths through the implementation of the *Rakan Muda* programme.

1.57 In striving to be a fully developed nation as envisaged in Vision 2020, there is the need to instil a sense of common identity and national pride built upon Malaysia's heritage and past achievements as well as to harness and optimize existing potential. This sense of common identity and shared purpose continues to be crucial to nation-building. The inculcation of positive values and belief in good moral and ethical behaviour as a way of life among Malaysians will thus, be the cornerstone for the nation's success.

IV. CONCLUSION

1.58 The thrust of the Eighth Plan will be to sustain growth and competitiveness in the face of growing globalization and liberalization. Prudent macroeconomic management to ensure the optimum and efficient utilization of resources as well as efforts to strengthen the resilience of the financial and monetary system will be required to sustain growth. Strategies to address the major challenges during the Plan period will include enhancing productivity, increasing supply of quality manpower, intensifying R&D activities and propelling the development of the growth sectors. To enable the country to develop a knowledge-based economy, it has to operate at a higher production frontier and accelerate the shift from an input-driven to productivity-driven growth. At the same time, emphasis will also be given to enhance the quality of life through the provision of better social services including health and education facilities, adequate and affordable housing and other related services. Efforts will also be undertaken to ensure that the social fabric of Malaysian society is upheld and strengthened, and is resilient to withstand negative influences that may affect the foundation of social harmony, tolerance and nation-building.

Chapter 2

Macroeconomic Performance and Prospects

2

MACROECONOMIC PERFORMANCE AND PROSPECTS

I. INTRODUCTION

2.01 The Malaysian economy performed better than expected during the Seventh Malaysia Plan period despite the severe contraction in 1998 arising from the East Asian financial crisis. The strong growth performance before the crisis, improved external demand and the recovery measures undertaken by the Government contributed to the overall economic performance. Prior to the crisis, growth was propelled by domestic demand particularly private investment. With the onset of the crisis, the Government eased monetary policy and provided fiscal stimulus to reactivate domestic demand and strengthen the external sector. This resulted in the sharp economic recovery beginning 1999. At the end of the Plan period, Gross Domestic Product (GDP) rose above the pre-crisis level, while inflation and unemployment remained low.

2.02 During the Eighth Malaysia Plan period, macroeconomic management will focus on strengthening economic resilience and achieving sustainable growth in line with the National Vision Policy (NVP). In this regard, Malaysia's efforts to develop a knowledge-based economy will be crucial. The Government will continue to pursue sound macroeconomic management policies with low inflation and sustainable fiscal and external accounts. The economic fundamentals and the financial system will be strengthened to enable the economy to withstand shocks as well as to take advantage of the opportunities arising from a more liberalized global economy. Growth during the period will depend increasingly on raising total factor productivity (TFP)¹ and less on labour and capital inputs.

¹ TFP refers to the additional output generated as a result of the introduction of new technology or upgrading of technology, innovation, superior management techniques, gains from specialization, improvements in efficiency, know-how, workers' education, skills and experience, and advancement in information technology.

II. REVIEW OF MACROECONOMIC PERFORMANCE, 1996-2000

2.03 The economy recorded an average growth of 4.7 per cent per annum during the Seventh Plan period, surpassing the revised target of 3.0 per cent. The real GDP expanded at an average rate of 8.7 per cent per annum during the 1996-1997 period before registering a negative growth rate of 7.4 per cent in 1998. Efforts to resuscitate the economy starting from mid-1998, succeeded in generating an average growth rate of 7.2 per cent during the 1999-2000 period. Per capita income in current terms, which declined in 1998, rebounded to RM13,359 in 2000, surpassing the pre-crisis level. The fiscal and monetary policies introduced in 1998 helped to stimulate consumption, while containing inflationary pressures. The unemployment rate remained at 3.1 per cent. The financial position of the Government, however, recorded a deficit arising from the expansionary fiscal policy to stimulate the economy and counteract the contraction of private demand.

Macroeconomic Progress

2.04 During the first two years of the Plan period, growth was largely driven by domestic demand. Despite the growth in exports during the period, the external sector contributed negatively to growth due mainly to the relatively higher demand for imports from the manufacturing and services sectors. However, following the recession, the main impetus for growth came from external demand following the strong global demand for electronic products and the depreciation of the Ringgit. In addition, imports slackened towards the second quarter of 1998 following the collapse of domestic demand. This resulted in a substantial increase in the contribution from the external sector during the second half of the Plan period.

2.05 The policy to shift from an input-driven strategy to a productivity-driven strategy during the Plan period was affected by the economic crisis. The contribution of TFP during the Plan period was 24.8 per cent of GDP growth, while the contribution of labour was 25.0 per cent and that of capital was 50.2 per cent, as shown in *Table 2-1*. This indicated that growth continued to be input-driven, particularly from capital. During the 1998-2000 period, additional measures were adopted to increase productivity, which included the allocation of more resources for research and development (R&D), expansion of education and training, and technology improvements.

2.06 During the Seventh Plan period, the *incremental capital output ratio* (ICOR)² increased to an average of 8.8 compared with 4.2 during the Sixth Plan period. Substantial capital-intensive investments with long gestation period, especially in infrastructure and utilities projects, were made to upgrade the productive capacity of the economy. The capacity utilization, however, was negatively affected by the economic downturn, which was an important factor accounting for the increase in the ICOR.

TABLE 2-1
CONTRIBUTION OF FACTORS OF PRODUCTION, 1991-2005

	6MP		7MP		8MP	
	% of Contribution	% of Total	% of Contribution	% of Total	% of Contribution	% of Total
GDP	9.5	100.0	4.7	100.0	7.5	100.0
Labour	2.3	23.9	1.2	25.0	1.6	21.5
Capital	4.7	50.2	2.3	50.2	3.1	41.3
TFP ¹	2.5	25.9	1.2	24.8	2.8	37.2

Note: ¹Total factor productivity (TFP) is estimated using the Cobb-Douglas production function by subtracting from output growth, the portion of growth which is accounted for by increases in labour and capital.

Aggregate Demand

2.07 *Private investment* registered a negative growth rate of 11.6 per cent per annum during the Plan period, as shown in Table 2-2. This was attributed to the drastic contraction in 1998 and 1999, compared with an average growth rate of 10.4 per cent per annum in the 1996-1997 period. The share of real private investment to Gross National Product (GNP) declined sharply from 39.2 per cent in 1997 to 18.5 per cent in 1998, while the share of private investment to total investment also declined from 73.8 per cent to 57.9 per cent. This was due to the lack of investor confidence and increased excess capacity due to declining demand.

² ICOR is the ratio between the increment of capital stock to that of output. It measures the productivity of additional capital input.

TABLE 2-2

GROSS NATIONAL PRODUCT BY EXPENDITURE CATEGORY, 1995-2005

(in current prices with 1987 prices in italics)

Category	RM million			Average Annual Growth Rate (%)			% of GNP		
	1995	2000	2005	Target 7MP	Achieved 7MP	Target 8MP	1995	2000	2005
Consumption	134,140 <i>102,663</i>	180,389 <i>118,780</i>	291,602 <i>170,455</i>	4.8 <i>1.5</i>	6.1 <i>3.0</i>	10.1 <i>7.5</i>	63.3 <i>66.1</i>	58.0 <i>62.4</i>	63.0 <i>61.1</i>
Private	106,613 <i>81,981</i>	144,212 <i>94,459</i>	236,216 <i>135,249</i>	4.6 <i>0.8</i>	6.2 <i>2.9</i>	10.4 <i>7.4</i>	50.3 <i>52.8</i>	46.4 <i>49.6</i>	51.0 <i>48.5</i>
Public	27,527 <i>20,682</i>	36,177 <i>24,321</i>	55,386 <i>35,206</i>	5.4 <i>3.4</i>	5.6 <i>3.3</i>	8.9 <i>7.7</i>	13.0 <i>13.3</i>	11.6 <i>12.8</i>	12.0 <i>12.6</i>
Investment	96,967 <i>81,895</i>	87,144 <i>64,415</i>	153,667 <i>110,252</i>	-0.5 <i>-4.5</i>	-2.1 <i>-4.7</i>	12.0 <i>11.3</i>	45.7 <i>52.8</i>	28.0 <i>33.8</i>	33.2 <i>39.5</i>
Private	69,424 <i>58,633</i>	42,854 <i>31,677</i>	105,516 <i>75,706</i>	-6.0 <i>-9.8</i>	-9.2 <i>-11.6</i>	19.7 <i>19.0</i>	32.7 <i>37.8</i>	13.8 <i>16.6</i>	22.8 <i>27.1</i>
Public	27,543 <i>23,262</i>	44,290 <i>32,738</i>	48,151 <i>34,546</i>	9.2 <i>4.8</i>	10.0 <i>7.1</i>	1.7 <i>1.1</i>	13.0 <i>15.0</i>	14.2 <i>17.2</i>	10.4 <i>12.4</i>
Change in Stocks	120 <i>90</i>	4,379 <i>1,174</i>	-206 <i>-57</i>	-	-	-	0.1 <i>0.1</i>	1.4 <i>0.6</i>	0.0 <i>0.0</i>
Exports of Goods & Non- factor Services	209,323 <i>161,856</i>	426,523 <i>247,037</i>	622,566 <i>342,475</i>	10.0 <i>4.5</i>	15.3 <i>8.8</i>	7.9 <i>6.8</i>	98.7 <i>104.3</i>	137.2 <i>129.7</i>	134.5 <i>122.8</i>
Imports of Goods & Non- factor Services	218,077 <i>179,878</i>	359,015 <i>222,137</i>	572,347 <i>323,340</i>	5.9 <i>0.9</i>	10.5 <i>4.3</i>	9.8 <i>7.8</i>	102.9 <i>115.9</i>	115.4 <i>116.6</i>	123.7 <i>115.9</i>
GDP at Purchasers' Value	222,472 <i>166,625</i>	339,420 <i>209,269</i>	495,281 <i>299,785</i>	6.9 <i>3.0</i>	8.8 <i>4.7</i>	7.9 <i>7.5</i>	104.9 <i>107.4</i>	109.2 <i>109.9</i>	107.0 <i>107.5</i>
Net Factor Payments	-10,377 <i>-11,422</i>	-28,606 <i>-18,777</i>	-32,372 <i>-20,861</i>	-	-	-	-4.9 <i>-7.4</i>	-9.2 <i>-9.9</i>	-7.0 <i>-7.5</i>
GNP at Purchasers' Value	212,095 <i>155,203</i>	310,814 <i>190,492</i>	462,909 <i>278,924</i>	6.7 <i>3.0</i>	7.9 <i>4.2</i>	8.3 <i>7.9</i>	100.0 <i>100.0</i>	100.0 <i>100.0</i>	100.0 <i>100.0</i>
GNP Per Capita at Purchasers' Value (RM)	10,190	13,359	17,779	4.3	5.6	5.9	-	-	-

2.08 The capacity of the banks to provide credit was affected by the increasing non-performing loans (NPLs)³ and the decline in liquidity. NPLs of the banking system, as a ratio of total loans on a net basis, increased from 4.1 per cent at the end of 1997 to a peak of 9.0 per cent at the end of November 1998. Measures to stimulate private investment and restore business confidence were undertaken from mid-1998. These measures included the lowering of interest rates, increasing liquidity and providing additional funds for investment, thereby contributing to the positive growth of private investment of 26.7 per cent in 2000. However, private investment in current terms was about 50 per cent below the pre-crisis level at RM42.9 billion in 2000 compared with RM89.7 billion in 1997.

2.09 To promote foreign direct investment (FDI), the equity policy for the manufacturing sector was liberalized, while the 30 per cent limit imposed on foreign ownership was relaxed for several sectors, such as telecommunications, shipping and forwarding as well as insurance. Liberal policies were also adopted for approved activities in the Multimedia Super Corridor (MSC).

2.10 *Public investment* grew at 7.1 per cent per annum during the Plan period. During the 1996-1997 period, public investment grew at an annual average rate of 4.4 per cent. In response to the regional financial crisis, the Government initially reduced public sector expenditure to complement the tight monetary policy as a means to reduce the current account deficit of the balance of payments and prevent further decline in the value of the Ringgit. As the crisis worsened, the Government reversed the initial expenditure cuts and injected an additional development expenditure of RM30.7 billion in the second half of the Plan period to stimulate economic activities and counter the sharp decline in private investment. Consequently, the share of public investment to total investment increased to 36.9 per cent during the Plan period compared with 33.1 per cent during the Sixth Plan.

2.11 The additional funds were directed towards programmes and projects with strong economic linkages and minimal leakages in terms of imports. These included the provision of infrastructure facilities, housing, education and public health development. Guidelines and measures were also introduced to ensure that these projects were implemented on schedule. Project monitoring was strengthened at various levels and regular reports were submitted to the National Economic Action Council (NEAC)⁴.

³ NPLs refer to the outstanding amount of loans when principal or interest is in arrears for six months or more.

⁴ NEAC was established on 7 January 1998 as a consultative body to the Cabinet to deal with the economic crisis.

2.12 *Real private consumption* which recorded moderate growth during 1996-1997, contracted sharply by 10.8 per cent in 1998 due to negative income and wealth effects, more cautious spending and erosion of purchasing power. Incomes declined as a result of lower wages and allowances as well as reduced overtime. In addition, the sharp fall in stock market capitalization and asset prices had a negative impact on wealth, which adversely affected spending on consumer durables, such as automobiles and home appliances. Imports of consumption goods also declined significantly by 9.5 per cent.

2.13 The adoption of an expansionary monetary policy and lower interest rates as well as the increase in income arising from the improved economic performance enhanced consumer confidence. This contributed to the increase in private consumption, which recorded a positive growth rate of 3.1 per cent in 1999, 12.4 per cent in 2000 and 2.9 per cent per annum during the Plan period. Sales of passenger cars rebounded by 80.3 per cent in 1999 compared with the negative growth of 61.3 per cent in 1998. The wholesale and retail trade sector also registered a positive growth of 4.3 per cent in the 1999-2000 period, while imports of consumption goods increased by 17.0 per cent during the same period.

2.14 During the Plan period, *real public consumption* increased at a rate of 3.3 per cent per annum. The increase was attributed to higher Government operating expenditure, which included the provision of a special RM600 allowance, bonuses and a 10 per cent salary increase to public sector employees. Recruitment of teachers and medical personnel was also undertaken as a move to provide better education and health services.

2.15 *Export of goods and non-factor services* grew at an average rate of 8.8 per cent per annum during the Plan period. During 1996-1997, exports grew by 7.3 per cent per annum but subsequently slowed down to 0.5 per cent in 1998 due to economic contraction experienced by the regional market and Japan. However, a higher export growth of 14.1 per cent per annum was achieved during the 1999-2000 period largely due to the growth in world demand for electronic products and the recovery of the regional economies.

2.16 Although *import of goods and non-factor services* grew by 5.4 per cent during the 1996-1997 period, it declined significantly by 18.8 per cent in 1998. Since about 60 per cent of Malaysia's exports were import-intensive, the depreciation of the Ringgit and lower demand for exports led to a decline in imports. During

the 1999-2000 period, imports recovered and grew by 17.0 per cent arising from an increased demand for intermediate and capital goods. Import of goods and non-factor services thus recorded an overall growth rate of 4.3 per cent.

International Trade

2.17 Malaysia's total trade expanded by 12.6 per cent per annum during the Plan period, as shown in *Table 2-3*. Total trade almost doubled from RM379.3 billion in 1995 to RM685.7 billion in 2000. The Association of South-East Asian Nations (ASEAN) was Malaysia's largest trading partner constituting 25.4 per cent of total trade in 2000, followed by the United States of America (US), Japan and the European Union (EU). These countries accounted for 73.2 per cent of Malaysia's total exports in 2000 compared with 75.6 per cent in 1995. Trade with Australia, the Newly Industrialized Economies and South Asia also increased, reflecting efforts by the Government to diversify its markets. Malaysia's total trade with the South countries expanded by 18.7 per cent during the Plan period, with its share increasing from 13.9 per cent in 1995 to 18.1 per cent in 2000.

2.18 *Gross exports* grew at an average rate of 15.1 per cent per annum, as shown in *Table 2-4*. The strong performance of Malaysia's exports improved its ranking in world exports from 19th position in 1995 to 17th in 1999 and contributed to 1.5 per cent of world exports. Manufactured exports also rose strongly to grow at 15.7 per cent during the 1999-2000 period, resulting in an overall growth of 16.6 per cent per annum during the Plan period. Both electronics as well as electrical machinery and appliance and parts industries continued to be the major contributors to manufactured exports, with its share increasing from 65.7 per cent of total manufactured exports in 1995 to 72.5 per cent in 2000, as shown in *Chart 2-1*. Export growth was also contributed by higher export prices of palm oil and petroleum during the period 1997-1998, as a result of exchange rate valuation gains.

2.19 Exports from the mining sector grew at 20.1 per cent per annum during the Plan period, with its share to total exports increasing from 5.8 per cent in 1995 to 7.2 per cent in 2000. This strong performance was attributed to the increased demand for crude oil and natural gas as well as the escalation of world crude oil prices from about USD13.0 per barrel in early 1999 to about USD29.6 per barrel at the end of the Plan period.

TABLE 2-3

DIRECTION OF TRADE, 1995-2000

Direction	RM million						% of Total						Average Annual Growth Rate (%) 1996-2000	
	Exports			Imports			Exports			Imports			Exports	
	1995	2000	1995	1995	2000	1995	1995	2000	1995	2000	1995	2000	Imports	Total Trade
Total Trade														
ASEAN ¹														
Singapore	50,392	99,063	33,748	75,031	84,140	174,094	27.2	26.5	17.4	24.0	22.2	25.4	14.5	17.3
Indonesia	37,585	68,592	24,080	44,704	61,665	113,216	20.3	18.4	12.4	14.3	16.3	16.5	12.8	13.2
Thailand	2,441	6,488	3,057	8,622	5,499	15,990	1.3	1.7	1.6	2.8	1.4	2.2	21.6	23.0
Philippines	7,258	13,492	5,132	12,067	12,390	25,559	3.9	3.6	2.6	3.9	3.3	3.7	13.2	18.7
	1,692	6,561	1,154	7,565	2,846	14,126	0.9	1.8	0.6	2.4	0.8	2.1	31.1	45.7
European Union	26,274	51,026	29,960	33,692	56,234	84,718	14.2	13.7	15.4	10.8	14.8	12.4	14.2	2.4
United Kingdom	7,484	11,572	5,480	6,102	12,963	17,674	4.0	3.1	2.8	2.0	3.4	2.6	9.1	2.2
Fed. Republic of Germany	5,927	9,333	8,613	9,276	14,539	18,609	3.2	2.5	4.4	3.0	3.8	2.7	9.5	1.5
United States of America	38,279	76,584	31,413	51,863	69,692	128,447	20.7	20.5	16.2	16.6	18.4	18.7	14.9	10.5
Canada	1,505	3,045	1,034	1,440	2,539	4,485	0.8	0.8	0.5	0.5	0.7	0.7	15.1	6.8
Australia	2,825	9,217	5,259	6,096	8,084	15,313	1.5	2.5	2.7	2.0	2.1	2.2	26.7	3.0
Japan	23,449	48,742	53,089	65,860	76,538	114,502	12.7	13.1	27.3	21.1	20.2	16.7	15.8	4.4
China	4,904	11,506	4,298	12,310	9,203	23,816	2.7	3.1	2.2	3.9	2.4	3.5	18.6	23.4
NIEs	20,875	43,481	22,073	40,044	42,947	83,525	11.3	11.6	11.4	12.8	11.3	12.2	15.8	12.7
Hong Kong, SAR	9,899	16,872	4,194	8,602	14,093	25,474	5.4	4.5	2.2	2.8	3.7	3.7	11.3	15.5
South Korea	5,162	12,383	7,965	13,921	13,127	26,304	2.8	3.3	4.1	4.5	3.5	3.8	19.1	11.8
Taiwan ROC	5,813	14,226	9,914	17,521	15,727	31,747	3.1	3.8	5.1	5.6	4.1	4.6	19.6	12.1
South Asia	4,546	10,521	1,631	3,041	6,178	13,562	2.5	2.8	0.8	1.0	1.6	2.0	18.3	13.3
Central and South America	2,895	5,636	2,337	2,610	5,232	8,246	1.6	1.5	1.2	0.8	1.4	1.2	14.2	2.2
Africa	2,015	3,017	1,024	1,438	3,040	4,455	1.1	0.8	0.5	0.5	0.8	0.6	8.4	7.0
Others	7,028	11,470	8,477	19,001	15,505	30,471	3.8	3.1	4.4	6.1	4.1	4.4	10.3	17.5
Total	184,987	373,307	194,345	312,427	379,331	685,734	100.0	100.0	100.0	100.0	100.0	100.0	15.1	10.0
South Countries²	32,122	67,967	20,445	56,047	52,567	124,014	17.4	18.2	10.5	17.9	13.9	18.1	16.2	22.3

Notes:

¹ Include all ASEAN member countries.² Include ASEAN excluding Singapore, South Asia, North East Asia excluding NIEs and Japan, CIS countries, Latin America, West Asia and the South Pacific island nations.

2.20 *Gross imports* grew at 10.0 per cent per annum. About 88.9 per cent were intermediate and capital goods used for productive purposes. Imports of intermediate goods grew at an average rate of 12.8 per cent per annum to account for 73.8 per cent of gross imports, while capital goods grew marginally at 3.8 per cent per annum, constituting 15.1 per cent of imports at the end of 2000, as shown in *Table 2-5*. The slower growth in the imports of capital goods was due to the contraction in investment as well as the higher cost of imports as a result of the crisis.

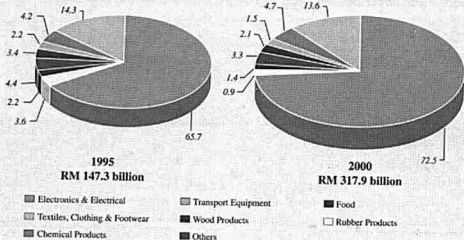
TABLE 2-4
MERCHANDISE TRADE, 1995-2000
(RM million)

Item	1995	%	2000	%	Average Annual Growth Rate (%), 1995-2000
Gross Exports					
Agriculture	21,642	11.7	22,914	6.1	1.1
Mining	10,723	5.8	26,801	7.2	20.1
Manufacturing	147,253	79.6	317,937	85.2	16.6
Others	5,369	2.9	5,655	1.5	1.0
Total	184,987	100.0	373,307	100.0	15.1
Gross Imports					
Capital Goods	39,127	20.1	47,064	15.1	3.8
Intermediate Goods	126,338	65.0	230,611	73.8	12.8
Consumption Goods	11,975	6.2	17,372	5.6	7.7
Others ¹	9,676	5.0	11,070	3.5	2.7
Retained Imports	187,116	96.3	306,118	98.0	10.3
Imports For Re-Export	7,229	3.7	6,309	2.0	-2.7
Total	194,345	100.0	312,427	100.0	10.0

Note: ¹ Dual use goods

CHART 2-1

GROSS EXPORTS OF MANUFACTURED GOODS, 1995 AND 2000
(% of total)



Balance of Payments

2.21 The balance of payments position strengthened towards the latter part of the Plan period following significant growth in merchandise exports. The growth rate of merchandise exports peaked in 1998 at 29.4 per cent while the growth rate of merchandise imports was low at 2.4 per cent for the same year. The merchandise account was in surplus throughout the Plan period, with the largest surplus of RM86.5 billion recorded in 1999. From 1998 to 2000, the merchandise surplus accounted for more than 25 per cent of GNP.

2.22 The services account continued to register a deficit, which doubled from RM19.2 billion in 1995 to RM40.6 billion in 2000, mainly due to the net outflows of investment income comprising the repatriation of profits and dividends by foreign investors. In addition, higher payments in freight and insurance as well as contract and professional charges also contributed to this deficit. Although there was an increasing surplus in the travel account, it was insufficient to offset the deficit. Net outflow of transfer payments were recorded since 1994 as a result of remittances by foreign workers, reflecting high employment of migrant labour.

TABLE 2-5

GROSS IMPORTS BY END USE AND BROAD ECONOMIC CATEGORIES, 1995-2000

(RM million)

Item	1995	%	2000	%	Average Annual Growth Rate (%), 1996-2000
Capital Goods	39,127	20.1	47,064	15.1	3.8
Capital Goods (except transport equipment)	32,804	16.9	44,762	14.3	6.4
Transport Equipment, Industrial	6,323	3.3	2,303	0.7	-18.3
Intermediate Goods	126,338	65.0	230,611	73.8	12.8
Food & Beverages, Primary, mainly for Industry	1,365	0.7	1,886	0.6	6.7
Food & Beverages, Processed, mainly for Industry	1,524	0.8	1,984	0.6	5.4
Industrial Supplies, n.e.s., Primary	4,253	2.2	6,372	2.0	8.4
Industrial Supplies, n.e.s., Processed	47,229	24.3	62,715	20.1	5.8
Fuel & Lubricants, Primary	591	0.3	5,378	1.7	55.5
Fuel & Lubricants, Processed, Others	2,554	1.3	6,706	2.1	21.3
Parts & Accessories of Capital Goods (except transport equipment)	65,454	33.7	141,347	45.2	16.6
Parts & Accessories of Transport Equipment	3,368	1.7	4,224	1.4	4.6
Consumption Goods	11,975	6.2	17,372	5.6	7.7
Food & Beverages, Primary, mainly for Household Consumptions	1,473	0.8	2,095	0.7	7.3
Food & Beverages, Processed, mainly for Household Consumptions	2,737	1.4	4,369	1.4	9.8
Transport Equipment, Non-Industrial	311	0.2	101	0.0	-20.2
Consumer Goods, n.e.s.	7,454	3.8	10,808	3.5	7.7
Durables	1,655	0.9	2,196	0.7	5.8
Semi-Durables	2,744	1.4	4,482	1.4	10.3
Non-Durables	3,055	1.6	4,130	1.3	6.2
Dual Use Goods	5,386	2.8	6,391	2.0	3.5
Fuel & Lubricants, Processed, Motor Spirit	1,194	0.6	2,467	0.8	15.6
Transport Equipment, Passenger Motor Cars	4,192	2.2	3,924	1.3	-1.3
Goods, n.e.s.	-25	0.0	186	0.1	
Transactions Below RM5,000	4,315	2.2	4,493	1.4	0.8
Retained Imports	187,116	96.3	306,118	98.0	10.3
Imports for Re-Exports	7,229	3.7	6,309	2.0	-2.7
Total Gross Imports	194,345	100.0	312,427	100.0	10.0

Note: n.e.s. not elsewhere stated

2.23 There were notable improvements in the current account as a result of the remarkable trade performance, which compensated for the services deficit as well as the net transfer payments. Consequently, the current account which had been in deficit since 1990, turned positive starting from 1998 and recorded its highest surplus of RM47.9 billion in 1999 or 17.1 per cent of GNP.

Sectoral Output

2.24 The economic downturn in 1998 affected sectoral growth rates during the Plan period, despite the impressive growth performance during the 1996-1997 period. As a result of the implementation of aggressive recovery measures, the manufacturing and the services sectors turned around with levels of value added exceeding the pre-crisis period.

2.25 The *manufacturing sector* grew at 9.1 per cent per annum during the Plan period, as shown in *Table 2-6*. The sector grew rapidly at an average rate of 14.1 per cent during 1996-1997 before contracting by 13.4 per cent in 1998. With the rebound in external as well as domestic demand, the sector staged a turnaround and grew by 17.2 per cent per annum during the 1999-2000 period. At the initial stage, the turnaround in the sector was predominantly export-led, supported by the strong external demand for semi-conductors and electronic machinery as well as telecommunications equipment. Subsequently, as stability returned to the financial markets and consumer confidence improved following the implementation of pro-recovery measures by the Government, manufacturing activities of the domestic-oriented industries rebounded. In particular, the efforts made to revive the automotive and construction-related materials sectors resulted in the strong growth registered by both the transport equipment and basic metals industries. The stability and certainty accorded by the selective capital controls and fixed exchange rate introduced in September 1998 helped to sustain the performance of Malaysian exports by facilitating the business decision-making process and enabling Malaysia to benefit from the strong recovery in external demand.

2.26 The *services sector*, which was least affected by the crisis, nevertheless recorded a contraction of 0.7 per cent in 1998. The sector, however, grew at an average rate of 5.2 per cent per annum during the Plan period. This growth was led by the finance, insurance, real estate and business services as well as the

TABLE 2-6
GROSS DOMESTIC PRODUCT BY INDUSTRY
OF ORIGIN, 1995-2005
(RM million in 1987 prices)

transport, storage and communications subsectors. These subsectors experienced rapid growth prior to the crisis and benefited from the continued emphasis on information and communications technology (ICT) development. In addition, the expansionary monetary policy stimulated domestic spending and generated demand for intermediate and final services, in particular the finance, transport and communications subsectors. The biggest contributor to the services sector value added was the wholesale and retail trade, hotels and restaurants subsector.

2.27 The *agriculture and forestry* sector grew at 1.2 per cent per annum, mainly due to the decline in palm oil production, which was affected by the cyclical fluctuations from tree stress as well as the drought effects of *El-Nino* in 1998. In addition, natural rubber production declined further due to the decrease in planted area, labour shortage, uneconomic-sized holdings among smallholders, low assimilation of modern rubber extraction technology and low natural rubber prices. Cocoa production also declined as a result of a reduction in planted area and adverse weather conditions during the period. The fall in the supply of timber was in line with the sustainable forest management policy. Pepper, however, showed improved performance in terms of planted area, production and export earnings following the increase in price. Efforts aimed at reducing food imports led to an increase in food production, particularly vegetables, livestock and fisheries.

2.28 The *mining and quarrying sector* grew at 0.4 per cent per annum during the period, mainly due to the petroleum and gas subsectors, which benefited from higher prices, particularly in 2000. In the minerals subsector, growth was recorded in metallic and industrial minerals, which provided the raw materials for the expanding ceramics, cement, refractories, pigments, glass and chemical industries. However, the output of tin declined further because of poor prices.

2.29 The *construction sector*, which grew rapidly at 13.4 per cent per annum during the 1996-1997 period arising from the active property market and accelerated development of infrastructure projects, suffered a contraction of 23.0 and 5.6 per cent in 1998 and 1999, respectively. However, efforts undertaken to revive the sector, particularly the lowering of interest rates, Home Ownership Campaigns and the resumption of several infrastructure projects, helped the sector to turnaround.

Employment and Prices

2.30 *Employment.* The rapid economic growth prior to the crisis generated rapid growth of jobs and the attainment of full employment in the economy. The labour market remained tight with shortages of workers reported in the agriculture, manufacturing and services sectors. However, with the contraction of the economy in 1998, unemployment increased slightly to 3.2 per cent from 2.5 per cent in 1996. The unemployment situation was moderated by the absorption of retrenched workers by sectors facing labour shortages. In addition, the return of migrant labour to their respective countries also helped to keep the unemployment rate at a low level. The economic recovery during the 1999-2000 period contributed towards employment creation, thus lowering the unemployment rate to 3.1 per cent.

2.31 *Prices.* After experiencing stable and low prices during the 1996-1997 period, inflation became a concern in 1998 following the sharp depreciation of the Ringgit, which led to higher consumer and producer prices. The Consumer Price Index (CPI) rose from 2.7 per cent in 1997 to a peak of 5.3 per cent in 1998, with all categories of consumer items recording price increases, particularly food which accounted for 63 per cent of the increase in the CPI. The Producer Price Index (PPI) also increased from 2.7 per cent in 1997 to 10.7 per cent in 1998. However, price pressures were eased through a combination of monetary, fiscal and administrative measures undertaken since mid-1998. The CPI declined to 1.6 per cent and the PPI to 3.1 per cent in 2000. For the Plan period, CPI and PPI averaged 3.0 per cent.

Resource Balance

2.32 During the Plan period, the country maintained high levels of savings, averaging 40.1 per cent of GNP as shown in *Table 2-7*. Investment as a percentage of GNP was 33.6 per cent. Gross national savings grew at 17.6 per cent per annum during the 1996-1997 period, before moderating to 4.2 per cent per annum during the 1999-2000 period, giving rise to an average growth rate of 10.2 per cent per annum during the Plan period. The higher growth of gross national savings prior to the crisis was contributed by the higher public savings with an average growth of 8.5 per cent per annum during the Plan period, despite, the sharp decline by 26.0 per cent in 1998 arising from the adoption of expansionary fiscal policy to stimulate growth.

TABLE 2-7

RESOURCE BALANCE, 1995-2005

(% of GNP)

Sector	1995	2000	2005	Cumulative	
				7MP	8MP
<i>Public</i>					
Savings	15.4	15.9	13.2	17.1	14.0
Investment	13.0	15.0	10.4	12.6	12.1
Resource Balance	2.4	0.9	2.8	4.5	1.9
<i>Private</i>					
Savings	20.2	23.1	22.4	23.0	21.3
Investment	32.8	14.0	22.8	21.0	19.3
Resource Balance	-12.6	9.1	-0.4	2.0	2.0
<i>Total</i>					
Savings	35.6	39.0	35.6	40.1	35.3
Investment	45.8	29.0	33.2	33.6	31.4
Resource Balance	-10.2	10.0	2.4	6.5	3.9

2.33 Private savings grew at 6.0 per cent per annum prior to the crisis and increased sharply by 48.5 per cent in 1998 due to the cautious stance of consumers in an uncertain environment. Consequently, private investment declined drastically by 51.0 per cent in 1998, resulting in an overall contraction of 8.3 per cent per annum during the Plan period. This also led to a decline in the ratio of gross investment to GNP from 45.8 per cent in 1995 to 29.0 per cent in 2000. Gross national savings increased from 35.6 per cent in 1995 to 39.0 per cent in 2000, contributing to a surplus resource balance of 10.0 per cent of GNP in 2000.

III. MACROECONOMIC FRAMEWORK FOR THE EIGHTH MALAYSIA PLAN

Macroeconomic Strategies

2.34 Macroeconomic management in the medium term will focus on sustaining high growth with economic resilience. The strategies adopted will aim at promoting sustainable economic growth, developing economic resilience as well as increasing

productivity and competitiveness. The private sector, which remained weak during the post-crisis period, is expected to recover to lead economic growth, while the public sector will continue to facilitate economic growth with pro-business policies. In this context, the focus of macroeconomic policy will be to consolidate the economy and place it on a sustainable growth path. The key macroeconomic strategies during the Eighth Plan period are as follows:

- ❑ *pursuing sound macroeconomic management to strengthen economic resilience and enhance competitiveness as well as avoid any imbalances;*
- ❑ *strengthening the governance and resilience of the financial and corporate sectors to shocks;*
- ❑ *enhancing efforts to develop the knowledge-based economy as well as increase the contribution of TFP to growth;*
- ❑ *accelerating the development of growth sectors to become modern and globally competitive;*
- ❑ *strengthening domestic investment particularly through the development of small and medium enterprises (SMEs) as well as Malaysian multinational corporations (MNCs); and*
- ❑ *attracting quality FDI associated with high technology, R&D and market access.*

International Economic Outlook

2.35 Being an open economy, Malaysia's prospects during the Eighth Plan period will be influenced by developments in the international economy. During the Plan period, the world economy is expected to grow at an average rate of 3.0 per cent per annum. The advanced economies are expected to spearhead this growth with the projected average growth of 2.8 per cent per annum for OECD countries. The expected overall growth of the world economy will also depend on the continued positive growth of the US economy expected at an average rate of 2.7 per cent per annum, the continued stability in the global financial market and the recovery of the East Asian economies from the financial crisis. Growth prospects for China and India are expected to be moderate, while Japan is expected to grow at 2.2 per cent per annum.

2.36 During the Plan period, global inflation is expected to average at 2.7 per cent per annum, reflecting the adoption of non-inflationary monetary policies by major developed countries. The CPI for developed countries is expected to increase at an average rate of 1.9 per cent. In East Asia, the inflation rate is expected to be 3.8 per cent per annum compared with 6.1 per cent for the period 1991-1998.

2.37 World trade is expected to grow at 7.0 per cent per annum with increasing trade integration at the regional and sub-regional levels. In addition, trade in services is expected to grow at a faster rate than merchandise trade due to the higher flow of FDI, particularly in the services sector.

The Malaysian Economy

2.38 The strengthening of macroeconomic fundamentals and the financial sector together with the strong performance of the economy in 2000 will provide the base to sustain the high growth during the Plan period. The economy is expected to grow in line with its potential output with the recovery in private investment, which will exceed the pre-crisis level. The private sector will be encouraged to maximize the opportunities arising from the implementation of AFTA during the Plan period.

Growth Prospects

2.39 The Malaysian economy is projected to grow at an average rate of 7.5 per cent per annum with low inflation and price stability. This growth will be supported by domestic demand with the strong recovery in private investment. Foreign investment will remain important, particularly for the upgrading of technology, skills and management expertise. Private consumption is expected to grow at 7.4 per cent per annum, reflecting increasing affluence, while public consumption will grow at 7.7 per cent per annum.

2.40 As the economy matures, there will be less reliance on labour and capital input, while the contribution of TFP as a source for growth will be further enhanced during the Plan period. TFP is expected to contribute 37.2 per cent of the 7.5 per cent growth target, while the contribution of labour and capital will be 21.5 per cent and 41.3 per cent, respectively, as shown in Table 2-1.

2.41 The increase in TFP contribution to growth will require wide-ranging structural transformation to upgrade economic efficiency. This will include improving skills and management capabilities, increasing R&D spending, and greater use of technology and IT in all economic sectors, in line with efforts to develop the knowledge-based economy. In addition, public investment will be increased to improve the education and training delivery system. The private sector will be encouraged to play a bigger role particularly in terms of R&D and product innovation.

Aggregate Demand

2.42 The economy is expected to continue to expand during the Plan period, buoyed by strong domestic demand and the sustained growth of the world economy. In the domestic sector, private demand will continue to be the driving force of the economy, consistent with the overall policy of encouraging the private sector to spearhead economic growth. The Government will reduce its involvement in economic activities but will continue to support business growth.

2.43 *Private investment* will continue to provide the stimulus for the economy with its growth averaging 19.0 per cent per annum, as shown in *Table 2-2*. Its share to total investment is expected to be 68.7 per cent in 2005. Private investment in nominal terms, however, will have to increase by more than double from RM42.9 billion in 2000 to RM105.5 billion in 2005. The total amount of private investment required for the Plan period is RM374.5 billion in current terms compared with RM288.0 billion during the Seventh Plan period. The capital market particularly the private debt securities market as well as the pension and provident funds will provide an important source of financing to meet the investment needs of the productive sectors of the economy during the Plan period. Foreign investment will continue to be important, although its share to total investment is expected to decline as a result of the anticipated higher growth in domestic investment and increased global competition for FDI. In this regard, while domestic investment will be further emphasized, targeted promotion of FDI will be undertaken.

2.44 *Public investment.* During the Plan period, there will be a slight increase in the Federal Government development expenditure from RM99.0 billion in the Seventh Plan to RM110.0 billion. Public investment however, will grow at a slower rate of 1.1 per cent per annum compared with 7.1 per cent per annum during the Seventh Plan period. Its share to GNP is expected to decline from 17.2 per cent in 2000 to 12.4 per cent by 2005. Public investment will focus on the further expansion of the productive capacity of the economy as well as

productivity and efficiency enhancement through the upgrading of the workforce, increasing investment in R&D, fostering and promoting technology development as well as improving physical and social infrastructure. Overall, total private and public investment is expected to grow by 11.3 per cent per annum during the Eighth Plan period.

2.45 Total *consumption* is expected to grow at a rate of 7.5 per cent per annum, higher than that achieved during the Seventh Plan period. *Private consumption* in real terms is projected to increase at 7.4 per cent per annum in line with the expected rise in per capita income from RM13,359 in 2000 to RM17,779 in 2005. Private consumption per capita is expected to increase from RM6,198 in 2000 to RM9,073 in 2005, in view of the growth in disposable income. *Public consumption* will grow at 7.7 per cent per annum, contributing 12.6 per cent of GNP by 2005. The Federal Government operating expenditure will amount to RM322.4 billion during the Eighth Plan period compared with RM236.4 billion in the previous Plan.

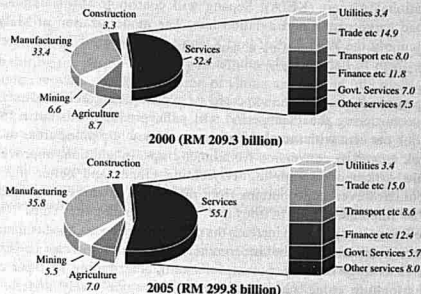
2.46 In terms of external demand, *exports of goods and non-factor services* are expected to grow by 6.8 per cent per annum in real terms due to improved competitiveness and better prospects in world trade. To support the anticipated growth of the manufacturing sector, *imports of goods and non-factor services* are expected to grow at 7.8 per cent per annum.

Sectoral Output

2.47 The manufacturing and services sectors will continue to be the major contributors to growth in the Eighth Plan period, as shown in *Table 2-6*. The *manufacturing sector* is expected to grow at an average rate of 8.9 per cent per annum, with its share to GDP increasing to 35.8 per cent by 2005, as shown in *Chart 2-2*. Electrical and electronics products industry will remain the driving force shifting towards higher technology and value added consumer and industrial products. Further developments in this industry will include the operation and expansion of wafer fabrication projects. With technology transfer and greater R&D efforts, more linkages are expected to be forged between the larger enterprises and SMEs thereby contributing towards the sustained growth of the manufacturing sector. Resource-based industries, particularly the petrochemical, pharmaceutical, furniture and food product industries as well as the handicraft industry, are also expected to strengthen during the Plan period. Transport equipment and fabricated metal products industries will play a more aggressive role in line with efforts to maximize opportunities from increased market access following the implementation of AFTA.

CHART 2-2

GROSS DOMESTIC PRODUCT BY INDUSTRY OF ORIGIN, 2000 AND 2005 (% of GDP)



Note: Total of percentage will be more than 100% as bank service charges and import duties are not taken into account

2.48 The *services sector* is expected to grow by 7.7 per cent during the Plan period. Higher growth is expected from three major subsectors, namely, the finance, insurance, real estate and business services; the wholesale and retail trade, hotels and restaurants; and transport, storage and communication subsectors. The wholesale and retail trade, hotels and restaurants subsector will be propelled by positive wealth effects and also the concerted efforts to make Malaysia a major tourist and shopping destination. These efforts will include hosting major sporting events, making Malaysia a major centre for meetings, conventions and exhibitions as well as organizing year-long event-based activities. At the same time, efforts will be undertaken to promote domestic tourism, especially to take advantage of the additional two non-working Saturdays a month for the public sector.

2.49 The consolidation and restructuring of the finance, insurance, real estate and business services subsector as well as the greater use of e-commerce are expected to contribute to the growth of this subsector. This subsector will also

benefit from the implementation of the Capital Market Masterplan as well as the Financial Sector Masterplan particularly in the development of the bond market and strengthening of the insurance industry. A more integrated transport, storage and communications subsector will also contribute to the greater utilization of ports and airports. The expected increase in passenger and cargo handling in the KL International Airport (KLIA), Sepang will contribute to making KLIA a regional load cargo centre and aviation hub. The modernization of Malaysian ports, particularly the West Port of Port Klang and the Port of Tanjung Pelepas, will enable them to handle high volume of cargo.

2.50 The *agriculture sector* is expected to expand at an annual average rate of 3.0 per cent during the Plan period. Oil palm production is anticipated to expand by 2.8 per cent with increased hectareage of newly-planted areas in Sabah and Sarawak as well as conversion from other crops. In addition, improvements in yield are expected through higher-yielding clones and better plantation management. However, contributions from rubber and sawlogs are projected to decline. The implementation of the new measures under the Third National Agriculture Policy is expected to increase the production of cocoa, food commodities and other non-traditional agriculture commodities. The food sector is estimated to grow at an average of 6.2 per cent per annum, contributing 37.1 per cent of the total agriculture value added. Efforts will be aggressively undertaken to increase the production of vegetables, livestock and fish. In addition, agro-forestry, bamboo and rattan, floriculture, herbs and medicinal plants and ornamental fish, will continue to be promoted.

2.51 The *mining sector* is expected to grow at 3.3 per cent per annum during the Plan period. The crude oil subsector remains the major contributor to the sector, accounting for 82.3 per cent of the mining value added at the end of the Plan period. However, production of crude oil is expected to record a minimal growth of 0.7 per cent, in line with the National Depletion Policy. Excluding the production of crude oil, the mining sector is expected to record a positive growth of 8.3 per cent with the contribution from the gas subsector amounting to 12.1 per cent of mining value added.

2.52 The *construction sector* is projected to grow at an annual average rate of 6.5 per cent during the Plan period, taking into consideration the excess supply of office and commercial space in the property market. In addition, major infrastructure projects have been completed or are at various stages of implementation. Among the major projects that will be implemented are the East

Coast Expressway, Express Rail Link (ERL), electrified double track railway projects from Rawang to Ipoh as well as infrastructure and residential developments in the Multimedia Super Corridor (MSC).

International Trade

2.53 Gross exports are expected to grow at an average rate of 7.9 per cent per annum during the period. World trade will increase as a result of the East Asian economic recovery and the inclusion of China and Russia into the World Trade Organization (WTO). With the scheduled liberalization of trade in goods and services under the WTO as well as the commitments to tariff reductions under bilateral and regional trade arrangements, Malaysian exports are anticipated to penetrate a wider range of markets. Towards this end, Malaysia will need to enhance the competitiveness of its products through productivity increases and quality improvement. This will have to be completed by efficient support services such as the establishment of trading houses to promote Malaysian exports overseas.

2.54 The export of manufactures is expected to expand by an average rate of 8.9 per cent per annum during the Plan period, with earnings increasing from RM317.9 billion in 2000 to RM486.1 billion in 2005, as shown in *Table 2-8*. Export earnings from manufactured goods will thus increase from 85.2 per cent of total merchandise exports in 2000 to 89.0 per cent in 2005. The major manufactured exports will include electronics and electrical machinery; chemicals and chemical products; textiles, clothing and footwear; wood products; and manufactures of metal.

2.55 Agricultural exports are expected to grow by 2.5 per cent per annum during the Plan period, with the main contribution from palm oil. Exports from the mining sector are expected to decrease by 4.0 per cent per annum, mainly due to moderate prices for crude oil and liquefied natural gas as well as decline in the export of tin.

2.56 Gross imports will grow at a rate of 10.2 per cent per annum, comprising mainly capital and intermediate goods. Efforts will be taken to increase the production of locally manufactured capital and intermediate goods, including parts and components, to reduce import intensity. The local inputs will also have to be produced more efficiently in order to compete with cheaper imports. Imports of consumption goods are expected to grow moderately in line with efforts to contain imported inflation, including the *Buy Malaysian* campaign.

TABLE 2-8
COMMODITY PRODUCTION AND EXPORTS, 1995-2005

Commodity	1995	2000	2005	Average Annual Growth Rate (%)	
				7MP	8MP
Agriculture					
<i>Palm Oil</i>					
Production ('000 tonnes)	7,811	10,840	12,444	6.8	2.8
Export ('000 tonnes)	6,656	8,863	8,760	5.9	0.2
Unit Value (RM/tonne)	1,473	1,122	1,260	-5.3	2.3
Value (RM million)	10,395	9,948	11,035	-0.9	2.1
<i>Rubber</i>					
Production ('000 tonnes)	1,089	616	560	-10.8	-1.9
Export ('000 tonnes)	1,013	996	700	-0.4	-6.8
Unit Value (sen/kg)	398	258	270	-8.3	-0.9
Value (RM million)	4,038	2,571	1,890	-8.6	-6.0
<i>Sawlogs</i>					
Production ('000 cu.m.)	31,644	23,898	21,143	-5.5	-2.4
Export ('000 cu.m.)	7,746	6,484	5,266	-3.5	-4.1
Unit Value (RM/cu.m.)	292	384	380	5.6	0.2
Value (RM million)	2,264	2,489	2,000	1.9	-4.3
<i>Sawn Timber</i>					
Production ('000 cu.m.)	9,280	5,224	4,763	-10.9	-1.8
Export ('000 cu.m.)	4,364	2,875	2,382	-8.0	-3.7
Unit Value (RM/cu.m.)	879	1,051	1,386	3.6	5.7
Value (RM million)	3,838	3,020	3,300	-4.7	1.8
<i>Cocoa</i>					
Production ('000 tonnes)	131	70	100	-11.8	7.4
Export ('000 tonnes)	53	11	33	-26.8	24.6
Unit Value (RM/kg)	3,276	2,878	3,600	-2.6	4.6
Value (RM million)	172	33	119	-28.3	29.6
Mining					
<i>Crude Oil and Condensates</i>					
Production (barrels/day)	705	680	702	-0.7	0.7
Export (barrels/day)	399	345	302	-2.9	-2.6
Unit Value (RM/tonne)	350	858	579	19.7	-7.6
Price (USD/barrel)	18.29	29.58	21.75	10.1	-6.0
Value (RM million)	6,701	14,241	8,387	16.3	-10.0
<i>LNG</i>					
Production ('000 tonnes)	9,923	15,453	20,500	9.3	5.8
Export ('000 tonnes)	9,923	15,453	20,295	9.3	5.6
Unit Value (RM/tonne)	320	731	565	18.0	-5.0
Value (RM million)	3,171	11,300	11,466	28.9	0.3
<i>Tin</i>					
Production ('000 tonnes)	6.4	6.7	6.5	0.9	-0.5
Export ('000 tonnes)	35.2	21	20	-10.1	-1.1
Unit Value (RM/tonne)	15,488	21,090	20,684	6.4	-0.4
Value (RM million)	545	435	404	-4.4	-1.5
Manufactured Exports (RM million)					
	147,253	317,937	486,140	16.6	8.9
Other Exports (RM million)					
	5,368	6,657	12,447	1.1	17.1
Gross Exports (RM million)					
	184,987	373,307	546,408	15.1	7.9

2.57 Malaysia will continue to undertake efforts to forge trade links with non-traditional trading partners and the transitional economies, while strengthening trade with its traditional partners such as the ASEAN countries, the US, Japan, the EU, South Korea and China. Within the ASEAN region, intra-ASEAN trade is expected to increase substantially with the accelerated tariff reduction under AFTA.

Balance of Payments

2.58 The current account is expected to remain in surplus for the whole Plan period, although on a declining trend, as shown in *Table 2-9*. The merchandise account of the balance of payments is expected to register a surplus of 17.4 per cent of GNP while the services account will continue to be in deficit at 11.4 per cent of GNP.

2.59 The continued deficit in the services account will be mainly due to the repatriation of profits and dividends by foreign investors. In addition, freight and insurance as well as payments for contract and professional charges will also contribute to this deficit. However, the surplus in the travel and education account is expected to increase mainly due to tourism receipts and the continued development of Malaysia as an international centre for education and healthcare.

2.60 The Government will continue to implement measures aimed at reducing the large deficit in the services account. Increased foreign exchange earnings are expected from tourism, education, shipping and insurance, finance and consultancy services. These measures include increasing the efficiency of the transportation services in view of the large deficit in freight and insurance. To enhance the efficiency of port services, efforts will be undertaken to streamline administrative procedures through the implementation of the electronic data interchange, increasing in the number of haulage companies, expansion of the domestic shipping fleet and stricter enforcement of cabotage rules.

Terms of Trade

2.61 Improvements in productivity and quality as well as the stable exchange rate are expected to contribute to Malaysia's export competitiveness. Export prices are projected to increase at a rate of 1.0 per cent during the Plan period compared with 1.8 per cent for import prices. Malaysia's terms of trade is, thus, expected to decline by 0.8 per cent. The real purchasing power, however, is estimated to increase by 6.4 per cent due to the elasticity of exports.

TABLE 2-9

BALANCE OF PAYMENTS, 1995 - 2005

Item	RM million			% of GNP		Cumulative		% of GNP	
	1995	2000	2005	1995	2000	RM million		7MP	8MP
Merchandise Account									
Exports	97	79,522	64,750	0.0	25.6	255,635	340,952	18.7	17.4
Imports	179,491	372,778	540,004	84.6	119.9	1,384,469	2,338,286	101.2	119.0
	179,394	293,256	475,254	84.6	94.4	1,128,834	1,997,334	82.5	101.7
Services Account	-19,229	-40,624	-46,104	-9.1	-13.1	-136,163	-223,971	-10.0	-11.4
Freight & Insurance	-9,028	-12,850	-17,815	-4.3	-4.1	-48,019	-79,005	-3.5	-4.0
Other Transportation	737	1,988	4,422	0.3	0.6	8,982	16,376	0.7	0.8
Travel & Education	4,143	9,738	15,545	2.0	3.1	26,249	62,604	1.9	3.2
Investment Income	-10,338	-27,985	-31,873	-4.9	-9.0	-89,345	-152,020	-6.5	-7.7
Government Transactions	-23	-21	-52	0.0	0.0	-461	-193	0.0	0.0
Other Services	-4,720	-11,493	-16,331	-2.2	-3.7	-33,568	-71,733	-2.5	-3.7
Transfers	-2,515	-7,735	-7,545	-1.2	-2.5	-30,936	-40,961	-2.3	-2.1
Current Account	-21,647	31,163	11,101	-10.2	10.0	88,536	76,020	6.5	3.9
Capital Account									
Official Long-term Capital	6,147	3,961		2.9	1.3	18,188		1.3	
Private Long-Term Capital	10,464	7,510		4.9	2.4	49,128		3.6	
Overall Balance	-4,403	-3,703		-2.1	-1.2	49,770		3.6	
Central Bank Reserves ¹	63,770	113,541		30.1	36.5	113,540		8.3	
Months of Retained Imports ¹	4.0	4.5							

Note: ¹ End period

Price Development

2.62 Efforts will continue to be undertaken to maintain a low rate of inflation and stable prices during the Plan period. Towards this end, measures to enhance local food production will continue to be implemented, particularly through the provision of land and the promotion of joint public and private sector initiatives to increase the supply of food, thereby reducing food imports. In addition, the Government will ensure that the growth of money supply is consistent with price stability and adopt a prudent fiscal policy during the Plan period.

2.63 The anti-inflation strategy will also include various administrative measures, such as the enforcement of price-tagging and averting irresponsible price increases, prevention of restrictive sales practices and monitoring the price index of basic necessities for the lower-income group. Measures to encourage automation and labour-saving techniques as well as increased participation of females and pensioners in the labour market will continue to be undertaken in order to moderate labour demand pressures and ensure that wage increases are in line with productivity growth. In addition, the price index is expected to be maintained at a low level with the availability of cheap imports in the domestic market.

Resource Balance

2.64 The savings-investment gap during the Plan period augurs well for sustained growth of the Malaysian economy. During the Plan period, savings will constitute an average of 35.3 per cent of GNP and investment at 31.4 per cent, as shown in *Table 2-7*. Consequently, aggregate savings will exceed investment requirements by 3.9 per cent of GNP. The savings-investment balance of the public sector is expected to be 1.9 per cent of GNP, while that of the private sector 2.0 per cent of GNP during the Plan period.

Public Sector Account

2.65 With the economic recovery, the public sector will resume its role as the facilitator of private sector participation in the economy. The operating expenditure during the Plan period will be moderated through prudent fiscal management and efficient use of resources. Meanwhile, the public sector development expenditure is estimated to increase from RM222.9 billion during the Seventh Plan to RM253.4 billion during the Eighth Plan period, as shown in *Table 2-10*. Of this total,

TABLE 2-10
CONSOLIDATED PUBLIC SECTOR DEVELOPMENT EXPENDITURE, 1995-2005

Item	RM million			% of GNP			Cumulative		Average Annual Growth Rate (%)	
	1995	2000	2005	1995	2000	2005	RM million	% of GNP	7MP	8MP
Development Expenditure	29,801	58,979	43,039	14.1	19.0	9.3	222,877	253,355	16.3	12.9
General Government ¹	16,171	29,794	26,712	7.6	9.6	5.8	103,409	144,017	7.6	7.3
NFPEs	13,630	29,185	16,327	6.4	9.4	3.5	119,468	109,337	8.7	5.6
									16.4	-11.0

Note: ¹ General Government comprises Federal Government, State Governments, Local Authorities and Statutory Bodies.

RM110.0 billion or 43.4 per cent will constitute the development expenditure of the Federal Government and RM109.3 billion or 43.2 per cent will be the development expenditure of the non-financial public enterprises (NFPEs). Although the absolute level of the public sector development expenditure is larger in current terms, it will be lower than that in the Seventh Plan in real terms, in line with the policy to reduce the public sector's role in economic activities.

2.66 The Federal Government development expenditure will continue to focus on human resource development as well as the provision and maintenance of social and physical infrastructure. These efforts aim to further reduce poverty, improve social facilities, modernize the security sector and reduce regional imbalances.

IV. CONCLUSION

2.67 The growth of the Malaysian economy during the Seventh Plan period was satisfactory, despite the crisis which severely affected the economy in 1998. The measures adopted by the Government since mid-1998 brought about a swift economic recovery. The prospects for growth during the Eighth Plan period will take into account the challenges arising from a more liberalized global economy and rapid technological transformation. Greater efforts, therefore, will be undertaken to ensure the sustainability and resilience of the economy in the long-term to attain the targets of Vision 2020.

Chapter 3

Poverty Eradication and Restructuring of Society

3

POVERTY ERADICATION AND RESTRUCTURING OF SOCIETY

I. INTRODUCTION

3.01 The distributional strategy in the Seventh Malaysia Plan focused on the eradication of hardcore poverty, restructuring of employment and the rapid development of an active Bumiputera Commercial and Industrial Community (BCIC). As a result, the incidence of poverty decreased and overall income inequality narrowed. In addition, there was an increase in the proportion of registered Bumiputera professionals as well as in the number of Bumiputera enterprises, both in the corporate and non-corporate sectors. However, the proportion of Bumiputera equity ownership in the corporate sector declined.

3.02 During the Eighth Plan period, emphasis will continue to be given on increasing effective Bumiputera ownership and participation in the corporate sector, improving Bumiputera participation in high-income occupations, strengthening the development of the BCIC, narrowing income inequality and eradicating poverty. In this regard, the Government will strengthen the implementation of distributional strategies to ensure targets are met. In particular, the equity restructuring strategy will be reviewed towards attaining at least 30 per cent effective Bumiputera equity ownership by 2010, as stipulated in the Third Outline Perspective Plan (OPP3), 2001-2010. Programmes to restructure employment will focus on increasing the number of Bumiputera professionals, managers and skilled workers in various occupations and sectors. The programme for the development of the BCIC will also be strengthened to accelerate the growth of the Bumiputera middle-income group and to create successful world-class Bumiputera entrepreneurs. With regard to poverty eradication, a more target-specific programme will be implemented to address pockets of poverty in rural and urban areas. In addition, the private sector will also complement the efforts taken by the Government in attaining the distributional objectives.

II. PROGRESS, 1996-2000

3.03 Despite experiencing some reversals during the economic crisis in 1997-1998, there was overall progress in bringing about equitable growth during the Seventh Plan period, especially pertaining to poverty eradication and income distribution as well as employment restructuring. However, with regard to the restructuring of equity ownership, Bumiputera equity ownership in the corporate sector declined.

Poverty Eradication

3.04 The thrust of the Seventh Plan was to reduce the incidence of hardcore poverty to 0.5 per cent and of general poverty to 5.5 per cent by 2000. The Government continued to play the leading role in poverty eradication efforts by promoting income-generating projects, providing amenities to improve the quality of life and implementing programmes to inculcate positive values among the poor. Several Government corporations, namely the Federal Land Development Authority (FELDA), Federal Land Consolidation and Rehabilitation Authority (FELCRA) and Rubber Industry Smallholders Development Authority (RISDA) contributed to a special scheme to eradicate hardcore poverty. The private sector and non-governmental organizations (NGOs) complemented these efforts. As a result of these efforts and the rapid economic growth during the 1995-1997 period, considerable progress was made in reducing poverty during the Plan period.

3.05 *General Poverty.* The incidence of poverty among Malaysians decreased from 8.7 per cent in 1995 to 6.1 per cent in 1997 and the number of poor households declined by 25 per cent, from 365,600 to 274,200, as shown in *Table 3-1*. Efforts to further reduce poverty were hampered by the economic crisis, and the incidence of poverty increased to 8.5 per cent in 1998. However, with the economic recovery in 1999, the incidence of poverty declined to 7.5 per cent. The poverty line incomes used to calculate the incidence of poverty are as shown in *Table 3-2*.

3.06 Both rural and urban households recorded reductions in poverty during the Plan period. The incidence of rural poverty decreased from 14.9 per cent in 1995 to 12.4 per cent in 1999 while urban poverty declined from 3.6 per cent to 3.4 per cent. The incidence of poverty among the agriculture workers was the

TABLE 3-1

INCIDENCE OF POVERTY AND NUMBER OF POOR HOUSEHOLDS,
1995, 1997 AND 1999

	1995 ¹			1997 ¹			1999		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Malaysian Citizens									
Incidence of Poverty	(%)	8.7	3.6	14.9	6.1	10.9	7.5	3.4	12.4
Number of Poor Households	('000)	365.6	83.8	281.8	274.2	221.8	351.1	86.8	264.3
Incidence of Hardcore Poverty ²	(%)	2.1	0.9	3.6	1.4	2.5	1.4	0.5	2.4
Number of Hardcore-Poor Households	('000)	88.4	20.1	68.3	62.4	51.8	64.1	13.5	50.6
Total Households	('000)	4,212.3	2,315.8	1,896.5	4,488.1	2,038.3	4,681.5	2,548.0	2,133.5
Overall									
Incidence of Poverty	(%)	9.3	4.1	15.6	6.8	11.8	8.1	3.8	13.2
Number of Poor Households	('000)	418.3	99.3	319.0	332.4	267.5	409.3	102.7	306.6
Incidence of Hardcore Poverty ²	(%)	2.1	0.9	3.5	1.4	2.4	1.4	0.6	2.4
Number of Hardcore-Poor Households	('000)	94.0	21.8	72.2	67.5	55.3	71.1	15.6	55.5
Total Households	('000)	4,497.7	2,449.7	2,048.0	4,924.0	2,263.9	5,047.0	2,725.9	2,321.1

Notes:

¹ Revised based on the latest household population data.² Estimated using half the poverty line income.

TABLE 3-2

POVERTY LINE INCOMES¹, 1995-1999
(RM per month per household)

	1995	1997	1998	1999
Semenanjung Malaysia ²	425	460	493	510
Sabah ²	601	633	667	685
Sarawak ²	516	543	572	584

Notes:

¹ Estimated based on the minimum requirements of a household for three major components, namely food, clothing and footwear, and other non-food items such as rent, fuel and power, furniture and household equipment, medical care and health expenses, transport and communications, and recreation, education and cultural services. For the food component, the minimum expenditure was based on a daily requirement of 9,910 calories for a family of five persons while the minimum requirements for clothing and footwear were based on standards set by the Department of Social Welfare in welfare homes. The other non-food items are based on the level of expenditure of the lower income households, as reported in the Household Expenditure Survey. The poverty line income is updated annually to reflect changes in the levels of prices by taking into account changes in the Consumer Price Indices.

² Adjusted based on an average household size of 4.6 in Semenanjung Malaysia, 4.9 in Sabah and 4.8 in Sarawak.

highest at 16.4 per cent in 1999. Similarly, households headed by the elderly, those 65 years and above, and female-headed households, experienced high incidence of poverty at 22.7 per cent and 16.9 per cent, respectively.

3.07 The reduction in the incidence of poverty during the Plan period was due to the expansion of the economy and the implementation of specific programmes towards increasing the productivity and improving the living standards of the poor. These included the modernization and commercialization of the smallholder subsector, consolidation and rehabilitation of land, replanting schemes, expansion of rural-based industries and the provision of basic services and utilities such as education, health, potable water and electricity. In addition, specific urban-based programmes, namely squatter resettlement and low-cost housing projects, improved the living conditions of the urban poor.

3.08 *Hardcore Poverty.* Rapid economic growth prior to mid-1997 and the intensified implementation of the Development Programme for the Hardcore Poor or *Program Pembangunan Rakyat Termiskin* (PPRT), reduced the incidence of hardcore poverty among Malaysians from 2.1 per cent in 1995 to 1.4 per cent in 1999, as shown in Table 3-1. Similar reductions were recorded in rural and urban areas. The incidence of rural hardcore poverty declined from 3.6 per cent in 1995 to 2.4 per cent in 1999, while in the urban areas, it decreased from 0.9 per cent to 0.5 per cent.

3.09 During the Plan period, the PPRT continued to emphasize income-generating projects that included petty trading, cottage industries, livestock and aquaculture projects and the commercial production of food crops. PPRT also provided training and improved basic amenities for the hardcore poor. During the Plan period, the Government reviewed the *Amanah Saham Bumiputera* (ASB)-PPRT scheme by introducing a four-year grace period for the RM5,000 interest-free loans, which allowed the hardcore poor to receive the full amount of annual dividends and bonuses. As of 30 April 2000, a total of 153,500 hardcore poor benefited from this loan scheme, which totalled RM767.2 million.

3.10 Land development agencies such as FELDA, FELCRA and RISDA, contributed to a special scheme to eradicate hardcore poverty. Under this scheme, families headed by a disabled member or senior citizen of 60 years and above, received a monthly financial assistance of RM50 per person up to a maximum of RM250 per family. A total of 7,000 families in the hardcore poverty group benefited from this scheme, with FELDA extending assistance to 5,000 families and FELCRA and RISDA each assisting 1,000 families. This scheme enabled the households to move out of the hardcore poverty group.

3.11 In addition to the PPRT, programmes spearheaded by NGOs and the private sector also contributed to the reduction of hardcore poverty. During the Plan period, *Amanah Ikhtiar Malaysia* (AIM) provided micro-credit financing to 22,800 poor families from the RM300 million interest-free loan allocated by the Government. The private sector and the various state-based poverty eradication foundations also intensified their efforts in providing skills training as well as in-kind and financial contributions to the poor.

3.12 Since 1998, in response to the economic crisis, the Government undertook measures to further expand social programmes, particularly the provision of basic services and amenities. The allocation for the PPRT and other programmes was increased. An additional RM100 million was provided to the original RM200 million for AIM, while another RM200 million was allocated for a micro-credit programme for petty traders and hawkers in urban areas. A total of RM200 million was also allocated for the provision of rural infrastructure facilities such as schools, clinics, potable water and electricity. In addition, the implementation of measures to moderate the increase in the prices of food and other essentials as well as the 'Buy Malaysian' campaign managed to contain inflationary pressures and cushion the poor and hardcore poor, in particular, from the adverse effects of the crisis.

3.13 *Poverty among the Orang Asli.* During the Plan period, the Government implemented specific development programmes for the *Orang Asli*, which included economic and social programmes that improved their standard of living. The income-generating activities implemented included land development, vegetable farming and livestock rearing as well as retail business and handicraft industries. The implementation of new land development and resettlement projects involving a total land area of about 19,800 hectares benefited 8,100 *Orang Asli* families. The *Orang Asli* community also benefited from a special allocation of RM100 million for the ASB-PPRT scheme. A total of RM79 million was disbursed by the end of 1999, benefiting 15,820 *Orang Asli* households. In 1999, the incidence of poverty and hardcore poverty among the *Orang Asli* was at 50.9 and 15.4 per cent, respectively.

Income Distribution

3.14 The overall income distribution among households in Malaysia improved during the Seventh Plan period. The proportion of lower-income households, defined as those earning less than RM1,500 per month, decreased from 54.4 per cent in 1995 to 43.8 per cent in 1999, as shown in *Table 3-3*. The size of middle-income households, defined as those earning between RM1,500 and RM3,500, increased from 32.3 per cent in 1995 to 37 per cent in 1999, bringing Malaysia closer to creating a bigger middle-income class.

3.15 In line with the overall improvement in income distribution, all ethnic groups registered an increase in household income during the Plan period. The mean monthly gross household income increased from RM2,020 in 1995 to RM2,472 in 1999, registering an average growth rate of 5.2 per cent per annum, as shown in *Table 3-4*. The increase was made possible by the creation of greater employment opportunities that enabled more Malaysians to be gainfully employed. The Bumiputera mean household income grew at an average rate of 5.5 per cent per annum to RM1,984 in 1999, while that of the Chinese increased by 4.6 per cent per annum to RM3,456. As a result, the income imbalance between the Bumiputera and Chinese narrowed as indicated by the decrease in the Bumiputera-Chinese income disparity ratio from 1:1.80 in 1995 to 1:1.74 in 1999. However, the Bumiputera-Indians income disparity ratio increased from 1:1.33 to 1:1.36, due to a higher income growth rate of 6.0 per cent per annum recorded by the Indians.

3.16 During the Plan period, rural household income grew by 6.7 per cent per annum to RM1,718 in 1999, while urban household income grew at 4.6 per cent to RM3,103. As a result, the income disparity ratio between rural and urban households narrowed from 1:1.95 in 1995 to 1:1.81 in 1999.

TABLE 3-3

**DISTRIBUTION OF HOUSEHOLDS BY
MONTHLY GROSS HOUSEHOLD INCOME, 1995 AND 1999**
(%)

<i>Income Class (RM)</i>	<i>1995</i>	<i>1999</i>
499 and below	10.6	6.0
500 - 999	23.9	19.0
1,000 - 1,499	19.9	18.8
1,500 - 1,999	13.1	13.9
2,000 - 2,499	8.9	10.1
2,500 - 2,999	6.1	7.3
3,000 - 3,499	4.2	5.7
3,500 - 3,999	2.8	3.9
4,000 - 4,999	3.8	5.5
5,000 and above	6.7	9.8
Total	100.0	100.0
Mean Income (RM)	2,020	2,472
Median Income (RM)	1,377	1,704
Gini Coefficient	0.4560	0.4432

TABLE 3-4

**MEAN MONTHLY GROSS HOUSEHOLD INCOME
BY ETHNIC GROUP, 1995 AND 1999**
(RM)

<i>Ethnic Group</i>	<i>1995</i>	<i>1999</i>	<i>Average Annual Growth Rate (%), 1995-1999</i>
Bumiputera	1,604	1,984	5.5
Chinese	2,890	3,456	4.6
Indians	2,140	2,702	6.0
Others	1,284	1,371	1.7
Malaysia	2,020	2,472	5.2
Urban	2,589	3,103	4.6
Rural	1,326	1,718	6.7

3.17 All income groups recorded an increase in household income during the Plan period, as shown in *Table 3-5*. The mean income of the bottom 40 per cent of households increased to RM865 in 1999, registering a growth rate of 5.7 per cent per annum. This was higher than the growth rate recorded by the middle 40 per cent and top 20 per cent of the households. In addition, the income share of the bottom 40 per cent of households increased from 13.7 per cent in 1995 to 14 per cent in 1999, while the top 20 per cent of households recorded a decrease in their income share from 51.3 per cent to 50.5 per cent. Consequently, the Gini coefficient, a summary measure of income differences, declined from 0.4560 in 1995 to 0.4432 in 1999, indicating narrowing income inequality.

Restructuring of Ownership and Control of the Corporate Sector

3.18 During the Seventh Plan period, efforts were continued to increase Bumiputera ownership of corporate equity and control of companies through the strengthening of Bumiputera capacity to manage businesses effectively. Various programmes were implemented including training, provision of technical advice and hands-on experience as well as providing opportunities for capable Bumiputera to actively participate in the corporate sector. Bumiputera institutions and trust agencies played an important role in mobilizing Bumiputera resources and in the

TABLE 3-5
MEAN MONTHLY GROSS HOUSEHOLD INCOME
BY INCOME AND ETHNIC GROUPS,
1995 AND 1999
(RM)

Ethnic Group	1995			1999		
	Top 20%	Middle 40%	Bottom 40%	Top 20%	Middle 40%	Bottom 40%
Bumiputera	3,986	1,461	572	4,855	1,810	742
Chinese	7,270	2,560	1,062	8,470	3,168	1,271
Indians	5,100	1,954	868	6,456	2,460	1,092
Others	3,106	1,131	539	3,242	1,204	616
Malaysia	5,202	1,777	693	6,268	2,204	865
Urban	6,474	2,323	942	7,580	2,844	1,155
Rural	3,153	1,235	515	4,124	1,577	670

TABLE 3-6

**OWNERSHIP OF SHARE CAPITAL (AT PAR VALUE)
OF LIMITED COMPANIES¹, 1995 AND 1999**
(RM million)

<i>Ownership Group</i>	<i>1995</i>	<i>%</i>	<i>1999</i>	<i>%</i>	<i>Average Annual Growth Rate (%), 1996-1999</i>
Bumiputera	36,981.2	20.6	59,394.4	19.1	12.6
Individuals & Institutions	33,353.2	18.6	54,046.0	17.4	12.8
Trust Agencies ²	3,628.0	2.0	5,348.4	1.7	10.2
Other Malaysians	78,026.9	43.4	125,013.3	40.3	12.5
Chinese	73,552.7	40.9	117,372.4	37.9	12.4
Indians	2,723.1	1.5	4,752.9	1.5	14.9
Others	1,751.1	1.0	2,888.0	0.9	13.3
Foreigners	49,792.7	27.7	101,279.2	32.7	19.4
Nominee Companies	14,991.4	8.3	24,389.5	7.9	12.9
Total	179,792.2	100.0	310,076.4	100.0	14.6

*Notes:*¹ Excludes Government holdings (except trust agencies).² Refers to shares held by trust agencies, such as *Permodalan Nasional Berhad* (PNB) and State Economic Development Corporations (SEDCs).

controlled by the Bumiputera was in the transportation, construction and agriculture sectors, at 32.2 per cent, 27.1 per cent and 24.3 per cent, respectively. In comparison, the proportion of equity of non-Bumiputera controlled companies was high in almost all sectors, ranging from 41 per cent to 57 per cent, except in the manufacturing sector which was 60 per cent foreign controlled.

3.23 Despite the slowdown in the economy in 1998, Bumiputera ownership and control of public-listed companies on the Kuala Lumpur Stock Exchange (KLSE) increased as a result of pragmatic efforts taken by the Government to stimulate the economy and reduce the impact of the financial crisis on the stock market. In 1999, Bumiputera owned 28.5 per cent of share capital at par value of the companies listed on the KLSE. At the same time, out of the total of 757 companies listed on the KLSE, Bumiputera controlled 202 companies or 26.7 per cent compared with 26 per cent in 1995. The highest number of Bumiputera controlled companies were in the trading, finance and industrial counters.

Employment Restructuring

3.24 During the Seventh Plan period, efforts were continued to restructure the employment pattern to reflect the ethnic composition of the population. In particular, education and training programmes were emphasized to increase the number and proportion of Bumiputera professionals and managers in the corporate sector. The Government played a leading role in providing education and training which was also complemented by the private sector. Efforts were also made to encourage greater non-Bumiputera participation in the public sector.

3.25 The proportion of Bumiputera employed was high in most sectors of the economy, except in the construction and wholesale and retail trade. Their proportion of the total number of workers employed increased slightly from 51.4 per cent in 1995 to 51.5 per cent in 2000, as shown in *Table 3-7*. The proportion of Chinese employed increased marginally from 29.6 per cent in 1995 to 29.7 per cent in 2000 while that of Indians increased from 7.9 per cent to 8.3 per cent during the period. Despite the higher proportion of Bumiputera employment, the unemployment rate among the Bumiputera was the highest at 4.6 per cent compared with 1.6 per cent for the Chinese and 2.7 per cent for the Indians.

3.26 During the Plan period, the number of Bumiputera employed in all occupational categories increased slightly. However, their participation was concentrated in lower-level occupations such as production and agriculture workers. Despite the increase in the number of Bumiputera in the professional and technical category, their proportion decreased slightly from 64.4 per cent in 1995 to 63.9 per cent in 2000, as shown in *Table 3-8*. Although the percentage of Bumiputera workers in the professional and technical category was high, most of them were in the sub-professional category as well as teachers and nurses. The proportion of Bumiputera workers remained low in the administrative and managerial category, at 37 per cent in 2000, whereas the proportion of Chinese was higher at 52.3 per cent. The Indians, however, witnessed an increase in their proportion in this category, from 4.8 per cent in 1995 to 5.5 per cent in 2000. The lower growth of Bumiputera employment in the professional and technical as well as in the administrative and managerial categories, was partly due to the limited supply of qualified, experienced and skilled Bumiputera in several key fields such as electrical and electronics, information and communications technology (ICT) as well as in finance.

3.27 The number of Bumiputera professionals registered in the eight selected professions such as accountants, lawyers, engineers and doctors, increased during the Plan period. In spite of the increase in the proportion of Bumiputera professionals

TABLE 3-7
EMPLOYMENT BY SECTOR AND ETHNIC GROUP, 1995 AND 2000
('000)

Sector	1995					2000				
	Banpuera	Chinese	Indians	Others ¹	Total	Banpuera	Chinese	Indians	Others ¹	Total
Agriculture	896.6	21.8	174.7	7.4	89.6	14.2	331.8	37.4	1,492.7	18.7
%	60.1	11.7	6.0	0.7	4.3	0.5	23.7	0.5	867.1	61.6
Mining & Quarrying	23.3	0.6	8.9	0.4	57.5	20.9	8.6	0.3	4.2	0.6
%	1.099.9	24.6	614.5	26.0	228.5	36.2	174.6	19.7	2,027.5	25.4
Manufacturing	49.8	30.3	11.3	8.6	100.0	49.1	26.3	29.1	37.8	240.9
%	268.2	6.5	294.7	12.4	33.7	5.3	120.5	13.6	717.1	9.0
Construction	37.4	41.1	4.7	16.8	100.0	37.9	6.0	290.6	10.6	35.8
%	48.6	1.2	7.0	0.3	7.5	1.2	4.3	0.5	67.4	0.8
Electricity, Gas & Water	72.1	10.4	11.1	6.4	100.0	71.2	11.6	11.3	5.9	100.0
%	210.3	5.1	116.1	4.9	46.2	7.3	22.6	2.5	395.2	4.9
Transport	53.2	29.4	11.7	5.7	100.0	55.8	5.4	131.7	4.8	12.0
%	483.1	11.7	661.7	27.9	80.7	12.8	98.0	11.0	1,333.5	16.5
Wholesale & Retail Trade	36.5	50.0	6.1	7.4	100.0	38.3	48.7	6.7	6.7	6.7
%	168.1	4.1	157.7	6.7	34.6	5.5	12.4	1.4	372.8	4.7
Finance	45.1	42.3	9.3	3.3	100.0	45.3	4.8	209.5	7.6	50.3
%	1,005.5	24.4	331.3	14.0	106.2	16.8	119.5	13.5	1,562.5	19.5
Other Services ¹	64.4	21.2	6.8	7.6	100.0	63.6	25.0	406.9	14.8	133.9
%	4.113.6	100.0	2,368.6	100.0	631.3	100.0	887.7	100.0	7,999.2	100.0
Total Employed	51.4	29.6	7.9	11.1	8,254.0	51.5	29.7	8.3	970.6	100.0
%	4,312.2	2,402.8	648.0	891.0	8,254.0	5,094.7	2,797.6	791.6	978.6	9,572.5
Labour Force	102.2	29.1	7.9	10.8	100.0	52.3	29.2	8.3	10.2	100.0
%	102.6	36.2	16.7	3.3	254.8	228.0	44.3	2.0	8.0	301.3
Unemployment	79.0	14.2	6.6	1.3	100.0	75.7	14.7	2.7	2.6	100.0
%	4.6	1.5	2.6	0.4	3.1	4.6	1.6	2.7	0.8	3.1
Rate (%)										

Notes:

¹ Includes non-citizens.

² Includes public, private and community services.

TABLE 3-8

EMPLOYMENT BY OCCUPATION AND ETHNIC GROUP, 1995 AND 2000
('000)

Occupation	1995					2000				
	Bumiputera %	Chinese %	Indians %	Others ¹ %	Total %	Bumiputera %	Chinese %	Indians %	Others ¹ %	Total %
Professional & Technicians ² %	509.8 64.4	12.4 25.7	8.6 7.0	8.8 2.9	791.9 100.0	651.3 63.9	263.4 25.8	77.5 7.6	10.1 2.7	1,019.8 100.0
Teachers & Nurses %	203.0 72.3	4.9 20.5	18.5 6.6	2.9 0.6	280.7 100.0	246.1 73.2	61.9 18.4	23.2 6.9	3.0 1.3	336.2 100.0
Administrative & Managerial %	94.2 36.8	2.3 52.5	5.7 4.8	1.9 5.9	256.0 100.0	144.0 37.0	203.7 52.3	21.6 5.5	2.8 5.2	389.4 100.0
Clerical Workers %	501.0 37.3	12.2 33.8	12.4 7.4	10.2 1.3	871.9 100.0	584.1 56.8	338.9 32.9	88.2 8.6	11.5 1.7	1,029.1 100.0
Sales Workers %	317.5 36.4	7.7 50.2	438.0 18.5	8.6 6.2	872.0 100.0	380.4 37.3	507.7 49.8	69.7 6.8	9.0 6.1	1,019.8 100.0
Service Workers %	509.1 57.3	12.4 21.6	191.7 8.1	11.5 8.2	887.9 100.0	631.2 57.7	238.2 21.8	93.3 8.5	12.1 12.0	1,094.0 100.0
Agriculture Workers %	984.1 61.3	21.9 11.9	191.4 6.9	17.7 19.9	1,607.8 100.0	1,027.5 61.2	21.5 10.3	116.5 6.9	15.1 21.6	1,678.1 100.0
Production Workers %	1,197.9 44.2	29.1 33.7	912.9 9.6	41.3 12.5	2,711.7 100.0	1,358.2 44.7	1,029.1 31.8	39.4 10.0	340.9 11.5	3,041.0 100.0
Total %	4,113.6 51.4	100.0 29.6	2,366.6 100.0	631.3 7.9	7,999.2 100.0	4,776.7 51.5	2,753.3 29.7	770.6 8.3	970.6 10.5	9,271.2 100.0

Notes:

¹ Includes non-citizens.² Refers to the standard definition as provided in the Dictionary of Occupational Classification which includes categories such as draughtsmen, laboratory assistants as well as teachers and nurses.

from 27.3 per cent in 1995 to 28.9 per cent in 1999, their proportion was still low, as shown in *Table 3-9*. The proportion of Bumiputera in all professions increased slightly except for accountants and surveyors, where the proportions decreased from 16.1 per cent and 48.3 per cent in 1995 to 15.9 per cent and 47.8 per cent in 1999, respectively.

3.28 During the Plan period, efforts were also directed towards increasing the number of Bumiputera students in ICT and related courses to prepare them for the knowledge-based economy. Based on the latest available information, the proportion of Bumiputera in the ICT industry in 2000 was about 38.9 per cent, while Chinese and Indians were at 44.9 and 9.1 per cent, respectively. However, the proportion of Bumiputera in the clerical and support personnel category in the ICT industry was higher at 65.7 per cent, while the proportion of Bumiputera in professional occupations such as engineers, consultants and graphic multimedia designers remained low.

Development of the BCIC

3.29 During the Seventh Plan period, progress was made in developing viable, competitive and resilient Bumiputera entrepreneurs. There was a significant increase in the number of Bumiputera enterprises, both in the corporate and non-corporate sectors. A total of 97,500 Bumiputera companies registered with the Registrar of Companies (ROC) in 1999, compared with 69,700 companies in 1995 or 19 per cent of the total companies registered with the ROC. Meanwhile, the number of Bumiputera entities registered with the Registrar of Businesses (ROB) doubled from 366,790 in 1995 to 743,550 in 1999. This represented about 38.7 per cent and 45.3 per cent, respectively, of the total number of ROB-registered companies.

3.30 The implementation of a broad range of assistance provided by the Government and the private sector increased the number of Bumiputera entrepreneurs. During the Plan period, a total of 26,300 Bumiputera entrepreneurs was developed through various BCIC programmes. However, the economic crisis in 1997-1998 affected the progress made in the development of the BCIC. Bumiputera entrepreneurs, being relatively new and inexperienced in the business world, were badly affected by the resulting credit squeeze, higher input costs and slackened demand for their products and services.

3.31 During the Plan period, the Government continued to implement packaged programmes to enhance the development of a viable, competitive and resilient BCIC. A total of 2,710 Bumiputera entrepreneurs was developed through packaged

TABLE 3-9

REGISTERED PROFESSIONALS BY ETHNIC GROUP, 1995 AND 1999

Profession	1995					1999					Average Annual Growth Rate (%) 1996-1999				
	Bumiputera	Chinese	Indians	Others ¹	Total	Bumiputera	Chinese	Indians	Others ¹	Total	Bumiputera	Chinese	Indians	Others ¹	Total
Accountants %	1,422 16.1	6,655 75.2	692 7.9	75 0.8	8,844 100.0	2,167 15.9	10,520 77.0	789 5.8	185 1.3	13,661 100.0	11.1	12.1	3.3	25.3	11.5
Architects %	368 27.6	943 70.7	20 1.5	3 0.2	1,334 100.0	431 28.9	1,036 69.3	23 1.5	4 0.3	1,494 100.0	4.0	2.4	3.6	7.5	2.9
Dentists %	577 30.9	854 45.7	409 21.9	29 1.5	1,869 100.0	888 34.8	1,074 42.1	534 21.0	54 2.1	2,550 100.0	11.4	5.9	6.9	16.8	8.1
Doctors %	3,212 33.4	3,086 32.1	3,069 32.0	241 2.5	9,608 100.0	4,460 36.7	3,749 30.9	3,448 28.4	484 4.0	12,141 100.0	8.6	5.0	3.0	19.0	6.0
Engineers %	1,730 21.6	5,753 71.8	527 6.6	3 0.0	8,013 100.0	2,688 26.5	6,806 67.1	642 6.4	4 0.0	10,140 100.0	11.6	4.3	5.1	7.5	6.1
Lawyers %	1,731 29.0	2,589 43.3	1,591 26.6	65 1.1	5,976 100.0	2,783 31.3	3,640 41.0	2,379 26.8	77 0.9	8,879 100.0	12.6	8.9	10.6	4.3	10.4
Surveyors %	1,309 48.3	1,235 45.6	86 3.2	79 2.9	2,709 100.0	1,495 47.8	1,482 47.4	94 3.0	56 1.8	3,127 100.0	3.4	4.7	2.2	-8.2	3.7
Veterinary Surgeons %	310 40.2	183 23.7	259 33.5	20 2.6	772 100.0	409 42.6	258 26.8	274 28.5	20 2.1	961 100.0	7.2	9.0	1.4	0.0	5.6
Total %	10,659 27.3	21,298 54.4	6,653 17.0	515 1.3	39,125 100.0	15,321 28.9	28,565 53.9	8,183 15.5	884 1.7	52,953 100.0	9.5	7.6	5.3	14.5	7.9

Sources: Professional associations and institutions covering both public and private sectors such as Malaysian Institute of Accountants, Board of Architects Malaysia, Malaysia Dental Council, Malaysian Medical Council, Board of Engineers Malaysia, Bar Council Malaysia, The Institution of Surveyors Malaysia and Malaysia Veterinary Surgeons Council.

Note: ¹ Includes non-citizens.

programmes such as the vendor development programme, the franchise development programme, the genuine joint-venture scheme and the venture capital scheme. The implementation of these programmes that emphasized quality management, efficiency and good business ethics, facilitated the entry of Bumiputera entrepreneurs into strategic industries and commerce.

3.32 The *Vendor Development Programme* was successful in meeting the Plan target of creating 250 new vendors in strategic industries. A total of 209 Bumiputera enterprises was selected to be vendors for privately-owned companies, while another 198 were selected to provide parts, supplies and services to large government-owned companies, including *Petroleum Nasional Berhad*, *Tenaga Nasional Berhad* and *Telekom Malaysia Berhad*. A 1999 study to determine the effectiveness of the BCIC packaged programmes showed that the vendor development programme was successful in producing vendors who performed well in terms of growth in sales and profits as well as returns to paid-up capital. This success was largely due to the ability of vendors to manufacture products to meet the requirements of their clients.

3.33 Under the *Franchise Development Programme*, a total of 550 new Bumiputera franchisees was selected in various types of products and services such as cosmetics, ICT, fast food and pharmaceuticals, as well as in motorcar servicing, building maintenance and courier services. However, this number was fewer than the Plan target of 1,200. The shortfall was due to the difficulties faced by franchisees in acquiring financial assistance, business failure of franchisor companies and the reluctance of local companies to develop franchised products. During the Plan period, a total of 29 Bumiputera companies was developed as franchisors. The Venture Capital Scheme of *Perbadanan Usahawan Nasional Berhad* (PUNB), which was targeted to create 440 entrepreneurs, attracted 353 Bumiputera entrepreneurs to participate in strategic industries. These industries include the manufacture of plastics- and petrochemical-based products, engineering and automotive components as well as service-related activities such as telecommunications and information technology. Apart from taking equity of up to 30 per cent and providing loan stock of up to 50 per cent in each project, PUNB was also involved in monitoring corporate performance and business development services including training.

3.34 The other BCIC packaged programmes did not have specific targets but contributed to the development of more Bumiputera entrepreneurs. The number of participants in the *Program Kontraktor Binaan Bumiputera Berwibawa* increased by 278 during the Plan period and the Umbrella Concept Production-Marketing

Arrangement attracted 142 new participants in the Furniture Integrated Marketing Programme, and 32 in the food industry under the Besta label. The Mentor Programme, with 28 companies, succeeded in creating 249 link-ups, while the Genuine Joint-Venture Scheme created 54 new ventures between Bumiputera and non-Bumiputera partners. Under the *Skim Kilang Bimbingan*, 156 Bumiputera entrepreneurs were selected and given the opportunity to utilize factory premises provided by *Bank Pembangunan dan Infrastruktur Malaysia Berhad*. The Rural Entrepreneur Development Programme assisted 474 rural small-scale entrepreneurs in the acquisition of modern and appropriate production equipment.

3.35 In addition to packaged programmes, the Government continued to provide various types of unpackaged or one-off assistance to the Bumiputera business community. A total of 9,280 new business premises was provided by *Majlis Amanah Rakyat* (MARA), UDA Holdings Berhad, State Economic Development Corporations (SEDCs) and Malaysian Handicraft Development Corporation, of which about 89 per cent were taken up by Bumiputera entrepreneurs. In addition, another 39,940 business premises were provided by various local authorities as part of their efforts to promote business development in their respective areas, particularly for the Bumiputera. With regard to business financing, loans totalling RM4 billion from 28 funds were disbursed to 53,020 Bumiputera entrepreneurs during the Plan period. *Perbadanan Nasional Berhad* (PNS) also assisted in developing 146 middle-class entrepreneurs through its various investment programmes, which included strategic alliance and partnership, equity participation as well as investments in mezzanine companies and franchise businesses.

3.36 In terms of entrepreneurial training and counselling, government agencies conducted courses that benefited 156,850 existing and potential Bumiputera entrepreneurs. In this respect, entrepreneurial programmes continued to emphasize the inculcation of an entrepreneurial culture at all levels, particularly among students in secondary schools and institutions of higher learning. During the Plan period, 21,660 students in 325 schools were involved in *Program Usahawan Muda*. Under the *Program Pembangunan Usahasiswa*, a total of 13,100 students in 11 institutions of higher learning participated in various business activities. In addition, 665 government employees benefited from training courses on how to start and manage business activities. To provide a focal point for information and advisory services, eight *Pusat Bimbingan Usahawan* at the state level and four centres at the district level were established. These centres provided services to a total of 12,170 entrepreneurs during the Plan period.

III. PROSPECTS, 2001-2005

3.37 During the Eighth Plan period, distributional strategies will continue to emphasize the narrowing of income imbalance as well as increasing effective Bumiputera corporate equity ownership and the number of Bumiputera in high income occupations. Efforts will be intensified towards eradicating poverty through specific programmes to address pockets of poverty in different regions, particularly in remote areas. In addition, measures will be undertaken to strengthen the BCIC, including the Bumiputera middle-class, through the development of successful and world-class Bumiputera entrepreneurs. The inculcation of entrepreneurial culture and positive values among Bumiputera entrepreneurs will be further enhanced. The private sector and NGOs will also be encouraged to provide meaningful contribution for the attainment of the distributional objectives.

3.38 During the Plan period, the key strategies to enable the achievement of the distributional objectives will be as follows:

- ❑ *reorienting poverty eradication programmes to reduce the incidence of poverty to 0.5 per cent by 2005;*
- ❑ *intensifying efforts to improve the quality of life, especially in rural areas by upgrading the quality of basic amenities, housing, health, recreation and educational facilities;*
- ❑ *improving the distribution of income and narrowing income imbalance between and within ethnic groups, income groups, economic sectors, regions and states;*
- ❑ *achieving effective Bumiputera participation as well as equity ownership of at least 30 per cent by 2010 in the context of economic growth without resorting to micro-restructuring of existing ventures;*
- ❑ *developing resilient and sustainable Bumiputera enterprises through the inculcation of positive values and attitudes as well as improving entrepreneurial capabilities;*
- ❑ *restructuring employment to reflect the ethnic composition of the population; and*
- ❑ *creating a bigger Bumiputera middle-income group with special emphasis on the BCIC.*

Poverty Eradication

3.39 During the Eighth Plan period, the thrust of poverty eradication will be to reorientate poverty eradication programmes to reduce the incidence of poverty to 0.5 per cent by 2005. Poverty eradication programmes will be more target-specific by addressing pockets of poverty, particularly in remote areas. In addition, the respective programmes will also address the issue of poverty among the *Orang Asli* and other Bumiputera in Sabah and Sarawak. A study on the profile of the poor and hardcore poor will be undertaken to facilitate the implementation of target-specific anti-poverty programmes.

3.40 The strong economic growth that is anticipated during the Plan period is expected to generate more opportunities for the poor to increase their income and move out of poverty. In addition, skills training and education programmes will be expanded to enable the poor and low-income groups to be employed in the more productive and remunerative sectors of the economy. More community colleges will be established to provide hands-on training for school leavers and workers, including those in the rural areas and estates. Efforts will be intensified to ensure that the poor and low-income groups benefit from various measures implemented in the education system. The provision of financial assistance, free textbooks and food supplements will be continued. The Government will also build more schools and related infrastructure in rural areas as well as upgrade existing schools to be at par with urban schools.

3.41 Existing poverty eradication programmes, such as the PPRT and other anti-poverty programmes, will be consolidated under the *Skim Pembangunan Kesejahteraan Rakyat* (SPKR). The SPKR will address issues of hardcore and general poverty and that of specific vulnerable groups in rural and urban areas. The SPKR, which covers economic, social and physical projects through various sub-programmes such as the Integrated Development of Remote Villages, *Program Pembangunan Insan*, provision of balanced food, housing assistance and *ASB-Sejahtera* will be targeted at eradicating poverty in areas and among groups that have a high incidence of poverty. The SPKR will also emphasize the incremental aspects of household income among which includes group-based commercial agricultural projects as outlined in the Third National Agricultural Policy (NAP3). Income-generating projects will be implemented with the cooperation of the private sector and NGOs. To improve self-esteem and increase self-reliance among the poor, the existing *Program Pembangunan Insan* will be strengthened. This programme will help prevent the participants from reverting into poverty.

3.42 To address pockets of poverty among households in urban centres and its periphery, the Government will also implement programmes such as the provision of housing and amenities as well as opportunities to generate income. At the same time, the respective states and local authorities will carry out the resettlement of squatter areas throughout the country. The existing integrated approach taken by local authorities, private sector and NGOs will be continued through programmes such as the Integrated Development for Urban Communities, *Pusat RAHMAT*, *Projek HARAPAN* and *Skim Khas Ibu Tunggal*.

3.43 A Comprehensive Development Plan for the *Orang Asli* will be developed under the purview of the SPKR to overcome the high incidence of poverty and to improve their quality of life. The existing projects under the Integrated Development of Remote Villages Programme will be continued to help address the extreme poverty among the *Orang Asli*.

3.44 A more detailed household income survey will be undertaken for Sabah and Sarawak to determine the state of poverty, income levels and quality of life in different locations within the respective states as well as among various Bumiputera groups such as the Kadazandusun, Iban, Bajau, Murut, Bidayuh, Melanau and other Bumiputera minorities. The findings of the survey will be used to formulate more focused measures to alleviate poverty and improve the quality of life of the population in Sabah and Sarawak, particularly those in the interior and remote areas.

3.45 To complement the efforts of the Government in poverty eradication, NGOs and the private sector are expected to further expand their activities and coverage in assisting the poor. AIM will continue to render their services to a wider spectrum of participants and regions in the country by utilizing the RM300 million interest-free loan provided by the Government in the Seventh Plan. Special preparatory programmes for potential participants will also be conducted by AIM to promote self-esteem and self-reliance among the poor households. In addition, the private sector and the various state-based *Yayasan Basmil Kemiskinan* will continue their efforts in providing skills training as well as in-kind and financial contributions to the poor.

3.46 Apart from programmes geared towards increasing the income of poor households, the Government will continue to implement programmes and projects to improve their quality of life. Although there has already been a wide coverage in terms of the provision of basic amenities and services, the Government will further implement related projects to reach out to the remote areas. The projects will include the provision of potable water and accessibility to services such as

electricity, health, education and communications. In addition, indicators will be developed to monitor the rural and urban quality of life.

Income Distribution

3.47 The Government will continue to address the issue of income imbalance, particularly among and within ethnic groups, income groups, economic sectors, regions and states. With the expected high economic growth during the Plan period, the middle-income group is expected to increase in size and share of income. As part of a major long-term income distribution objective, the nation will create a bigger and more prosperous middle-income group in addition to increasing income of the lower income group. In line with the principles outlined in the National Vision Policy (NVP), efforts to expand the Bumiputera middle-income group will be intensified.

3.48 Measures will continue to be undertaken to increase income and improve the quality of life of the bottom 30 per cent of the population. In this regard, the Government will streamline the eligibility criteria for assistance, based on household income, which will be reviewed periodically. For the first half of this Plan period, the income eligibility criteria for assistance is set at RM1,200 and below per month per household.

3.49 The Government will implement various measures to reduce income imbalances between the rural and urban areas as well as between the less developed and the more developed states. In rural development, the Government will continue to modernize and commercialize agricultural activities through various programmes as outlined in the NAP3. In addition, measures will be taken to encourage smallholders and farmers, particularly those with small and uneconomical land size, to diversify into subsectors such as aquaculture and livestock farming as well as in non-agricultural income-generating activities. At the same time, the Government will establish an income augmentation mechanism to protect smallholders during difficult periods. To increase the productivity and income of rubber smallholders, the Government will provide financial assistance for the adoption of the low-intensity tapping system. Measures will also be taken to increase the income and improve the quality of life of estate workers as well as address problems faced by former workers of fragmented estates. In this regard, appropriate programmes such as retraining and housing will be introduced. To reduce the disparity between states, the Government will promote measures to increase the growth of the less developed states through the promotion of appropriate sectors such as manufacturing, agriculture and services.

Ownership and Control of the Corporate Sector

3.50 During the Eighth Plan period, efforts will continue to be taken to strengthen and improve effective Bumiputera participation in the corporate sector as well as increase their equity ownership and control of companies to at least 30 per cent by 2010. In this respect, special attention will be given to increase equity ownership among Bumiputera in Sabah and Sarawak such as the Kadazandusun, Iban, Bajau, Murut, Bidayuh, Melanau and other Bumiputera minorities. The restructuring efforts will be carried out within the context of a rapidly growing economy with increasing opportunities for all Malaysians and without resorting to micro-restructuring of existing ventures. The implementation of the related programmes will also be guided by the need to achieve a more equitable participation of the various ethnic groups in the economy. To further accelerate the restructuring process, programmes that provide opportunities for potential young entrepreneurs and corporate leaders, particularly in the modern and strategic sectors, will be improved. At the same time, the unit trust schemes will be strengthened to ensure small investors receive greater benefit from the restructuring process. While the Government continues with efforts towards achieving the ownership restructuring objectives, the private sector is expected to further complement these efforts.

3.51 Bumiputera individuals and companies will continue to be entrusted to effectively increase Bumiputera equity ownership and control of companies. In line with this, opportunities will continue to be provided to Bumiputera individuals and companies with potential to acquire effective ownership and control over strategic companies through the allocation of shares, equity financing and the privatization programme. To enable Bumiputera to be more resilient and sustain their ownership and control of companies, the focus will be towards inculcating positive values and attitudes as well as strengthening management capabilities. Among the values that will be emphasized are discipline, integrity, trustworthiness, diligence, honesty and prudence. The role of Bumiputera institutions and trust agencies will be enhanced, especially in mobilizing Bumiputera resources and in creating new wealth. In this regard, Bumiputera trust agencies and institutions, particularly the SEDCs, will undertake measures to reposition, review and consolidate their position to enable them to face the challenges. These institutions and trust agencies will also be provided with greater opportunities to increase their stake and effective ownership of companies for the benefit of the wider Bumiputera community. In this respect, the Government will allocate shares reserved for Bumiputera to trust agencies and institutions to sustain Bumiputera shareholdings for a longer term and also to avoid the dilution of Bumiputera interest.

3.52 During the Plan period, the privatization programme, especially through management-buy-outs, will continue to be implemented to increase effective Bumiputera ownership in, and control of, the corporate sector. At the same time, opportunities will continue to be given to other Malaysians to participate in the programme. In addition, entities that have been granted privatization projects will be required to create opportunities to develop more Bumiputera entrepreneurs.

3.53 The Government will continue to maintain a pro-business approach and encourage foreign direct investment in strategic industries. In this regard, Bumiputera companies need to establish joint ventures and strategic partnerships with foreign investors to gain knowledge and experience through the transfer of technology. The Government will continue to provide the necessary support and assistance to facilitate and expedite the process. In addition, a review of the Foreign Investment Committee (FIC) guidelines will be undertaken to streamline the processes and improve its effectiveness.

3.54 During the Plan period, unit trust schemes are expected to continue to provide opportunities to small investors, particularly among the Bumiputera and other disadvantaged groups. The Government will also encourage financial institutions to extend financing facilities to Bumiputera and other disadvantaged groups to invest in unit trust schemes. Steps will be taken to review unit trust schemes, particularly the state unit trust schemes, to ensure that resources invested in these schemes are managed more effectively to optimize benefits from the investment. In addition, national unit trust funds (NUTF) will be established during the Plan period, to ensure a wider distribution of equity ownership among Bumiputera and other disadvantaged groups.

3.55 While the target for non-Bumiputera equity ownership is set at 40 per cent, measures will be taken to increase the Indian equity ownership to 3.0 per cent by 2010. In this regard, a study will be undertaken to formulate appropriate strategies and programmes to increase the participation of Indians in the economy.

3.56 Various measures will be undertaken to promote Bumiputera ventures in the manufacturing and dynamic services sectors. As Bumiputera companies have already made inroads into the construction, transportation and agriculture sectors, they will be encouraged to diversify into other higher value-added activities during the Plan period. To increase Bumiputera ownership in the manufacturing sector, efforts will be taken to promote their participation in the manufacturing subsectors such as electrical and electronics, pharmaceutical, biotechnology, composites and advanced materials, chemicals, petrochemicals, transport equipment and food industries. To facilitate effective Bumiputera participation, an enabling

environment will be created to assist them to acquire appropriate technology, finance as well as management expertise. A special programme will be introduced to provide training and appropriate machinery for the rural households to be involved in contract manufacturing of components and parts. Agencies such as the Malaysian Industrial Development Authority (MIDA) and the Small and Medium Industries Development Corporation (SMIDEC), will assist in identifying outsourcing opportunities as well as tracking technology trends and seeking potential partners.

3.57 Bumiputera companies are already widely involved in food manufacturing industries, particularly in small- and medium-scale operations. During the Plan period, they will be further encouraged to increase and improve the manufacturing of *halal*-food products, in line with efforts to make Malaysia the *halal*-food hub for the world market. The entrepreneurs will be encouraged to look beyond the domestic market, since there is a vast potential for *halal* products. Measures that will be undertaken to enhance Bumiputera participation in *halal*-food manufacturing include the provision of technical and financial assistance. Malaysian Agricultural Research and Development Institute (MARDI) and other agencies will provide technical assistance and advice to Bumiputera to expand the technical capabilities of Bumiputera companies. In terms of financing, the Fund for Food (3F) programme will also be expanded to include food processing and manufacturing activities.

3.58 Bumiputera companies need to venture into potential areas of the dynamic services sectors, which include information and communications technology, education, health, tourism, sea and air transport, consultancy and professional services. Measures will be undertaken to increase Bumiputera participation in the sea transportation services, including related support services such as haulage, warehousing, managing distri-parks, distribution, packaging and repackaging, and customized delivery services. As for air transportation, Bumiputera participation will be enhanced in areas such as air cargo handling, freight and forwarding services. In addition, Bumiputera entrepreneurs will be encouraged to venture into other businesses such as tour agencies dealing especially with inbound tourists as well as expand into niche markets such as the Middle East, Islamic countries, China and India.

3.59 To promote Bumiputera ventures in the manufacturing and dynamic sectors, measures will be implemented in a coordinated and integrated approach. The related institutions will establish specialized service centres to provide assistance and guidance to Bumiputera in areas such as the formulation of business plans, marketing strategies and research. For the manufacturing sector, a specialized

unit in SMIDEC will operate the centres while that for ICT will be located in the Malaysian Technology Development Corporation (MTDC). In the services sector, particularly in education, tourism and transport services, appropriate centres will be established to enhance the capability of Bumiputera companies. The respective centres will also assist Bumiputera companies in attaining appropriate international certification such as the ISO certification.

3.60 As for financing, measures will be taken to establish special windows for Bumiputera in the existing funds to increase their utilization by Bumiputera. In addition, a study will be undertaken to evaluate the effectiveness of the existing funds, particularly in enhancing Bumiputera businesses. Efforts will be undertaken to further streamline the respective funds to promote Bumiputera ventures more effectively.

3.61 In line with efforts to increase Bumiputera ownership and participation in the corporate sector and the creation of the BCIC, measures will also be taken to identify suitable Malay reserve, *haitulmal*, *wakaf*, native and customary land to be developed into commercial and industrial properties. In addition, a study will be undertaken to analyze the status of all these land and recommend the *modus operandi* for their development. The development of these resources will provide more opportunities for Bumiputera to participate in business. Bumiputera agencies, companies and other private sector entities will be encouraged to participate in the development of such resources. In order to accelerate these measures, efforts will also be focused on facilitating the provision of financing facilities, particularly by the banks and financial institutions.

Employment Restructuring

3.62 During the Eighth Plan period, the implementation of strategies and programmes to restructure employment in the various sectors and occupations to reflect the ethnic composition of the population will be intensified. Attention will be given towards increasing Bumiputera participation, particularly in the professional, managerial and other high-income occupations.

3.63 Education and training will continue to be an important vehicle to achieve the employment restructuring objectives. In this regard, more places will be made available for qualified Bumiputera students in public and private institutions of higher learning, particularly in ICT, science and other professional courses. In addition, the Government will continue to sponsor outstanding Bumiputera

students to reputable institutions abroad. While the Government continues to provide financial support to Bumiputera students, the private sector is also expected to provide financial assistance to enable more Bumiputera students to pursue their studies. At the same time, attention will also be given towards improving the performance of Bumiputera students especially in Science, Mathematics and the English language, through more effective teaching methods, provision of better educational facilities and the establishment of more residential schools. Similarly, efforts will be undertaken to improve the performance of non-Bumiputera students in Bahasa Malaysia, particularly in vernacular schools.

3.64 In meeting the expected increase in the demand for highly skilled labour, more opportunities will be given to Bumiputera graduates of vocational and technical training institutions as well as technical workers, to acquire and upgrade their skills and knowledge. With the upgrading of the existing institutions and the establishment of new ones, more places will be made available for Bumiputera students.

3.65 There exists a mismatch between qualifications acquired and the requirements of industry, especially among Bumiputera students, since most of them specialize in the social sciences. This will result in a large number of Bumiputera graduates not being able to benefit from the employment opportunities available. Steps will be taken to provide retraining programmes to Bumiputera graduates to enable them to acquire market-related knowledge and skills to improve their employment opportunities. In addition, more opportunities will be provided to capable Bumiputera graduates to start off their own businesses through various programmes, such as the Graduate Entrepreneurship Scheme and *Projek Usahawan Bumiputera Dalam Bidang Peruncitan* or PROSPER. The implementation of these programmes will not only provide employment opportunities for Bumiputera graduates but also increase their participation in the retail subsector.

3.66 Measures will be taken to improve the balance between Bumiputera and non-Bumiputera employment in the public and private sectors. Towards this end, non-Bumiputera will be encouraged to apply for jobs in the public sector, particularly in areas where they are under-represented. At the same time, the private sector must employ more Bumiputera professionals and executives in their firms. A study will be undertaken to review the current state of Bumiputera employment in the private sector in order to formulate remedial measures to overcome the existing imbalance in the private sector.

Development of the BCIC

3.67 The Government, including the trust agencies and Government-owned companies, will continue to further develop the BCIC and create successful and world-class Bumiputera entrepreneurs. In this process, direct Government support and intervention will be continued on a selective basis. The implementing agencies will establish exit policies to determine the time frame for the participants to graduate from the packaged BCIC programmes. These exit policies will encourage entrepreneurs to increase their competitiveness as well as provide opportunities to new Bumiputera entrepreneurs to participate in the programmes. To complement Government's efforts in the development of the BCIC, the private sector, particularly large enterprises, as well as chambers of commerce and trade associations, must support the BCIC programmes by initiating new programmes to help create sustainable and self-reliant Bumiputera entrepreneurs.

3.68 Consistent with the objective of creating a larger and more prosperous Bumiputera middle-class, existing steps will be fine-tuned to expedite the establishment of this group. In addition, a number of new strategies will be employed to strengthen the position of Bumiputera enterprises, including equity financing to technopreneurs. Government-owned companies will develop special programmes to create and nurture Bumiputera middle-class entrepreneurs. To increase the pool of potential Bumiputera entrepreneurs, measures will be taken to encourage public sector retirees and trained employees to venture into business including the provision of financing facilities.

3.69 At the same time, existing BCIC programmes, particularly the packaged programmes such as franchise and vendor development, will be further strengthened in order to increase the number of viable Bumiputera entrepreneurs. In this regard, the Government will enhance the participation of Bumiputera in the franchise development programme through the purchase of selected franchise from overseas and develop Bumiputera franchisees as well as conduct research and development (R&D) on local franchise products. A total of 1,000 new Bumiputera franchisees and 50 franchisors will be created during the Plan period, particularly in the area of services and retailing. A comprehensive training programme will be introduced to train, develop and nurture franchisors and franchisees. In addition, 300 new Bumiputera vendors will be selected under the Vendor Development Programme, while the Genuine Joint-Venture Scheme is expected to create 100 new ventures between Bumiputera and non-Bumiputera entrepreneurs. Under the Venture Capital Scheme, PUNB is expected to select 500 new Bumiputera entrepreneurs as its investment partners.

3.70 Emphasis will be given to the development of Bumiputera entrepreneurs in retail trade through PROSPER, especially in new townships and residential areas. The required assistance and support services that will be provided by PROSPER include the provision of premises, capital, loans, business opportunities and training, particularly in accounting and cash management. The project will encourage potential Bumiputera retailers to venture into businesses, such as mini-markets, electrical goods, pharmacies, food and bakeries, telecommunications and ICT-related businesses, gift shops, furniture, books and office stationery. PUNB will act as a one-stop centre to process applications from interested entrepreneurs to participate in the project. Steps will continue to be taken to provide more business premises in strategic locations for Bumiputera entrepreneurs. Agencies such as the SEDCs, MARA, UDA Holdings Berhad, local authorities and other government companies will construct and purchase more business premises, especially in new townships and residential areas.

3.71 Entrepreneurial training programmes will be intensified to enable Bumiputera entrepreneurs to face the challenges of globalization and utilize more knowledge content in their activities. These programmes will promote self-reliance, competitiveness and good business ethics among Bumiputera entrepreneurs. In addition, such training programmes will also emphasize positive values such as trustworthy, hardworking and discipline which are necessary traits to build successful and resilient Bumiputera entrepreneurs. Towards this end, the *Institut Keusahawanan Negara* will be established as a focal point to undertake strategic planning on entrepreneurship, market intelligence, R&D, curriculum development, business networking and counselling. At the same time, training programmes to inculcate entrepreneurial culture and positive values will be continued, particularly among students in secondary schools and institutions of higher learning.

3.72 The chambers of commerce and trade associations are required to initiate new programmes that can effectively help to create more sustainable, self-reliant and world-class Bumiputera entrepreneurs. These include the promotion of networking among members, dissemination of information and market intelligence as well as introduction of best practices and facilitation of marketing arrangements. To gain from these private sector initiatives, more Bumiputera entrepreneurs should join these associations and actively participate in their activities.

3.73 During the Plan period, measures will be undertaken to prepare Bumiputera companies to meet the challenges of globalization. Bumiputera companies, particularly the small entities, need to attain a critical size and become export-oriented by consolidating further to achieve greater strength, efficiency and

competitiveness. In this respect, Bumiputera companies have to adopt higher standards and institute quality improvements. The Government will support this effort by providing assistance on a selective basis through a special window for Bumiputera in the Small and Medium Industries (SMI) Fund. In addition, the Malaysia External Trade Development Corporation (MATRADE) will also provide market intelligence and assist in the promotion of exports.

3.74 Various measures will be undertaken to promote Bumiputera entrepreneurs in utilizing more knowledge-intensive processes and applications in their businesses and enhancing collaboration with R&D institutions. Bumiputera companies need to move up the value chain in terms of product design and development as well as packaging, marketing and distribution by collaborating with the relevant institutions. Bumiputera companies have to increase the utilization of ICT in their production processes and in the conduct of their business operations. The greater application of ICT will increase Bumiputera accessibility to new sources of financing and in establishing international market linkages.

3.75 In order to promote the participation of Bumiputera entrepreneurs in the ICT industry, a Bumiputera ICT Council will be established to plan and develop a Bumiputera ICT Agenda. The Agenda will include strategies to increase awareness of the opportunities in the ICT industry, develop a pool of Bumiputera technopreneurs, provide greater accessibility to capital and market information as well as establish linkages with international markets. A special window in the proposed ICT Fund will be established to undertake these activities. Apart from ICT, the Government will continue to promote Bumiputera participation in strategic and high technology industries, namely biotechnology, petrochemicals and communications.

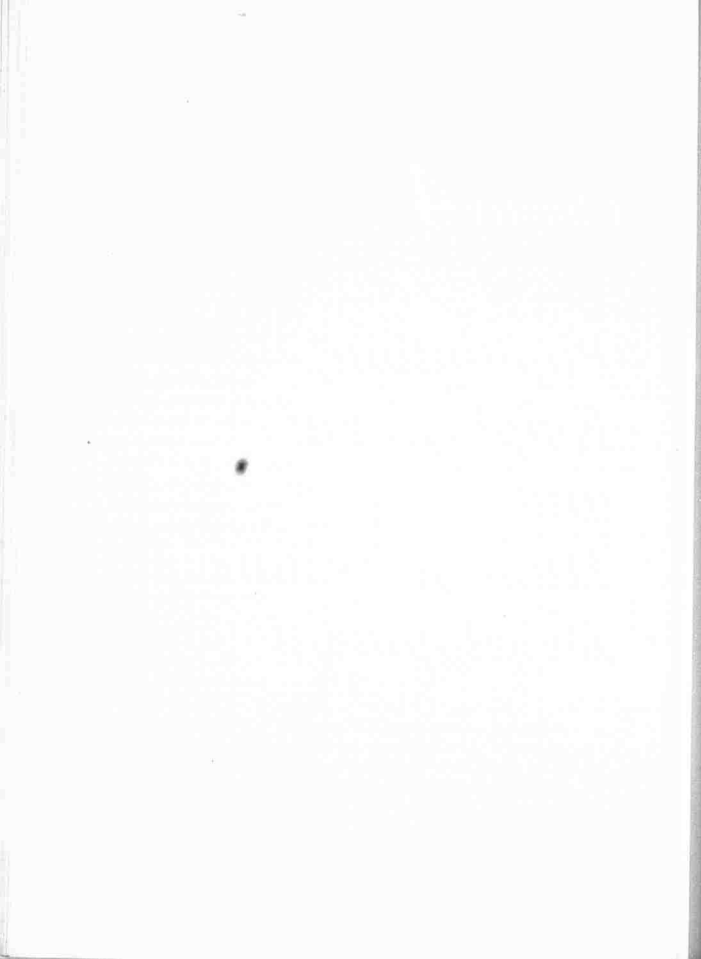
IV. CONCLUSION

3.76 Progress was made in reducing poverty and restructuring of society during the Seventh Plan period, despite the economic downturn in 1998. During the Eighth Plan period, the poverty eradication programmes will be more target-specific by addressing issues of poverty among specific vulnerable groups in both the rural and urban areas. As for the restructuring of society, steps will be taken to increase effective Bumiputera participation in major sectors of the economy while pursuing efforts towards attaining at least 30 per cent Bumiputera equity ownership by 2010. The implementation of these distributional strategies during the Eighth Plan will enhance efforts towards attaining the objectives of the NVP and the building of a developed nation, as envisaged in Vision 2020.



Chapter 4

*Population,
Employment
and
Human Resource
Development*



4

POPULATION, EMPLOYMENT AND HUMAN RESOURCE DEVELOPMENT

I. INTRODUCTION

4.01 During the Seventh Malaysia Plan period, concerted efforts were made towards increasing productivity and efficiency in the use of labour as well as strengthening the human resource base for sustained economic growth. There was an overall improvement in labour productivity arising from increased investment in human resource development and new technology. Despite the economic crisis in 1998, employment growth for the Plan period was impressive due to the quick recovery of the economy, particularly the manufacturing sector. Unemployment was also contained at a low rate due to the implementation of effective labour market measures. The supply of highly skilled and trained manpower increased as a result of capacity expansion in education and training institutions.

4.02 The overall improved performance of the economy during the Eighth Malaysia Plan period is expected to boost employment growth with the country maintaining full employment level. The demand will be for high level skills as the economy moves towards higher capital-intensity and knowledge-based production process. Consequently, it is essential for the nation to create a critical mass of trained, skilled and knowledge manpower to sustain economic growth and increase competitiveness. Towards this end, efforts will be continued to strengthen the education and training delivery system to be more responsive to the changing needs of industries and technological advancements. The thrust of human resource development during the Plan period will, therefore, be the enhancement of the qualitative aspects of human resources in line with the needs of a knowledge-based economy.

II. PROGRESS, 1996-2000

4.03 The Seventh Plan began with a labour shortage situation but the economic crisis dampened labour demand in 1998. Unemployment rate increased from 2.5 per cent in 1996 to 3.4 per cent in 1999, indicating reduced labour utilization. However, with improved economic growth, unemployment was reduced to 3.1 per cent at the end of the Plan period. Nevertheless, the transformation of production methods and processes towards capital-intensity and information and communications technology (ICT) applications led to shortages of highly skilled manpower in specific areas.

Population

4.04 Current estimates indicate that the Malaysian population increased at an average annual rate of 2.4 per cent during the Seventh Plan period to reach 23.27 million in 2000, as shown in *Table 4-1*. The rate of population growth continued to slow down with the declining fertility rate as the country progressed towards a developed nation status. The fertility rate is defined as the number of children a woman bears during her reproductive age. The population of Malaysian citizens grew at an average rate of 2.3 per cent per annum while the non-citizen population increased at a higher rate of 4.3 per cent during the period. The median age of the population in 2000 was 23.9 years indicating that Malaysia continues to have a young population age structure.

4.05 The dependency ratio, which is the ratio of dependants to every 100 persons of working age, decreased from 62.7 per cent in 1995 to 59.1 per cent in 2000. The drop in the dependency ratio was due to the increase in the proportion of the working age population of 15-64 years and the reduction of the population below 15 years as well as slower growth of the population aged 65 years and above. The working age population was growing at a faster rate than that of the population below 15 years and the total population as a whole. Non-citizens accounted for 7.6 per cent of the population in the working age group.

4.06 With different trends in fertility, the rates of growth of the population in terms of ethnic composition of Malaysian citizens, varied substantially. The Bumiputera population increased at an average annual rate of 3.2 per cent as their fertility rate was the highest at 3.62, accounting for 66.1 per cent of the Malaysian citizens in 2000. The Chinese, with a fertility rate of 2.57, grew at an average annual rate of 1.4 per cent to account for 25.3 per cent of the citizen population while the Indian, with a fertility rate of 2.55, grew at 1.8 per cent and accounted for 7.4 per cent.

TABLE 4-1
POPULATION SIZE AND AGE-STRUCTURE, 1995-2005
(million persons)

	1995	%	2000 ^a	%	2005	%	Average Annual Growth Rate (%)	
							7MP	8MP
Total Population	20.68		23.27		26.84		2.4	2.3
Citizens	19.68	100.0	22.04	100.0	24.66	100.0	2.3	2.3
Bumiputera	12.47	63.3	14.56	66.1	16.59	67.3	3.2	2.6
Chinese	5.22	26.5	5.58	25.3	6.04	24.5	1.4	1.6
Indian	1.49	7.6	1.63	7.4	1.78	7.2	1.8	1.8
Others	0.50	2.6	0.27	1.2	0.25	1.0	-12.7	-1.5
Non-citizens	1.00		1.23		1.38		4.3	2.4
Age-Structure								
0-14	7.25	35.0	7.71	33.1	8.15	31.3	1.2	1.3
15-64	12.71	61.5	14.62	62.9	16.77	64.4	2.8	2.6
65 and above	0.72	3.5	0.94	4.0	1.32	4.3	5.3	3.6
Dependency Ratio (%)	62.7		59.1		55.3			
Median Age (years)	22.8		23.9		25.3			

Note: ^a This estimate is based on the preliminary count of the Population Census 2000 and has been adjusted for under-enumeration.

4.07 The proportion of the population living in urban areas continued to increase from 55.1 per cent in 1995 to 61.8 per cent in 2000, growing at an average annual rate of 4.8 per cent. This increase can be attributed to the migration of workers due to better economic opportunities and the expectation of an improved quality of life in urban areas. In addition, the extension of administrative urban boundaries also contributed to the increase.

Labour Force

4.08 The population in the working age group continued to increase during the Seventh Plan period at an average annual rate of 2.8 per cent to account for 62.9

per cent of the population in 2000. Labour force participation was affected by the economic crisis, which reduced employment opportunities and increased the number of workers who opted out of work under the voluntary separation schemes. Nevertheless, the size of the labour force continued to increase, *albeit* at a slower rate than that of the Sixth Plan, at 3.0 per cent per annum to reach 9.6 million in 2000. The Labour Force Survey (LFS) conducted by the Department of Statistics (DOS), indicated that 55.3 per cent of the labour force were in urban areas. Labour force participation rate (LFPR) increased from 64.9 per cent in 1995 to 65.5 per cent in 2000. Male LFPR increased marginally from 85.3 per cent in 1995 to 85.4 per cent in 2000 while female LFPR increased from 43.5 per cent to 44.5 per cent.

4.09 There were more than 1.3 million additional entrants into the labour market during the Plan period, averaging 254,400 persons per year. The proportion of labour force in the age group 15-24, however, declined, as a result of the extension of universal education from nine to eleven years. The LFS showed that the educational profile of the labour force improved since 1992 with more than half of the labour force attaining secondary education. Similarly, those with tertiary education also increased from 11.1 per cent in 1995 to 14.0 per cent in 2000.

4.10 The Plan period began with a persistent labour shortage problem, after experiencing five consecutive years of full employment. In the wake of continued labour constraints, firms especially in the manufacturing sector, resorted to the recruitment of foreign workers. The ratio of foreign workers to labour force worsened from 1:10 in 1995 to 1:8 in 1997 but improved to 1:13 in 2000. Although the labour market softened in the middle of the Plan period, certain firms within the agriculture, construction and manufacturing sectors continued to face labour constraints. From a total of 749,200 foreign workers with work permits in the year 2000, 31.3 per cent were in manufacturing, 22.9 per cent in agriculture, 8.7 per cent in construction, 7.4 per cent in services and 20.3 per cent worked as maids. Expatriates, who are highly skilled foreign workers, accounted for 9.4 per cent of the foreigners working in Malaysia. Efforts to reduce dependency on foreign labour, especially the unskilled, included the imposition of higher levies in the construction, manufacturing and services sectors. Other than maids and expatriates, the recruitment of new foreign workers was allowed only for certain subsectors and for a maximum duration of three years. In addition, medical charges were increased for foreign workers seeking treatment in Government clinics and hospitals.

Employment by Sector

4.11 Employment expanded at an average annual rate of 3.0 per cent during the period, similar to the 3.0 per cent growth in labour force, as shown in Table 4-2. The reduced demand for labour compared with that of the Sixth Plan period, was mainly due to excess capacity and lower level of new investments in 1998, resulting in a decline of 2.9 per cent in employment growth, especially in the construction, manufacturing and agriculture sectors. Labour market conditions, however, improved with the recovery in domestic economic activities towards the end of the Plan period. With 1.3 million jobs created, the unemployment rate was 3.1 per cent at the end of the period.

4.12 The *services sector*, which accounted for 48.6 per cent of total employment in 2000, recorded a moderate increase in employment by 3.9 per cent or 787,800 new jobs. Although growth in the finance, insurance, real estate and business services subsector was adversely affected by the economic crisis, it recovered to record the highest average employment growth of 6.4 per cent per annum due to the effective recovery measures undertaken. The wholesale and retail trade, hotels and restaurants subsector grew at an average rate of 3.7 per cent per annum, higher than the targeted rate as a result of the strengthening of consumer demand arising from the economic recovery.

4.13 Employment in the *manufacturing sector* expanded at a rate of 4.8 per cent during the period. The manufacturing sector contributed a major share of employment creation with 530,800 new jobs, thus increasing its share of total employment to 27.6 per cent in 2000 from 25.3 per cent in 1995. The upturn in world demand for electrical and electronics products coupled with Malaysia's competitiveness in this industry contributed to employment creation in the manufacturing sector.

4.14 The economic crisis severely affected the performance of the *construction sector* due to the large overhang, especially of office space, retail outlets and high-end residential premises as well as financing difficulties. This situation adversely affected employment creation during the period. Despite the negative employment growth experienced in 1998 and 1999, the sector grew at an average annual growth rate of 1.0 per cent during the period as a result of the fiscal stimulus.

TABLE 4-2

EMPLOYMENT BY SECTOR, 1995-2005
('000 persons)

Sector	1995	%	2000	%	2005	%	Average Annual Growth Rate (%)		Net Job Creation			
							7MP	8MP	7MP	%	8MP	%
Agriculture, Forestry, Livestock & Fishing	1,492.7	18.7	1,407.5	15.2	1,306.5	12.0	-1.2	-1.5	-85.2	-6.7	-101.0	-6.4
Mining & Quarrying	40.5	0.5	41.2	0.4	42.3	0.4	0.3	0.5	0.7	0.1	1.1	0.1
Manufacturing	2,027.5	25.3	2,558.3	27.6	3,200.3	29.5	4.8	4.6	530.8	41.7	642.0	40.4
Construction	717.1	9.0	755.0	8.1	880.1	8.1	1.0	3.1	37.9	3.0	125.1	7.9
Electricity, Gas & Water	67.4	0.8	75.0	0.8	85.6	0.8	2.2	2.7	7.6	0.6	10.6	0.7
Transport, Storage & Communications	395.2	4.9	461.6	5.0	552.7	5.1	3.2	3.7	66.4	5.2	91.1	5.8
Wholesale & Retail Trade, Hotels & Restaurants	1,323.5	16.5	1,584.2	17.1	1,880.9	17.3	3.7	3.5	260.7	20.5	296.7	18.7
Finance, Insurance, Real Estate & Business Services	372.8	4.7	508.7	5.5	647.3	6.0	6.4	4.9	135.9	10.7	138.6	8.7
Government Services	885.8	11.1	981.0	10.6	1,070.3	9.8	2.1	1.8	95.2	7.5	89.3	5.6
Other Services	676.7	8.5	898.7	9.7	1,192.9	11.0	5.8	5.8	222.0	17.4	294.2	18.5
Total	7,999.2	100.0	9,271.2	100.0	10,858.9	100.0	3.0	3.2	1,272.0	100.0	1,587.7	100.0
Labour Force	8,254.0		9,572.5		11,161.9		3.0	3.1				
Local	7,401.3		8,823.3		10,591.9		3.6	3.7				
Foreign	852.7		749.2		570.0		-2.6	-5.3				
Unemployment	254.8		301.3		303.0							
Unemployment Rate (%)	3.1		3.1		2.7							

4.15 Employment in the *agriculture sector* continued to contract, *albeit* at a slower rate than expected, at 1.2 per cent per annum. The slower decline can be attributed to workers returning to work in the sector as demand for workers in other sectors was reduced during the 1998-1999 period. However, estates continued to face labour shortages totalling 19,000 workers in 2000, due to the reluctance of local workers to be employed in this sector.

Employment by Occupation

4.16 The demand for workers indicated a shift towards occupations requiring high educational attainment and professional training in tandem with the strategic shift towards higher value-added activities. Employment in all major occupational groups expanded during the period with the demand for professional and technical as well as administrative and managerial categories registering the highest growth, as shown in *Table 4-3*.

4.17 The *professional and technical* category grew at 5.2 per cent per annum during the Plan period, accounting for 17.9 per cent of total employment created or 227,900 new jobs. Consequently, its share to total employment increased from 9.9 per cent in 1995 to 11 per cent in 2000. More than a quarter of the employment generated in this category was in the technical and ICT occupations due to greater capital intensity and expansion in the use of ICT in most sectors. The demand for workers with core IT skills such as systems engineering, software development, computer programming, chip design and development, systems analysis and design totalled 108,000 in 2000, compared with 88,160 in 1998. The demand for engineers and engineering assistants, mainly in the fields of electrical and electronics, mechanical, civil and chemical engineering also increased significantly to 61,030 and 143,220, respectively in 2000, as shown in *Table 4-4*.

4.18 To provide for quality medical and health services, 29,600 medical and health professionals and 45,860 allied health professionals were required in 2000. However, local public and private tertiary institutions were only able to produce 8,590 medical and health professionals and 24,170 allied health professionals during the Plan period. There was an acute shortage of pediatricians, obstetricians and gynaecologists, general surgeons, dental paramedics and pharmacists. At the same time, the number of teachers was increased to 306,590 in 2000 to meet the increased demand for education at primary and secondary levels. Despite this, there were critical shortages of teachers in specific subjects such as Mathematics, Science and the English language.

TABLE 4-3

EMPLOYMENT BY MAJOR OCCUPATIONAL GROUP, 1995-2005
(‘000 persons)

<i>Occupational Group</i>	<i>1995</i>	<i>%</i>	<i>2000</i>	<i>%</i>	<i>2005</i>	<i>%</i>	<i>Average Annual Growth Rate (%)</i>		<i>Net Job Creation</i>			
							<i>7MP</i>	<i>8MP</i>	<i>7MP</i>	<i>%</i>	<i>8MP</i>	<i>%</i>
Professional, Technical & Related Workers	791.9	9.9	1,019.8	11.0	1,314.0	12.1	5.2	5.2	227.9	17.9	294.2	18.5
Administrative & Managerial Workers	256.0	3.2	389.4	4.2	543.0	5.0	8.8	6.9	133.4	10.5	153.6	9.7
Clerical & Related Workers	871.9	10.9	1,029.1	11.1	1,216.2	11.2	3.4	3.4	157.2	12.4	187.1	11.8
Sales Workers	871.9	10.9	1,019.8	11.0	1,227.1	11.3	3.2	3.8	147.9	11.6	207.3	13.1
Service Workers	887.9	11.1	1,094.0	11.8	1,346.6	12.4	4.3	4.2	206.1	16.2	252.6	15.9
Production & Related Workers, Transport Equipment Operators & Labourers	2,711.8	33.9	3,041.0	32.8	3,355.4	30.9	2.3	2.0	329.2	25.9	314.4	19.8
Agricultural, Animal Husbandry & Forestry Workers, Fishermen & Hunters	1,607.8	20.1	1,678.1	18.1	1,856.6	17.1	0.9	2.0	70.3	5.5	178.5	11.2
Total	7,999.2	100.0	9,271.2	100.0	10,858.9	100.0	3.0	3.2	1,272.0	100.0	1,587.7	100.0

TABLE 4-4

EMPLOYMENT BY SELECTED OCCUPATION, 1995-2005

(persons)

Occupation	7MP			8MP			Output	
	Stock 1995	Employment 2000	Net Increase	Stock 2000	Employment 2005	Net Increase	7MP	8MP
Engineers¹	36,394	61,034	24,640	55,485	108,400	52,915	18,255	51,716
Civil	13,077	20,711	7,634	18,828	27,500	8,672	5,162	11,716
Electrical & Electronics	10,233	21,064	10,831	19,149	38,600	19,451	5,538	16,537
Mechanical	11,835	16,082	4,247	14,620	29,800	15,180	4,729	13,100
Chemical	1,249	3,177	1,928	2,888	12,500	9,612	2,826	10,363
Engineering Assistants	87,842	143,220	55,378	130,024	247,739	117,715	11,209	86,030
Civil	19,381	25,973	6,592	23,436	71,401	47,965	2,709	23,020
Electrical & Electronics	39,216	65,353	26,137	59,412	103,856	44,444	3,055	37,700
Mechanical	28,454	50,020	21,566	45,473	67,073	21,600	2,885	21,600
Chemical	791	1,874	1,083	1,703	5,409	3,706	2,560	3,710
Medical & Health Professionals	13,288	29,597	16,309	21,270	36,835	15,565	8,585	7,364
Physicians & Surgeons	9,608	23,264	13,656	16,468	28,714	12,246	7,303	5,374
Dentists & Dental Surgeons	1,741	3,231	1,490	2,001	4,038	2,037	323	708
Pharmacists	1,939	3,102	1,163	2,801	4,083	1,282	959	1,282
Allied Health Professionals	32,556	45,861	13,305	45,052	115,821	70,769	24,168	30,190
Physiotherapists & Occupational Therapists	410	634	224	413	2,829	2,416	291	708
Radiographers	422	791	369	645	2,013	1,368	348	637
Health Inspectors	1,425	1,812	387	1,549	4,109	2,560	403	746
Med. Assts. & Med. Lab. Technologists	5,392	7,903	2,511	7,334	16,770	9,436	3,221	6,216
Dental Paramedics & Auxiliary	2,720	2,870	150	3,537	6,406	2,869	1,522	1,909
Pharmaceutical Assistants	1,872	2,401	529	2,205	5,274	3,069	525	595
Nurses ²	20,315	29,450	9,135	29,369	78,420	49,051	17,858	19,379
School Teachers	245,352	306,586	61,234	298,083	349,086	51,003	69,073	51,003
Pre-school	22,462	36,327	13,865	34,271	57,307	23,036		23,036
Primary	135,790	154,111	18,321	154,920	166,115	11,195	34,528 ³	11,195
Secondary	87,100	116,148	29,048	108,892	125,664	16,772	34,545	16,772

Notes:

¹ Output refers to graduates from local public tertiary institutions.

² Nurses include community nurses.

³ Output include both pre-school and primary school teachers.

4.19 Efforts to build up indigenous scientific and technological capability resulted in an increase of research and development (R&D) personnel from 5.1 per 10,000 labour force in 1996 to 7.0 in 1998. This ratio of R&D personnel is low compared with Singapore at 66 per 10,000 labour force in 1998, Japan at 132 per 10,000 in 1997 and United Kingdom at 95 per 10,000 in 1995. However, in terms of the total number, there was an improvement from 9,230 in 1996 to 12,130 in 1998.

4.20 During the Plan period, workers in the *administrative and managerial* category continued to register the highest rate of growth of 8.8 per cent per annum, accounting for 389,400 jobs in 2000 due to the expansion of modern services, especially in ICT-related areas. The jobs generated were mainly in specialized fields such as finance and ICT. The share of this category to total employment also increased from 3.2 per cent in 1995 to 4.2 per cent in 2000.

4.21 The *production and related workers* category continued to form the largest group among the major occupational categories. This category, both skilled and unskilled, constituted 32.8 per cent of total employment in 2000, compared with 33.9 per cent in 1995. The economic crisis and the resultant excess capacity adversely affected the growth in demand for production and related workers. During the Plan period, more than one third of the retrenched workers were in this category. However, despite this retrenchment and an increase in the adoption of labour-saving production techniques, the average annual growth rate of this category was 2.3 per cent.

4.22 The demand for *service workers* grew at an average rate of 4.3 per cent per annum, accounting for 206,100 new jobs or 16.2 per cent of the total net job creation during the Plan period. The increase in demand for service workers was due to the improved performance of the wholesale and retail trade, hotels and restaurants as well as transport, storage and communications subsectors during the later half of the Plan period. The share of service workers category increased from 11.1 per cent of total employment in 1995 to 11.8 per cent in 2000.

4.23 The demand for *clerical and related workers* recorded an increase of 3.4 per cent per annum during the Plan period despite the move towards greater automation. This category accounted for 12.4 per cent of the total net job creation or 157,200 jobs. The *sales workers* category grew at an average rate of 3.2 per cent per annum, accounting for 11.6 per cent or 147,900 new jobs mainly due to the increased number of departmental stores and hypermarkets.

4.24 The number of *agricultural workers* increased slightly due to reverse migration despite the continuing mechanization and modernization of the agriculture sector. The share of these workers to total employment, however, declined from 20.1 per cent in 1995 to 18.1 per cent in 2000. Nevertheless, there was still a demand for agricultural workers in activities such as the maintenance of golf courses, recreational parks and in agro-tourism.

Wages and Productivity

4.25 Overall labour productivity improved especially towards the end of the Plan period due to the rationalization of operations. Labour productivity in the *manufacturing sector*, as measured by Gross Domestic Product per worker, improved towards the end of the Plan period mainly due to the increased utilization of excess capacity. Productivity grew at an average annual rate of 1.6 per cent contributed by the shift towards high technology production processes and increase in labour efficiency.

4.26 Although the *agriculture sector* continued to experience labour shortage, labour productivity in the sector grew favourably by 1.5 per cent over the Plan period. This growth resulted from initiatives such as improved farm management, better agronomic practices, integrated farming and mechanization. In the *services sector*, the transport, storage and communications subsector recorded the highest productivity growth averaging 3.0 per cent for the period, followed by the Government services subsector, which grew by 2.9 per cent.

4.27 The labour market was tight during the first half of the Plan period, which resulted in continued upward pressure in wages. Towards the latter half of the period, however, wage pressures were subdued despite the economic recovery. Based on the Monthly Survey of Manufacturing Industries published by the DOS, salaries and wages per employee increased at an average rate of 9.3 per cent during the first half of the Plan period and 3.2 per cent during the last two years. Salaries and wages per employee, thus increased at an average rate of 6.8 per cent per annum. Similarly, labour productivity as indicated by sales value per employee increased, averaging 10.4 per cent per annum for the Plan period, with an 8.5 per cent growth during the first half and 13.2 per cent during the last two years. Consequently, the higher increase in labour productivity compared with increases in wages led to a decline in unit labour cost by 3.2 per cent, indicating improvements in competitiveness. The World Competitiveness Yearbook,

an annual report that ranks and analyses the ability of nations to provide an environment in which enterprises can compete, placed Malaysia third among 47 industrialized and emerging economies in terms of labour cost in 2000. This reflected an improvement from the position in 1995 when Malaysia was placed fifth among 26 countries.

Human Resource Development

4.28 During the Plan period, human resource development continued to be given priority in support of the implementation of a productivity-driven growth, which required highly skilled, trainable and knowledge manpower. Emphasis continued to be given to increase accessibility to education at all levels in line with the democratization of the education policy. In addition, the education and training programmes focused on improving the quality of teaching and learning materials, teacher training and educational support services.

4.29 At the tertiary level, the capacity of public tertiary institutions expanded substantially. However, it was still inadequate to meet the demand. Consequently, enrolment in private education and training institutions also expanded significantly, which was facilitated by the liberalization of the education sector.

Education Programmes

4.30 The thrusts of the education programmes during the Plan period were to increase accessibility, strengthen the delivery system and improve the quality of education. Additional facilities were provided while existing facilities were expanded to increase the absorptive capacity as well as create a conducive teaching and learning environment. Besides focusing on capacity expansion and quality enhancement, the inculcation of good values and positive attitudes among students was also stressed in the curricular and co-curricular activities. Concerted efforts to increase accessibility resulted in increased enrolment at all levels, as shown in Table 4-5.

4.31 At the *pre-school education* level, a total of 399,980 children enrolled in pre-school centres in 2000, representing 63.7 per cent of children in the 5-6 age cohort. The Guidelines on Pre-school Curriculum were established to standardize the curriculum, facilities and teacher training in both public and

TABLE 4-5
STUDENT ENROLMENT¹ IN LOCAL PUBLIC INSTITUTIONS, 1995-2005

Level of Education	1995	%	2000	%	2005	%	Increase (%)	
							7MP	8MP
Pre-school	253,675	5.1	399,980	7.0	549,000	8.4	57.7	37.3
Primary	2,799,359	56.6	2,945,906	51.7	3,035,018	46.3	5.2	3.0
Lower Secondary	1,124,910	22.8	1,245,523	21.8	1,364,153	20.8	10.7	9.5
Government & Government-aided Schools	1,122,180		1,239,563		1,348,084			
MARA Junior Science Colleges	2,730		5,960		16,069			
Upper Secondary	502,964	10.2	697,223	12.2	921,271	14.0	38.5	32.3
Government & Government-aided Schools	459,850		626,353		804,922			
MARA Junior Science Colleges	6,320		11,370		16,594			
Vocational & Technical Schools	36,794		59,500		99,755			
Post-secondary	80,080	1.6	76,755	1.4	134,134	2.0	-4.2	74.8
Government & Government-aided Schools	64,610		48,035		83,174			
Pre-diploma & Pre-university Courses	15,470		28,720		50,960			
Teacher Education (Non-graduates)	35,410	0.7	14,460	0.3	31,310	0.4	-59.2	116.5
Certificate	13,556	0.3	28,154	0.5	88,848	1.4	107.9	99.8
Diploma	46,480	0.9	92,304	1.6	148,025	2.3	98.9	19.1
Degree²	87,891	1.8	201,271	3.5	289,806	4.4	129.0	44.0
Total	4,944,325	100.0	5,701,576	100.0	6,561,565	100.0	15.3	13.9

Notes:

¹ Enrolment refers to total student population in that particular year at the particular level of education.

² Includes enrolment in first degree and post-graduate levels in public universities and *Kolej Tunku Abdul Rahman*.

private pre-school centres so that they conformed with the quality requirements as provided for in the Education Act 1996. In addition, the quality of pre-school education was further enhanced through continuous retraining of supervisors and master teachers.

4.32 *Primary education* strategies were aimed at improving accessibility, enhancing quality as well as improving teaching and learning facilities. Programmes to increase the participation rate of under-privileged groups were implemented, particularly for students from low-income families and children with special needs. Educational opportunities for children with special needs were expanded and a total of 2,050 places was provided in special primary schools and 6,890 places in special classes in mainstream schools. Educational support programmes such as scholarships, textbooks-on-loan and hostel facilities contributed towards increasing the number of students who completed primary schooling. The number of students enrolled at the primary level increased from 2.79 million in 1995 to 2.95 million in 2000, as shown in *Table 4-5*.

4.33 A total of 144 new schools was built providing 3,456 new classrooms while another 7,360 classrooms were constructed, of which 20 per cent were to replace dilapidated classrooms. These additional classrooms accommodated the increased number of students as well as provided a more conducive learning environment. The completion of these new classrooms improved the class-classroom ratio from 1:0.85 in 1995 to 1:0.90 in 2000, reducing the number of classes in the afternoon session from 19 per cent in 1995 to 15 per cent in 2000.

4.34 Efforts to reduce the performance gap between rural and urban schools were continued through the upgrading of teaching and learning facilities and placement of more trained teachers in rural schools. Continuous professional development of teachers in rural schools was also undertaken through the State Educational Resource Centres (SERC) and the Teacher Activity Centres. The Government intensified steps to merge small schools with enrolment of less than 150 students each, and prepared guidelines on the strategy of teaching and learning for these schools. In order to provide a conducive learning environment in rural schools, residential facilities were built benefiting 23,400 students including those in *Orang Asli* settlements.

4.35 The revised syllabus for Mathematics and Science introduced in 1996 was fully implemented by the end of the Plan period. In addition, a new teaching

and learning method that emphasized practical learning and the use of various teaching aids such as computers, improved textbooks and new teaching guidelines for students in Year 4, 5 and 6. Short courses were also conducted to upgrade the skills of teachers. As a result of these efforts, the passing rate in *Ujian Penilaian Sekolah Rendah* (UPSR) examination in 2000 improved compared with 1995. The passing rate for Mathematics improved from 67.9 per cent in 1995 to 75.9 per cent in 2000 and that for Science from 74.9 per cent in 1997 to 77.5 per cent in 2000.

4.36 To enhance the teaching and learning process in primary schools, the Computer Literacy Programme and computer-aided learning methods were introduced. This Programme, which initially covered 20 primary schools, was expanded to cover an additional 240 primary schools, benefiting 104,000 students by 2000. To promote awareness and usage of computers in rural schools, the private sector and individuals were encouraged to support this initiative, whereby 28 companies donated computers as well as computer-aided teaching and learning materials to these schools.

4.37 The enrolment at the *secondary education* level in Government and Government-aided schools increased by 19 per cent from 1.63 million in 1995 to 1.94 million in 2000, as shown in *Table 4-5*. This was due to the improved transition rate from primary to secondary level education. A total of 6,808 additional classrooms was built which improved class-classroom ratio from 1:0.76 in 1995 to 1:0.83 in 2000, thus reducing overcrowded classes from 14 per cent to 12 per cent, respectively.

4.38 Teaching methods were continuously revised in order to improve the achievement of students in core subjects. A guidebook on teaching and learning of science subjects was provided to all secondary school teachers. The teaching of science subjects was geared towards enhancing thinking and problem-solving abilities. To increase interest in Mathematics and Science, workshops, awareness programmes, computer-aided learning and career guidance sessions were conducted. Enrolment in the science and technical streams increased from 92,960 in 1995 to 242,470 in 2000, representing 18.5 per cent and 34.8 per cent of the total enrolment at the upper secondary level, respectively.

4.39 To improve the performance of rural students, especially in core subjects, a total of 205 science laboratories was constructed while 7,836 trained mathematics

and science teachers were deployed to rural schools. In addition, 230 computer laboratories were constructed and a total of 5,750 computers supplied to these schools. A pilot project on networking, which enhanced the usage of electronic communications among students and teachers, was implemented in 50 rural secondary schools.

4.40 During the Plan period, the conversion of secondary vocational schools (SVS) to secondary technical schools (STS) was completed. This conversion expanded the technical stream in the STS and at the same time maintained the vocational and skill streams previously offered in the SVS to accommodate low achievers in the *Penilaian Menengah Rendah* (PMR) examination. The technical stream in STS produced students with a strong foundation in technical and science subjects while the vocational and skill streams prepared students with the basic skills for employment.

4.41 A total of 59,500 students was enrolled in STS in 2000, of whom 50 per cent were in vocational and 10 per cent in the skill stream. The enrolment in the STS constituted 8.5 per cent of the total enrolment at the upper secondary level. The contextual learning concept incorporating both theoretical knowledge and practical application was implemented to improve the understanding of students in science and technical subjects. This concept improved performance in the *Sijil Pelajaran Malaysia* (SPM) examination in Mathematics, Science and engineering subjects.

4.42 *Teacher training programmes* were aimed at producing trained teachers who excelled in curricular and co-curricular activities. Towards this end, teacher training programmes were continuously improved while new courses in areas such as counselling and interpersonal skills as well as environmental education were introduced. Teacher training curriculum was also revised to incorporate the use of computer and multimedia, especially in subjects such as Mathematics, Science, *Bahasa Malaysia* and the English language.

4.43 To improve the quality as well as creativity and innovativeness of teachers, the curriculum for the training of teachers was reviewed and new electives on teaching innovation were introduced. A total of six courses was conducted for 1,720 teachers in areas such as evaluation, pedagogy and management in order to accommodate the requirements of smart schools. Of this total, 312 were mathematics and science teachers, 156 English language teachers and 156 *Bahasa Malaysia* teachers. A total of 3,070 master teachers was also trained.

4.44 During the Plan period, a total of 36,541 non-graduate teachers for primary schools was trained, of whom 24.0 per cent were mathematics teachers, 17.5 per cent were science teachers and 11.9 per cent English language teachers. Out of the 154,920 teachers, 55 per cent served in rural primary schools in 2000. In addition, efforts were undertaken to increase the number of graduate teachers in secondary schools. Towards this end, 7,390 teachers were trained under the Post-Graduate Teacher Training Programme (PTTP) and 3,120 under the *Program Khas Pensiwazahan Guru* while another 3,250 were trained under the *Program Pensiwazahan Lepasn Diploma*. The number of graduate teachers in secondary schools increased from 51 per cent or 44,830 in 1995 to 61 per cent or 69,329 by the end of 2000. Nevertheless, there was a shortage of 2.9 per cent for mathematics teachers, 6.2 per cent for science teachers and 0.2 per cent for English language teachers.

4.45 Computer networking linking 31 teacher training colleges was provided to facilitate the training of teachers specializing in ICT under the PTTP. These colleges provided the teachers with access to electronic libraries, which enhanced their knowledge and skills. Teacher training also focused on inculcating good values and positive attitudes.

4.46 Efforts were undertaken to provide housing facilities for teachers in rural areas as well as those in major urban areas such as Johor Bahru, Kuala Lumpur and Kota Kinabalu. A total of 7,185 quarters was constructed for teachers, of which 60 per cent were in the rural areas.

4.47 During the Plan period, *tertiary education* institutions were expanded to meet the increasing demand as well as to develop education as an export industry. The Government extended financial assistance to students from the low-income group to improve accessibility to higher education. As part of the strategy to develop the education sector, Malaysians were encouraged to study locally while sponsorship to foreign institutions of higher learning was limited to critical courses at reputable universities.

4.48 To further increase accessibility to higher education, the National Higher Education Fund (NHEF) was increased by RM1 billion to RM2.3 billion at the end of the Plan period. With the additional fund, financial assistance was extended to students in private institutions of higher learning. A total of 29,000 students in private institutions benefited from the Fund in 2000.

4.49 Student intake increased in public institutions of higher learning due to the expansion of their programmes and the setting up of new universities, namely *Universiti Malaysia Sabah*, *Universiti Malaysia Sarawak* and *Universiti Pendidikan Sultan Idris*. Three new polytechnics were also completed in Johor Bahru, Seberang Prai and Shah Alam. In addition, two city polytechnics were established in Kuala Terengganu and Melaka offering engineering and applied arts courses at certificate and diploma levels.

4.50 Enrolment at the tertiary level increased from 147,927 in 1995 to 321,729 in 2000. At the end of the Plan period, 170,794 students were enrolled at the first degree level, as shown in *Table 4-6*, while 92,304 students were at the diploma level and 28,154 at certificate level, as shown in *Table 4-7*. The enrolment in science and technical courses at the first degree level increased from 40.7 per cent in 1995 to 52.0 per cent in 2000, in line with the need for science and technology (S&T) manpower. At the diploma level, the enrolment in science and technical courses increased from 45.0 per cent to 56.8 per cent while at the certificate level, it declined from 83.1 per cent to 77.5 per cent, respectively.

4.51 Enrolment doubled in courses such as medicine and dentistry, engineering, architecture, survey and town planning, in line with the target to achieve the 60:40 ratio of science to arts enrolment. Enrolment in ICT courses in public higher learning institutions increased from 3,770 students in 1995 to 15,050 students in 2000. About one third of private institutions conducted ICT-related courses with an enrolment of 49,040 students in 2000, concentrating on courses in basic computer literacy and software applications.

4.52 The absorptive capacity of public institutions was relatively small compared with the number of qualified candidates. Thus, to address this shortfall, the Government established a consortium of 11 public universities, the Multimedia Technology Enhancement Operations (METEOR), to offer distance learning courses. During the Plan period, the consortium offered 25 courses in areas such as multimedia, law, business and humanities, benefiting 20,000 students. During the Plan period, the governance system of public universities was changed to include more representatives from the private sector. Public universities were allowed to generate funding from external sources based on the business plan agreed to by the institutions and the Government. Efforts were also undertaken

TABLE 4-6
ENROLMENT AND OUTPUT FOR FIRST DEGREE COURSES
FROM LOCAL PUBLIC EDUCATIONAL INSTITUTIONS, 1995-2005

Course	Enrolment						Increase (%)		Output			
	1995	%	2000	%	2005	%	7MP	8MP	7MP	%	8MP	%
Arts	44,886	59.3	81,914	48.0	103,846	42.5	82.5	26.8	78,433	57.7	134,764	46.1
Arts & Humanities ¹	22,262		40,130		48,208		80.3	20.1	40,612		64,187	
Economics & Business ²	20,072		37,875		50,522		88.7	33.4	34,261		65,252	
Law	2,552		3,909		5,116		53.2	30.9	3,560		5,325	
Science	18,171	24.0	49,575	29.0	71,897	29.4	172.8	45.0	34,805	25.6	91,607	31.3
Medicine & Dentistry	3,738		6,908		8,656		84.8	25.3	4,019		7,716	
Agriculture & Related Sciences ³	2,472		4,940		5,961		99.8	20.7	4,409		8,935	
Pure Sciences ⁴	4,032		9,081		14,739		125.2	62.3	6,502		17,408	
Others ⁵	7,929		28,646		42,541		261.3	48.5	19,875		57,548	
Technical	12,652	16.7	39,305	23.0	68,784	28.1	210.7	75.0	22,765	16.7	66,007	22.6
Engineering	9,756		31,494		57,684		222.8	83.2	16,980		53,822	
Architecture, Town Planning & Survey	1,397		4,682		7,920		235.1	69.2	3,201		8,302	
Others ⁶	1,499		3,129		3,180		108.7	1.6	2,584		3,883	
Total	75,709	100.0	170,794	100.0	244,527	100.0	125.6	43.2	136,003	100.0	292,378	100.0

Notes:

- ¹ Includes Islamic studies, languages, literature, Malay culture, social science, library science and art & design.
- ² Includes accountancy, business management, resource economics and agri-business.
- ³ Includes home science and human development.
- ⁴ Refers to biology, chemistry, physics and mathematics.
- ⁵ Includes pharmacy, applied science, environmental studies, food technology and science with education.
- ⁶ Includes property management.

TABLE 4-7
ENROLMENT AND OUTPUT FOR DIPLOMA AND CERTIFICATE
COURSES FROM LOCAL PUBLIC HIGHER EDUCATIONAL INSTITUTIONS, 1995-2005

Course	Enrolment						Increase (%)		Output			
	1995	%	2000	%	2005	%	7MP	8MP	7MP	%	8MP	%
DIPLOMA												
Arts	25,558	55.0	39,871	43.2	55,961	37.8	56.0	40.4	43,206	56.7	51,449	41.9
Arts & Humanities ¹	2,059		2,746		3,621		33.4	31.9	4,000		5,372	
Economics & Business ²	23,499		37,125		52,340		58.0	41.0	39,206		46,077	
Science	5,178	11.1	17,023	18.4	22,945	15.5	228.8	34.8	13,317	17.5	31,682	25.8
Agriculture & Related Sciences ³	2,296		2,071		2,400		-9.8	15.9	3,055		3,776	
Others ⁴	2,882		14,952		20,545		418.8	37.4	10,262		27,906	
Technical	15,744	33.9	35,410	38.4	69,119	46.7	124.9	95.2	19,636	25.8	39,603	32.3
Engineering	11,513		27,419		42,879		138.2	56.4	12,466		28,608	
Architecture, Town Planning & Survey	3,845		6,710		20,711		74.5	208.7	6,152		8,978	
Others ⁵	386		1,281		5,529		231.9	331.6	1,018		2,017	
Total	46,480	100.0	92,304	100.0	148,025	100.0	98.6	60.4	76,159	100.0	122,734	100.0
CERTIFICATE												
Arts	2,289	16.9	6,325	22.5	21,434	24.1	176.3	238.9	5,494	55.2	10,831	60.6
Arts & Humanities ¹	52		1,392		4,749		2,576.9	241.2	554		559	
Economics & Business ²	2,237		4,933		16,685		120.5	238.2	4,940		10,272	
Science⁴	592	4.4	1,008	3.6	2,110	2.4	70.3	109.3	1,873	18.8	4,433	24.8
Technical	10,675	78.7	20,821	73.9	65,304	73.5	95.0	213.6	2,582	26.0	2,610	14.6
Engineering	10,320		20,396		64,516		97.6	216.3	1,163		1,935	
Architecture, Town Planning & Survey	355		425		788		19.7	85.4	1,419		675	
Total	13,556	100.0	28,154	100.0	88,848	100.0	107.7	215.6	9,949	100.0	17,874	100.0

Notes:

¹ Includes public administration, music, photography and secretarial studies.² Includes accountancy, banking and hotel management & catering.³ Includes home science and human development.⁴ Includes computer studies, applied science and environment studies.⁵ Includes property management.

to increase public awareness on the Government's burden of financing higher education. This included disseminating information to students and parents on the actual cost of pursuing courses at the diploma and degree levels.

Skill Training Programmes

4.53 The absorptive capacity of skills training institutions expanded to meet the increasing and changing demand of industries for skilled manpower during the Plan period. A total of 187,440 skilled and semi-skilled manpower was produced by both the public and private training institutions. The output of skilled manpower from these institutions increased from 27,910 in 1995 to 44,490 in 2000 at an average annual rate of 9.8 per cent, of which 65 per cent was in the engineering trades, especially in mechanical and electrical engineering, as shown in *Table 4-8*. The output of skilled manpower in the engineering trades from public training institutions increased from 10,760 in 1995 to 17,250 in 2000.

4.54 Increased competitiveness and the use of modern and high technology production methods and processes increased the demand for highly skilled, trained and multi-skilled workers. To meet this demand, the Government built seven additional advanced skills training centres, which offered courses in specialized trades such as mechatronics, industrial engineering technology, computer engineering technology, telecommunications engineering technology, avionics engineering and multimedia development. In addition, the Japan-Malaysia Technical Institute (JMTI) increased the number of courses offered at its permanent campus at Bukit Minyak, Pulau Pinang. The total capacity of advanced skills training centres was 5,800 in 2000 including that of the German-Malaysian Institute (GMI), the British-Malaysian Institute (BMI) and the Malaysia-France Institute (MFI). At the state level, selected skills development centres (SDCs), also provided pre-employment training programmes at certificate and diploma levels, apart from skills upgrading and retraining programmes. During the Plan period, a total of 135,200 workers was trained by state SDCs, of whom 2,520 were at diploma level.

4.55 To alleviate the continued shortage of instructors, the Centre for Instructor and Advanced Skills Training (CIAST) expanded the National Instructor Training Programme (NITP) to include students with Malaysian Skill Certificate (SKM)

TABLE 4-8

OUTPUT OF SKILLED AND SEMI-SKILLED MANPOWER BY COURSE, 1995-2005
(persons)

Course	1995			2000			2005			7MP	8MP	Average Annual Growth Rate (%)	
	Public	Private	Total	Public	Private	Total	Public	Private	Total			7MP	8MP
Engineering	10,758	7,496	18,254	17,254	9,730	26,984	28,965	20,837	49,802	122,593	197,441	8.1	13.0
Mechanical	6,804	1,679	8,483	9,468	2,232	11,700	18,648	4,866	23,514	56,971	91,758	6.6	15.0
Electrical	3,734	5,743	9,477	7,364	7,378	14,742	9,685	15,721	25,406	63,643	102,496	9.2	11.5
Civil	220	74	294	422	120	542	632	250	882	1,979	3,187	13.0	10.2
Building Trades	1,792	205	1,997	1,966	547	2,513	2,600	1,200	3,800	13,415	21,601	4.7	8.6
Information & Communications Technology	450	3,764	4,214	784	7,520	8,304	2,167	9,844	12,011	28,296	45,566	14.5	7.7
Others	2,281	601	2,882	2,864	928	3,792	3,674	1,230	4,904	19,354	31,161	5.6	5.3
Skill Upgrading	563	n.a.	563	2,893	n.a.	2,893	4,651	n.a.	4,651	3,781	6,089	38.7	10.0
Total	15,844	12,066	27,910	25,761	18,725	44,486	42,057	33,111	75,168	187,439	301,859	9.8	11.1

Note: n.a. Not available.

Level 2 who will require only two years of training to qualify for the *Diploma Pengajar Vokasional*. In addition, the NITP increased its annual intake to 165 trainees in 2000. By the end of the Plan period, 101 instructors were trained and another 327 trainees were undergoing training. Instructors were also sent for training overseas to countries such as Germany, Japan and the United Kingdom to acquire the necessary skills.

4.56 To ensure that the level of competency acquired by trainees conform to the needs of industries, the National Vocational Training Council (NVTC) continued to develop the National Occupational Skills Standards (NOSS). By the end of the Plan period, 467 NOSS were established for various competency levels of the SKM. Of this total, 138 NOSS were for courses at Level 5 in areas such as information management, automotive and plastic engineering.

Participation of the Private Sector in Education and Training

4.57 To complement Government efforts in the provision of primary and secondary education, the private sector was encouraged to provide places at both levels. These schools adopted the National Curriculum, which included the teaching of good values and ethics as well as the preparation for public examinations. During the Plan period, enrolment at the primary and secondary levels in private schools increased from 116,510 students in 1995 to 142,920 students in 2000, of whom 14,110 were at the primary level.

4.58 With the implementation of the Private Higher Educational Institutions Act 1996, the private sector increased its involvement in the provision of tertiary education. Six private universities, namely *Universiti Multimedia*, *Universiti Tenaga Nasional*, *Universiti Teknologi Petronas*, *Universiti Tun Abdul Razak*, *International Medical University* and *Universiti Industri Selangor* offered courses in engineering, business studies, medicine and multimedia at the degree level. The Act also allowed foreign universities to establish branch campuses. Three institutions, namely Monash University, Australia; Curtin University of Technology, Australia; and the University of Nottingham, United Kingdom established branch campuses that offered full degree courses. By the end of the Plan period, private institutions provided a total of 32,480 places at the degree level, 116,265 at the diploma and 60,840 at certificate levels.

4.59 To ensure the healthy growth of tertiary education, the Ministry of Education (MOE) through the National Accreditation Board (LAN) and the Private Education

Department formulated 56 operational guidelines on the establishment of private institutions of higher learning. These guidelines set standards on equipment, supporting facilities and teaching staff to ensure the provision of high quality education.

4.60 Rapid technological changes and the need to enhance competitiveness required employers in all economic sectors to retrain and upgrade the skills of their workers. In this regard, the Human Resources Development Council (HRDC) intensified its efforts to further encourage employers, especially the small- and medium-scale enterprises (SMEs) to retrain their workers. In addition, the coverage of the Human Resources Development Fund (HRDF) was expanded to include firms in the energy, education and training industries. By the end of the Plan period, a total levy of RM833 million was collected by HRDF, of which RM488 million or 58.6 per cent were disbursed. A total of 2.6 million training places was approved under seven training schemes, namely the Training Grant Scheme (SBL), Approved Training Programme Scheme (PROLUS), Annual Training Plan Scheme (PLT), Agreement with Training Providers Scheme (PERLA), Apprenticeship Scheme, Training Grant Scheme for Small- and Medium-scale Enterprises Scheme (SBL-PKS) and Training Scheme for Retrenched Workers (SLPD). The SBL accounted for 80.7 per cent of total training places and 80.8 per cent of disbursement. This reflected the preference of employers for in-house training to that offered by external training providers. Technical and quality assurance and control courses constituted 40.4 per cent of approved training places while the balance were in computer-based and supervisory courses.

4.61 HRDC introduced an apprenticeship training scheme in 1996 as part of the measures to increase the supply of skilled and trained manpower. This pre-employment training scheme was an effective training approach as it involved the collaboration between employers, HRDC and training providers. By 2000, a total of 3,202 apprentices was trained with financial assistance from HRDC that amounted to RM15.9 million or 45.5 per cent of the total allocation for this scheme. Under this scheme, training was provided both at the workplace and the training institutions to meet the requirements for workers with a good combination of hands-on skills and theoretical knowledge. Due to its effectiveness, new apprenticeship schemes were introduced in areas related to ICT, plastics, wood-based, tool and die and multimodal transport operator.

4.62 The HRDC provided financial assistance to employers amounting to RM14.9 million during the Plan period for the purchase and development of training software under the Computer-based Training Scheme, and the purchase of personal computers under the Information Technology and Computer-based Training Scheme.

In addition, to assist the SMEs implement more systematic training, the HRDC introduced a Training Needs Analysis (TNA) Consultancy Scheme with an allocation of RM5 million. By the end of the Plan period, the HRDC also approved RM8.1 million under a grant, which was introduced in 1995, to support the procurement of training aids for in-house training.

4.63 A retraining scheme was introduced in 1998 to enable retrenched workers to acquire new skills at the diploma and certificate levels. A total of 891 retrenched workers benefited from this scheme, which involved financial assistance amounting to RM4.4 million. Of this total, 67.3 per cent were trained at diploma level and 32.7 per cent at certificate level with 40.6 per cent in technical and engineering trades, 38.0 per cent in management while the rest in computer-related courses.

III. PROSPECTS, 2001-2005

4.64 A trained workforce with the potential and ability to optimize the use and development of new technologies and materials will continue to be important in ensuring the growth and resilience of the economy during the Eighth Malaysia Plan. There will be increasing investment in human capital, with greater emphasis on nurturing creativity and cognitive skills to provide the impetus for the knowledge-based economy. The education and training system will be geared to produce multi-skilled and knowledge manpower that is versatile, willing to learn continuously, technopreneurial as well as with the ability to acquire and apply knowledge, particularly in modern technology.

Human Resource Policy Thrusts

4.65 Greater investment in human capital focusing on increasing the knowledge content of education and training will be made to ensure the growth and resilience of the economy. An efficient and responsive administrative and institutional framework is necessary for the optimal utilization of resources to accelerate human resource development towards achieving a developed nation status by 2020. In this regard, the policy thrusts will be as follows:

- ❑ *expanding the supply of highly skilled and knowledge manpower to support the development of a knowledge-based economy;*
- ❑ *increasing the accessibility to quality education and training to enhance income generation capabilities and quality of life;*
- ❑ *improving the quality of education and training delivery system to ensure that manpower supply is in line with technological change and market demand;*

- ❑ *promoting lifelong learning to enhance employability and productivity of the labour force;*
- ❑ *optimizing the utilization of local labour;*
- ❑ *increasing the supply of S&T manpower;*
- ❑ *accelerating the implementation of the productivity-linked wage system;*
- ❑ *strengthening labour market information system to increase labour mobility;*
- ❑ *intensifying efforts to develop and promote Malaysia as a regional centre of educational excellence; and*
- ❑ *reinforcing positive values.*

Expanding the Supply of Highly Skilled and Knowledge Manpower

4.66 Since human resource is the key factor in the development of a knowledge-based economy, concerted efforts will have to be made to increase the supply of highly skilled and knowledge manpower through the expansion of education and training. Knowledge manpower refers to those who can acquire, apply, synthesize and create knowledge. In view of the increasing need for knowledge manpower, the overall capacity of education and training institutions will be increased through the expansion and upgrading of existing institutions as well as the establishment of new institutions by the public and private sectors. In this regard, the implementation of education and training projects will be accelerated to increase the number of places to enable a higher proportion of the labour force attain tertiary education and industry experience.

4.67 The education system will be reoriented to enable students to acquire a higher level of explicit knowledge as well as thinking and entrepreneurial skills through, among others, improvements in the curriculum and teaching approach. The ability of the education system to increase the supply of knowledge manpower will depend, to a large extent, on a pool of highly trained and motivated teachers. In this regard, to attract high achievers to join the teaching profession, the remuneration package for teachers will be reviewed and improved.

4.68 The private sector is expected to intensify their involvement in the provision of education and training, especially in multidisciplinary knowledge and new disciplines such as biotechnology and bioinformatics. In view of the increasing demand for highly skilled workers to meet the requirements of more complex

quality manpower. To nurture creativity and innovativeness as well as thinking skills among students, the current curriculum and performance assessment of students will be reviewed. The student-centred learning approach will be strengthened. In addition, while high competency in *Bahasa Malaysia* will continue to be maintained, proficiency in the English language will be improved. More subjects will be taught using computer-based resources and multimedia technology. New subjects, courses and programmes will be designed to develop a workforce that can learn and adapt rapidly to changes in technology as well as meet the market demand for new skills. In this regard, public institutions will be given more flexibility to undertake the review and design of new courses in collaboration with the private sector. A centre to nurture innovation and creativity will also be set up for students with special talents and abilities.

4.73 To ensure training programmes are in line with the requirements of the economy, the NVTC as the coordinating and monitoring agency, will be further strengthened. In addition, the curriculum as well as teaching and learning materials will be standardized to increase cost effectiveness and ensure quality training. The skills training institutions will also increase and improve training in extra-functional skills such as communications, supervisory, management and problem-solving. Efforts to increase the supply of qualified instructors include the expansion of NITP and other instructor training programmes by CIAST, as well as the training of instructors by other advanced skills training centres, especially in new technologies. In addition, the scheme of service for instructors will be reviewed to include a better remuneration package in order to retain qualified instructors and attract more quality candidates. The apprenticeship scheme under HRDC will also be expanded to cover new areas of training such as welding, automotive electrical servicing and industrial instrumentation and control. Public training institutions will be encouraged to collaborate with industries in the apprenticeship scheme by providing training in theoretical aspects.

Promoting Lifelong Learning

4.74 Efforts will be made to develop a knowledge-seeking culture among Malaysians in view of the rapid changes in technology and the increasing knowledge intensity of the economy. Lifelong learning will be promoted to enhance productivity and employability through the use of ICT in, among others, distance learning and web-based learning to meet individual needs. More diversified courses will be offered in the distance learning programmes to cater to different levels of educational attainment and interest. Public tertiary institutions including community colleges will be encouraged to conduct more part-time courses and promote web-based learning. Support services in the form of public libraries, especially mobile

libraries will be increased. Communities in residential areas will be encouraged to pool resources to set up and maintain libraries within their localities. In addition, private companies will be encouraged to adopt and contribute to these community libraries.

Optimizing the Utilization of Local Labour

4.75 While women account for nearly half of the working age population, their participation rate is relatively low at 44.5 per cent in 2000. Efforts will, therefore, be made to increase their participation by the setting up of community nurseries and kindergartens within residential areas as well as ensuring better access to training opportunities. Teleworking, part-time work and job sharing will be encouraged to allow women, especially those who are highly educated, the flexibility of working and at the same time be a homemaker. Efforts to amend the Employment Act 1955 to include these new modes of working will be expedited. The public sector will also introduce teleworking among selected categories of public sector employees. At the same time, the retirement age will be extended to 56 years on a trial basis. In addition, pensioners with the appropriate qualifications and experience will continue to be considered for re-employment, on a case-by-case basis. Efforts will be increased to optimize the use of local labour and further reduce dependence on foreign labour. The shortening of the period of stay for foreign workers will be strictly adhered to so that firms will take positive steps to move into higher capital-intensity production processes.

Increasing the Supply of S&T Manpower

4.76 Malaysia requires a pool of S&T manpower to leverage on the new knowledge and technological advancements to achieve sustainable growth. The capacity of S&T related education and training programmes will be further expanded to expedite the achievement of the 60:40 ratio of science to arts students. This will ensure the creation of a critical mass of S&T personnel to meet the demand of a knowledge-based economy. To achieve this objective, enrolment in the S&T degree programmes in local tertiary institutions, especially at post-graduate levels will be increased. The provision of scholarships for post-graduate and post-doctoral studies as well as fellowships for graduate research under the Science and Technology Human Resources Fund will also be increased. A review of this Fund will be undertaken to attract more S&T personnel to undertake R&D activities.

4.77 S&T and industrial policies will need to be integrated with education and training policies. Local R&D capabilities, especially in institutions of higher learning will be further developed through joint R&D activities between universities and industry as well as Malaysians and foreigners. To address the shortage of

R&D personnel, efforts will be intensified to attract both foreign R&D personnel and Malaysian scientists and technologists who are working abroad to work in Malaysia on a short- or long-term basis. The ratio of R&D scientists and technologists is targeted to improve from 10 per 10,000 labour force in 2000 to 30 per 10,000 by 2005. This translates to a total of 32,810 R&D scientists and technologists that will be required to meet the demand in areas such as nanotechnology, biotechnology, photonics and fuel-cell technology. Of this number, at least 5,000 additional scientists in biotechnology and related sciences will be required in view of the increasing importance of biotechnology and related sciences in the coming decade.

Accelerating the Implementation of the Productivity-Linked Wage System

4.78 Firms will be encouraged to intensify the implementation of the productivity-linked wage system to ensure that wages are closely linked with productivity. To ensure a wider implementation of this system, a taskforce comprising representatives from the Government, employers and employees will be set up. Frequent briefings and discussions will be organized to increase awareness of the system by all parties. A feedback mechanism will also be established so that queries on the system will be resolved immediately. In this regard, the National Productivity Corporation will spearhead efforts to enhance labour productivity through the development of databases on productivity indicators and benchmarks, upgrading of local expertise, promotion of greater awareness and the adoption of best practices.

Strengthening the Labour Market Information System

4.79 Efforts will be accelerated during the Plan period to implement the electronic labour exchange, which will be a fully integrated, coherent and dynamic labour market information system. The effective distribution and dissemination of information will enable the flexible and efficient functioning of the labour market in response to changing market needs as well as ensure effective labour market monitoring. The integrated system will provide registration, monitoring and placement of workers to increase effective job matching. It will also contain a comprehensive labour market database, which will allow continuous analysis of the labour market situation, thus serving as a knowledge bank for the creation, administration and sharing of information. To ensure the effectiveness of this system, a coordinating mechanism will be established to formulate policies and strategies as well as to monitor the implementation of the system.

Developing and Promoting Malaysia as a Regional Centre of Educational Excellence

4.80 In line with the objective of becoming a regional centre of educational excellence, local public and private universities will be encouraged to establish and develop centres of excellence comparable to those in top ranking universities. These universities will be strengthened to ensure the adequacy and quality of their teaching staff as well as through the provision of well-equipped facilities. In addition, greater autonomy and flexibility will be given to public universities in their effort to strengthen their R&D capabilities. In this regard, post-graduate programmes will be expanded to include new areas and universities will be encouraged to develop their research teams as well as their areas of specialization. These universities will also be encouraged to aggressively promote their programmes abroad to attract a continuous inflow of foreign students. Appropriate incentives and simplification of the approval process of hiring lecturers will be introduced, to attract reputable foreign universities to set up branch campuses in Malaysia and offer degree programmes, especially in S&T courses and to undertake R&D activities.

Reinforcing Positive Values

4.81 Efforts will be undertaken to inculcate and reinforce positive values through the education and training system. These values including good work ethics, diligence, integrity, tolerance, gratitude, respect for authority, punctuality and pursuit of excellence are characteristics of a high quality workforce. Other values that will be emphasized include kindness, caring and neighbourliness, which are necessary to promote social harmony and cohesion. The involvement of parents, individuals and the corporate sector will complement these efforts.

4.82 With the development of a knowledge-based economy the acquisition, utilization, dissemination and management of knowledge will be more liberal and can be abused. To counter such influences, Malaysians must be inculcated with positive values from young. This can be achieved through incorporating civics education in the curriculum of moral or religious education.

Population and Labour Force

4.83 The population is estimated to reach 26.04 million by 2005, growing at an average annual rate of 2.3 per cent, as shown in *Table 4-1*. This growth rate will be lower than that of the Seventh Plan due to the continuing decline in the fertility rate as more women pursue further education and training. Non-citizens

will account for 5.3 per cent of the population, increasing at an average annual rate of 2.4 per cent.

4.84 By 2005, the share of the population in the 0-14 age group will decline to 31.3 per cent while the proportion of those aged 65 and above will increase to 4.3 per cent. The dependency ratio will decline to 55.3 per cent in 2005 while the median age of the population is estimated to be 25.3 years. Urban population is projected to increase at a rate of 3.8 per cent during the Plan period, compared with 4.8 per cent during the previous Plan. By the end of the Plan period, Bumiputera is expected to comprise 67.3 per cent, Chinese 24.5 per cent and Indian 7.2 per cent of Malaysian citizens.

4.85 The size of the labour force is expected to increase by an average annual rate of 3.1 per cent to reach 11.2 million persons, as shown in *Table 4-2*, of whom 5.1 per cent will be foreign workers. The labour force will continue to have a young age profile and is expected to be more educated and better trained. The LFPR is expected to increase to 66.6 per cent by 2005, with the rate for females rising to 46.2 per cent. The increase in teleworking opportunities will provide greater job flexibility, thus encouraging more women to join the labour force.

Employment by Sector

4.86 The favourable economic growth envisaged during the Plan period will increase employment opportunities. Employment growth at 3.2 per cent will create more than 1.6 million jobs, slightly higher than the 3.0 per cent achieved during the Seventh Plan period. The economy is expected to continue to be at full employment level with a low unemployment rate of 2.7 per cent by the end of the Plan period.

4.87 The *manufacturing sector* will continue to be the leading growth sector. Manufacturing firms will have to continue to adjust their mode of production towards greater capital- and knowledge-intensity in order to overcome the expected labour shortage. The manufacturing sector is projected to create a total of 642,000 new jobs or 40.4 per cent of the jobs created. Employment in this sector will grow at an average rate of 4.6 per cent per annum accounting for 29.5 per cent of total employment by the end of the Plan period.

4.88 The *services sector* is expected to contribute 58.0 per cent of the total net jobs created, growing at an average rate of 3.8 per cent per annum, slightly lower than that achieved during the previous Plan. This growth will be mainly contributed by the other services subsector as well as the finance, insurance, real estate and business services subsector. The high-end value-added activities within the services sector will facilitate the development of a knowledge-based economy.

4.89 The demand for labour in the *agriculture sector* is projected to further decline to 1.3 million in 2005 at an average annual rate of 1.5 per cent, thus reducing its share to 12 per cent of total employment. The agriculture sector is expected to continue to face labour constraints, declining arable land area and fluctuations in commodity prices. The future growth and competitiveness of the sector will depend on increases in productivity, better agronomic practices, innovations and technological progress.

Employment by Occupation

4.90 Demand for manpower in all occupational categories is expected to register a positive growth during the Plan period, as shown in *Table 4-3*, with the highest growth in the administrative and managerial as well as professional and technical categories. This is in response to the rapid shift towards capital-intensive and knowledge-based industries as well as the increased utilization of ICT in production processes and services. Technologically-oriented manpower with tertiary education and professional training will be required to provide industries with the comparative advantage to compete in an increasingly globalized market. Production workers, however, will continue to be a major occupational category, especially the requirement for skilled workers in the increasingly sophisticated production processes.

4.91 The *professional and technical* category is expected to register an average annual growth of 5.2 per cent during the Plan period. Its share to total employment is expected to account for 12.1 per cent by 2005. However, this share is still very low compared with the 1998 figures of some industrialized economies such as Japan at 23.2 per cent, Singapore at 26.9 per cent and United States of America at 28.5 per cent. This occupational category is expected to provide 294,200 new jobs or 18.5 per cent of the total jobs created during the Plan period. Demand for engineers and engineering assistants, especially in electrical, electronics and mechanical engineering will continue to be high as industries move towards more capital-intensive and knowledge-based production processes. An additional 52,920 engineers and 117,720 engineering assistants will be required, as shown in *Table 4-4*.

4.92 The rapid development of ICT industries as well as the application of ICT in production and service operations will lead to the emergence of new skill requirements. An additional 85,470 ICT workers will be required including system and hardware engineers, software engineers and developers, business and system analysts, computer programmers and technical support personnel during the Plan period. Of this, 11,900 workers trained in core ICT skills will be required by firms with MSC status.

4.93 The demand for medical and health professionals as well as allied health professionals is expected to increase to 36,840 and 115,820, respectively, during the Plan period. For medical and health professionals, the requirement will be especially high for general surgeons, urologists and radiologists. There will also be an increased demand for allied health professionals, especially nurses, medical assistants, laboratory technologists and pharmaceutical assistants. At the same time, these professionals will be trained in ICT-based applications and services in view of the increasing use of the Total Health Information System (THIS) application in public hospitals and clinics. However, the output from local tertiary institutions will be inadequate to meet the increased demand. Therefore, it is critical to increase the supply of students in the science stream as feeder to the medical degree programmes. More scholarships will also be provided for courses in the medical fields at the basic degree and post-graduate levels.

4.94 The *administrative and managerial* category will continue to register the highest growth at an average annual rate of 6.9 per cent during the Plan period, accounting for 9.7 per cent of the total jobs created or 153,600 new jobs. This is in tandem with the expected rapid growth of the economy, especially in banking, finance and consultancy and the use of ICT in delivering these services. The share of this category to total employment is expected to increase to 5.0 per cent in 2005.

4.95 In view of the changing structure of production towards more labour-saving processes, the demand for *production workers* category is expected to increase at a lower rate of 2.0 per cent during the Plan period. This will contribute 19.8 per cent of total net job creation or 314,400 jobs. However, as indicated by the potential employment for approved investment projects, the demand will be more for skilled production workers, especially in industries producing inputs for locally manufactured goods.

4.96 Increase in agricultural-related activities and the implementation of the Third National Agriculture Policy is expected to increase the demand for *agricultural workers*. During the Plan period, overall demand for these workers will increase at an average rate of 2.0 per cent per annum, particularly in modern agricultural-related services. The major occupations that will be in high demand are in areas such as biotechnology, aeroponics, hydroponics and organic farming.

4.97 The anticipated growth of services including tourism and hospitality, transportation, ICT and telecommunications will increase the demand for *service workers*. This demand is expected to increase by 4.2 per cent per annum during

the Plan period. Its share to total employment will increase to 12.4 per cent per annum or 1.35 million jobs by 2005. Increasing urbanization and changes in the lifestyle of Malaysians will increase the demand for service workers, especially managers, supervisors and proprietors.

Human Resource Development

4.98 Education and training programmes during the Plan period will be directed at improving quality and accessibility as well as reducing the performance gap between rural and urban areas. Education and training strategies will be aimed at producing students with broad-based knowledge, thinking skills and innovativeness to eventually contribute to the knowledge-based economy. In this regard, the education and training delivery system will be strengthened so as to create a critical mass of trained, skilled and knowledge manpower in line with technological advancements.

4.99 Public institutions will be upgraded to accommodate the increasing demand for places. In addition, the curriculum will be reviewed to increase the knowledge content and incorporate new emerging technologies. In the rural areas, teaching and learning facilities as well as educational support services will be expanded to ensure that the quality of education in these areas will be further improved. The facilities provided in the rural schools will be similar to those in the urban areas. In addition, the private sector will continue to further complement efforts of the public sector in education and training.

Education Programmes

4.100 During the Plan period, the Ministry of Education will enhance its role in the coordination of *pre-school* programmes for children in the 5-6 age cohort to ensure that its coverage is expanded from 63.7 per cent in 2000 to at least 75.0 per cent by 2005. The National Curriculum For Pre-School will be implemented and utilized by all pre-school education providers to ensure quality education. This curriculum will replace the Guidelines on Pre-School Curriculum that was issued in 1995. To ensure the successful implementation of the national curriculum, MOE, in consultation with relevant government agencies such as *Jabatan Kemajuan Masyarakat* (KEMAS) and the Department of National Unity, will determine the qualification, training programmes and the number of trained teachers as well as the teaching and learning materials and facilities required by pre-school centres.

4.101 Enrolment at the *primary education* level is expected to increase from 2.95 million students in 2000 to 3.04 million students by 2005, as shown in *Table 4-5*. To accommodate this increase and provide a better learning environment, an additional 12,380 classrooms will be built, of which 7,600 are for replacement. In line with the strategy of emplacing single session schools nationwide by 2005, the construction of new schools and classrooms will be expedited. Class-classroom ratio will also improve from 1:0.90 in 2000 to 1:0.93 by 2005 while overcrowding in urban schools is expected to be reduced from 15 per cent to 13 per cent in 2005. Steps will also be taken to reassess the food supplementary, textbooks-on-loan and financial assistance programmes to improve efficiency and ensure children from low-income families benefit from these programmes.

4.102 To improve accessibility and provide a better learning environment for students in remote areas, schools with enrolment of less than 150 students each, will be grouped in a school complex under the centralized school programme. Such school complexes, which will be implemented, particularly in Sabah and Sarawak, will be provided with hostels, quarters for teachers as well as adequate teaching and learning facilities. In addition, the Integrated School Concept where students from Year 4 to Form 5 are placed in the same school with boarding facilities, will be expanded. Similarly, the number of schools under the Vision School Concept will be increased and activities such as integration programmes for students will be instituted to strengthen national unity.

4.103 The participation rate of students in the 6-12 age cohort is expected to increase with the reduction in the attrition rate, especially among students in rural areas. In this regard, hostel facilities will be provided in small schools in remote areas. To ensure better quality education for rural schools, continued efforts will be undertaken to provide quarters for teachers to attract qualified and trained teachers. An additional 39,310 quarters will be built including 7,640 quarters for replacement.

4.104 The utilization of ICT for teaching and learning will be expanded to ensure a wider coverage of students. Efforts, therefore, will be intensified to provide computer facilities and computer-aided teaching and learning, especially in rural schools. The development of courseware for Mathematics, Science, *Bahasa Malaysia* and the English language will be intensified, while courseware for other subjects will be developed. During the Plan period, about 8,000 schools will be supplied with computers.

4.105 The implementation of the smart school project will be enhanced through the utilization of teaching and learning courseware for Mathematics, Science,

Bahasa Malaysia and the English language. The courseware, which was developed in the first phase of the smart school project, will be improved while courseware for other subjects will be developed. During the Plan period, the smart school concept will be expanded to schools equipped with computer infrastructure.

4.106 The higher transition rate from primary to *secondary level* will increase enrolment from 1.94 million students in 2000 to 2.29 million students in 2005, as shown in *Table 4-5*. A total of 7,930 classrooms will be built to accommodate these students including 3,080 classrooms to replace dilapidated facilities. Additional classrooms and new schools will also be built to fully implement single session schools. Consequently, the class-classroom ratio will improve from 1:0.83 in 2000 to 1:0.86 in 2005.

4.107 Additional teaching and learning facilities such as science and computer laboratories will be provided to meet the requirements of *Kurikulum Bersepadu Sekolah Menengah* (KBSM). These computer laboratories will be built in 2,100 schools of which 60 per cent will be in rural areas. Rural schools will also be provided with boarding facilities to provide a better learning environment. To improve the performance of students in Mathematics and Science as well as to create a critical mass of students for enrolment in S&T courses at post-secondary level, the curriculum of these subjects will be reviewed. In addition, more fully residential schools will be built to increase enrolment in the science stream.

4.108 More schools and special classes in mainstream schools will be established to enable children with special needs to have better access to education. These additional facilities will accommodate 5,320 students, thus increasing the total number of places from 12,640 in 2000 to 17,960 in 2005. They will also be allowed to join normal classes to enable them to develop their potential capabilities within the normal school environment.

4.109 In line with democratization of education, *secondary technical schools* (STS) will offer courses in the technical, vocational and skill streams to cater to students with differing abilities. The STS system will supply trained manpower and be the main feeder to the technical universities. An advisory committee with private sector participation will be established in all schools, while existing committees will be strengthened to ensure that courses are market-oriented. The enrolment in STS will increase from 59,500 in 2000 to 99,755 in 2005, representing 10.8 per cent of total enrolment at the upper secondary level by the end of the Plan period. To accommodate an increasing demand for technical education, technical electives will continue to be offered in more day and residential schools.

4.110 The Government will evaluate the requirements for *teachers* in specific subjects and ensure that teachers are deployed according to their specialization and the needs of the schools. The capacity for the training of graduate teachers at the *Universiti Pendidikan Sultan Idris* and other universities offering post-graduate training of teachers will be expanded. At the same time, incentives such as full pay study leave will be granted to teachers to encourage them to upgrade their qualifications. As a result, the number of graduate teachers in secondary schools is expected to increase from 69,329 in 2000 to 125,670 in 2005. Graduate teachers will also be deployed to teach core subjects such as Mathematics and Science at the primary level.

4.111 The teacher training curriculum will be reviewed to give special emphasis on ethics and moral values, utilization of ICT and creative teaching methods. The utilization of computers will be intensified to enable teachers to source learning materials. The SERC will continue to be the regional teacher training centres, especially to provide in-service short courses including those on pedagogy and provide appropriate teaching and learning materials. Additional incentives will be provided to attract trained and experienced teachers to serve in rural areas. These will include better allowances and the provision of 25,420 new quarters by the end of the Plan period.

4.112 During the Plan period, efforts will be intensified to further expand the absorptive capacity of public institutions of higher learning. The establishment of four new universities in Melaka, Negeri Sembilan, Pahang and Perlis will provide an additional 20,000 places at the degree level by 2005. The establishment of polytechnics in Balik Pulau, Mersing and Miri will provide an additional capacity of 10,800 students, while 10 new city polytechnics will accommodate a total of 6,000 students at the diploma and certificate levels.

4.113 The demand for *tertiary education* will continue to grow in tandem with the increase in the number of qualified students and the reducing number of students pursuing their education abroad. Total enrolment at the tertiary level in public institutions is expected to increase from 321,729 in 2000 to 526,679 in 2005, as shown in *Table 4-5*. The participation rate in tertiary education of those in the 17-23 age cohort will, thus increase from 25 per cent in 2000 to 30 per cent in 2005. At the degree level, enrolment is expected to increase from 201,271 in 2000 to 289,806 in 2005, as shown in *Table 4-5*. Of the total enrolment, 41,000 or 14 per cent will be pursuing post-graduate courses.

4.114 The Government will continue to selectively sponsor students in reputable institutions abroad, especially in new emerging technologies or courses not available locally. During the Plan period, 2,750 students will be sponsored to pursue courses in specialized areas in engineering, ICT, medicine and the sciences.

4.115 Public and private institutions will continue to be allowed to establish franchise arrangements to increase the number of places offered at the tertiary level. These arrangements will provide 45,000 additional places of which 25 per cent will be at degree level and 75 per cent at diploma level. In addition, incentives will be provided to reputable institutions to set up branch campuses, especially those offering S&T courses. The Government, through the Private Higher Educational Institutions Act 1996, will ensure that the courses and facilities are of high quality and fees affordable.

4.116 Realizing the importance of knowledge workers in the knowledge-based economy, the Government will continue to grant MSC status to qualified multimedia, ICT, engineering and related faculties of institutions of higher learning. It is expected that by 2003, a total of 25 institutions of higher learning will be granted MSC status. With this status, these institutions of higher learning will enjoy various privileges such as unrestricted employment of foreign lecturers and professionals as well as competitive telecommunications tariff rates.

4.117 Distance learning programmes will be intensified to cater for 54,000 students in 2005 compared with 36,000 students in 2000. Additional facilities will be provided at public institutions of higher learning, while existing programmes will be expanded to include a wider choice of courses. The consortium, METEOR will spearhead the accelerated implementation of distance learning programmes through the sharing of resources and the establishment of more distance learning centres as well as cooperation with existing institutions of higher learning. The private sector will be encouraged to augment the distance learning programmes.

Skill Training Programmes

4.118 Public institutions will continue to assume a major role in training skilled and technical manpower, especially in new emerging technologies. These institutions are expected to produce 42,057 skilled workers by the end of the Plan period compared with 25,761 skilled workers in 2000, as shown in *Table 4-8*. A total of 15 skills training institutes including two advanced skills training institutes under the Ministry of Human Resources, is expected to be operational with an

intake of 12,400 trainees by the end of the Plan period. These institutes will conduct courses such as mechatronics, multimedia technology and machining. Existing advanced training courses offered by public training institutes will be revised through continuous consultation with industries including SMEs, to meet the required competencies. To promote the systematic development of skill training and improve the effectiveness of the delivery system, a study will be conducted to identify an appropriate mechanism for the accreditation and recognition of qualifications awarded by training institutions.

4.119 The establishment of an additional 247 NOSS, including Levels 4 and 5, will increase the number of standardized courses in areas such as multimedia, manufacturing technology and industrial electronics. As part of the effort to transform the agriculture sector into a modern, dynamic and competitive sector, the training of skilled manpower will be given greater emphasis during the Plan period. In this regard, NOSS will be developed to strengthen training programmes in agriculture and related areas. Training opportunities and career advancements will thus be expanded. Professional bodies, industries and providers of skill training will be consulted in developing these NOSS to ensure their relevance.

4.120 The HRDF will further expand its coverage to include skill training in agriculture and other services such as for water supply, transportation and private hospital. Similarly, the SDF will finance skills training in private institutions, thus further increasing accessibility to pre-employment training.

4.121 The NITP will be expanded to meet the increasing demand for qualified instructors in public training institutions. The enrolment will be increased from 300 trainees in 2000 to 575 trainees by the end of the Plan period. In addition, the NITP will also be expanded to provide instructor training for private skill training institutes.

Participation of the Private Sector in Education and Training

4.122 The private sector will complement the Government's efforts in the provision of education and training, especially tertiary education and vocational training. At the pre-school level, programmes will be based on the National Curriculum. At the primary and secondary levels, it is expected that private institutions will continue to provide places for about 5.0 per cent of the total enrolment. To ensure quality education, private institutions will follow the National Curriculum in preparing students for public examinations.

4.123 At the post-secondary level, private institutions will continue to offer courses mainly those requiring lower capital investment such as business, commerce and applied arts. These institutions will continue to conduct courses at the diploma and certificate levels as well as those awarded by international professional bodies.

4.124 Local institutions of higher learning, which conduct twinning programmes and have credit transfer arrangements, will be in a better position to offer full degree courses through their established relationship with foreign institutions. The Government will ensure that these private institutions adhere to guidelines and standards on curriculum, teaching staff, teaching and learning facilities and the fee structure set by LAN. At the same time, the Government will expedite the approval of curriculum and validation of courses as well as ensure that quality is maintained.

4.125 In line with the objective of developing education as an export industry and promoting the growth of local tertiary education, efforts will be aggressively undertaken to promote local institutions through education fairs, seminars and conferences. Incentives will be provided to educational institutions for the promotion of education overseas. The number of foreign students is expected to increase from about 20,000 in 2000 to 25,000 by 2005.

4.126 Private sector institutions will be encouraged to offer courses relevant to the needs of industry and undertake R&D activities. To address the shortage of lecturers, private institutions will be encouraged to develop staff development programmes. Steps will also be taken to facilitate the recruitment of foreign lecturers by private institutions, while the recruitment of lecturers on a contract basis for public institutions will be continued.

IV. ALLOCATION

4.127 The development allocation for education and training programmes is shown in *Table 4-9*, which represents 20.6 per cent of the total development allocation of the Plan. This indicates the continued priority given by the Government to education and training. The combined effort by the public and private sectors will ensure that the education and training systems meet the demand for educated and trained manpower, thus contributing to the achievement of the development objectives of the nation.

TABLE 4-9

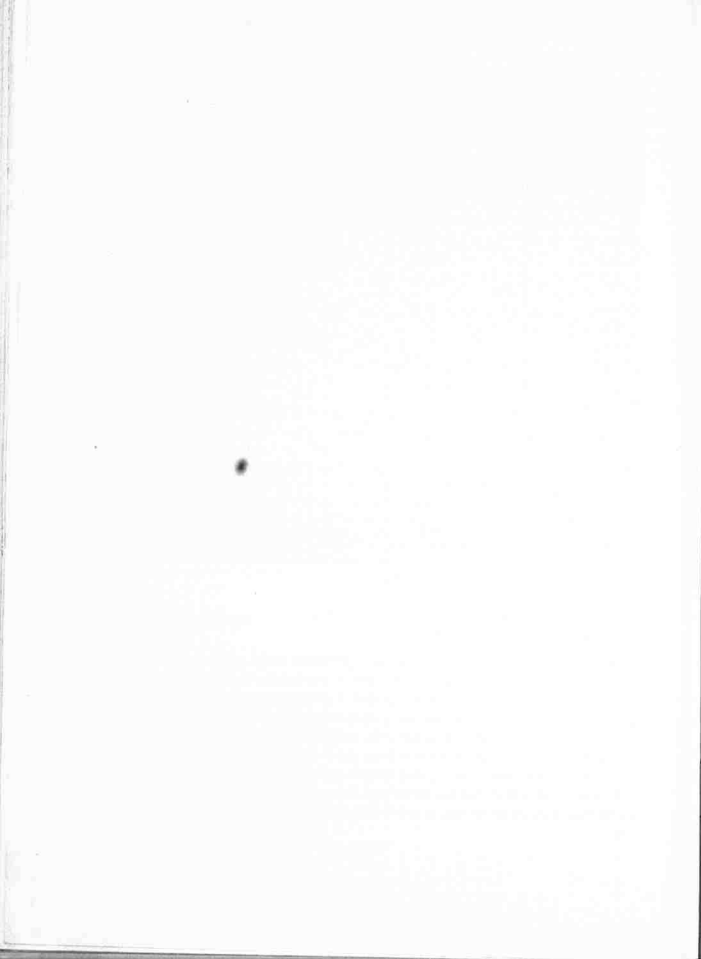
DEVELOPMENT ALLOCATION FOR EDUCATION AND TRAINING, 1996-2005
(RM million)

<i>Programme</i>	<i>7MP</i>		<i>8MP</i>
	<i>Allocation</i>	<i>Expenditure</i>	<i>Allocation</i>
Education	17,948.5	17,542.2	18,660.0
Pre-school	123.6	107.5	147.4
Primary Education	2,632.0	2,631.8	2,750.0
Secondary Education	5,330.1	5,317.5	4,862.6
Government & Government-aided Schools	3,860.0	3,853.7	3,262.6
MARAJunior Science Colleges	710.0	707.2	700.0
Technical & Vocational Schools	760.1	756.6	900.0
Tertiary Education	5,362.8	5,005.1	8,900.0
Teacher Education	350.0	332.5	300.0
Other Educational Support Programmes	4,150.0	4,147.8	1,700.0
Training	2,237.3	2,181.9	4,000.0
Industrial Training	1,876.0	1,827.0	3,760.0
Commercial Training	71.3	71.2	100.0
Management Training	290.0	283.7	140.0
Total	20,185.8	19,724.1	22,660.0

V. CONCLUSION

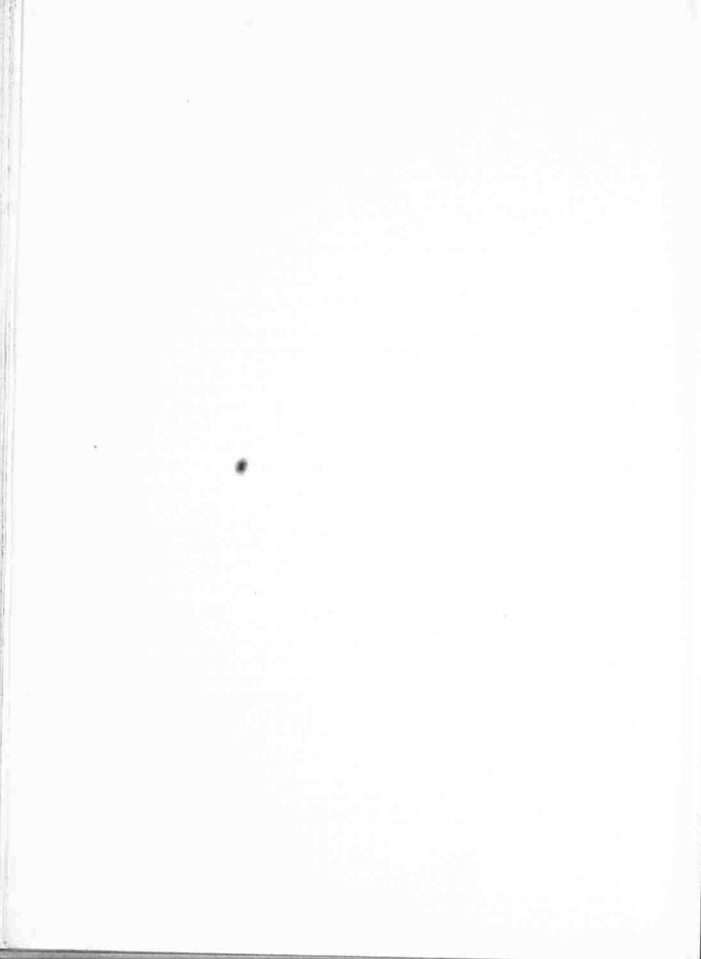
4.128 A knowledge-based economy requires a workforce with a high level of skill and educational attainment as well as the right motivation and attitude, innovation and entrepreneurial skills to leverage on the vast opportunities arising from globalization and rapid technological advancements. The human resource development thrust in the Eighth Plan will, therefore, place greater emphasis on increasing the supply of manpower equipped with the required academic, technical and extra-functional skills as well as imbued with positive attitudes and creativity. Education and training programmes will be directed towards increasing accessibility, improving quality and reducing the performance gap between rural and urban

areas. Policies pertaining to education and training will be in consonance with other development policies as human resource will be one of the enablers to achieve growth with resilience. Lifelong learning will provide a strong foundation for the creation of a knowledge-seeking society that will ensure Malaysia's competitiveness as well as realize the vision of becoming a developed nation.



Chapter 5

Regional Development



5

REGIONAL DEVELOPMENT

I. INTRODUCTION

5.01 The implementation of regional development strategies during the Seventh Plan period, such as the diversification of the economic base and the provision of modern amenities, stimulated overall economic growth of all the states. This led to increased income, improved living standards, a higher quality of life and reduced economic disparities between regions. In addition, the improvement in employment and income generating activities resulted in narrowing the income gap of the less developed states relative to the more developed states¹, thus reflecting the effectiveness of strategies towards achieving the objective of balanced development.

5.02 Efforts to optimize the utilization of resources and to transform all the states into modern and resilient economies will be continued during the Eighth Malaysia Plan period. The potentials of all states will be harnessed, in particular the economic base of the less developed states will be further diversified and strengthened. Development of knowledge-based activities will be emphasized in accordance with the economic strengths of the individual states. Emphasis will also be placed on improving the quality of life of the people, especially for those in the less developed states by increasing opportunities to earn higher income and providing better infrastructure and amenities. In addition, the Growth Triangles economic cooperation will be further promoted to bring about greater trade and investment opportunities in the participating states, as well as for Malaysia.

¹ Based on the composite index of development in 2000, the States of Johor, Perak, Pulau Pinang, Melaka, Negeri Sembilan, Selangor and Wilayah Persekutuan Kuala Lumpur were categorized as more developed states, while Kedah, Kelantan, Pahang, Perlis, Sabah, Sarawak and Terengganu were categorized as less developed states.

II. PROGRESS, 1996-2000

5.03 During the Seventh Plan period, the major thrusts of regional development were to achieve balance in social and economic development across regions and states and to raise the standard of living and quality of life of the people. In this regard, the economic structure of the less developed states were diversified with larger contributions from manufacturing and services sectors. In addition, the increase in private sector investments further stimulated economic activities within the context of the Eastern Corridor development strategy. The expansion of social and physical infrastructure contributed towards better living standards and progress was also made in the Growth Triangles cooperation through the implementation of several joint-venture projects.

Population, Employment and Labour Force

Population

5.04 During the Plan period, average annual growth rate of the population was 2.4 per cent per annum. The population increased from 20.68 million in 1995 to 23.27 million in 2000, as shown in *Table 5-1*. In 2000, there were five states with a population of more than two million of which three are more developed states. The population density increased from 62.7 persons per square kilometre in 1995 to 70.6 persons per square kilometre in 2000. Urban population increased from 55.1 per cent in 1995 to 61.8 per cent in 2000, growing at an annual average rate of 4.8 per cent. This increase was due to rural-urban migration, spurred by expectations of job opportunities and a better quality of life, growth of new urban areas and extension of existing administrative boundaries.

5.05 The population of the more developed states grew at an average of 2.8 per cent per annum during the Plan period, increasing from 11.49 million in 1995 to 13.18 million in 2000 and accounting for 56.6 per cent of the total population. Selangor was the most populous state, with 4.18 million people and registered an average growth of 5.4 per cent per annum. The high rate of increase in Selangor was largely due to net in-migration from neighbouring states. Other more developed states with population of more than two million were Johor and Perak. However, during the Plan period, Perak continued to record growth rates lower than 1.0 per cent per annum due to out-migration. Overall, the population density of the more developed states increased from 199.8 persons per square kilometre in 1995 to 229.1 persons per square kilometre in 2000. The population density of Wilayah Persekutuan Kuala Lumpur was highest at 5,639 persons per square kilometre followed by Pulau Pinang with 1,269.5 persons per square kilometre and Selangor with 524.8 persons per square kilometre.

TABLE 5-1
POPULATION¹ BY STATE, 1990, 1995, 2000 AND 2005

State	Number ('000)				Average Annual Growth Rate (%)		
	1990	1995	2000	2005	1991-1995	1996-2000	2001-2005
More Developed States	10,007.1	11,490.0	13,177.4	14,893.0	2.8	2.8	2.5
Johor	2,121.3	2,422.0	2,721.9	3,020.0	2.7	2.4	2.1
Melaka	531.6	600.0	634.1	681.0	2.5	1.1	1.4
Negeri Sembilan	713.7	804.0	858.9	907.7	2.4	1.3	1.1
Perak	1,980.6	2,036.0	2,109.7	2,182.0	0.6	0.7	0.7
Pulau Pinang	1,114.5	1,179.0	1,307.6	1,452.2	1.1	2.1	2.1
Selangor ²	2,331.4	3,210.0	4,175.0	5,069.0	6.6	5.4	4.0
Wilayah Persekutuan Kuala Lumpur	1,214.0	1,239.0	1,370.3	1,581.0	0.4	2.0	2.9
Less Developed States	8,094.9	9,194.0	10,088.7	11,143.3	2.6	1.9	2.0
Kedah	1,357.8	1,501.0	1,652.0	1,791.4	2.0	1.9	1.6
Kelantan	1,184.4	1,286.0	1,314.9	1,348.0	1.7	0.5	0.5
Pahang	1,058.2	1,200.0	1,290.0	1,365.1	2.6	1.5	1.1
Perlis	187.2	197.0	204.5	213.2	1.0	0.8	0.8
Sabah ³	1,817.6	2,267.0	2,656.4	3,112.5	4.5	3.2	3.2
Sarawak	1,699.5	1,908.0	2,071.8	2,300.1	2.3	1.7	2.1
Terengganu	790.1	835.0	899.0	1,013.0	1.1	1.5	2.4
Malaysia	18,102.0	20,684.0	23,266.0	26,036.2	2.7	2.4	2.3

Notes:

¹ Population data refers to mid-year population.

² Includes Wilayah Persekutuan Putrajaya.

³ Includes Wilayah Persekutuan Labuan.

5.06 At the end of the Plan period, the population of the less developed states accounted for 43.4 per cent of the total population, with Sabah and Sarawak having a population of more than two million. The States of Kelantan and Perlis recorded rates of growth lower than 1.0 per cent due to the low rate of natural increase and a high rate of out-migration. Overall, the population density of the less developed states grew from 33.8 persons per square kilometre in 1995 to 37.1 persons per square kilometre in 2000.

Employment

5.07 During the Plan period, employment grew at 3.0 per cent per annum due to the moderate expansion in the manufacturing and services sectors in the various states, as shown in *Table 5-2*. Total employment increased from 8.0 million in 1995 to 9.3 million in 2000. Of the 1.3 million new jobs created, about 28 per cent was generated by the manufacturing sector and 48 per cent from the services sector.

5.08 Total employment in the more developed states expanded from 4.7 million in 1995 to 5.3 million in 2000 averaging 2.6 per cent per annum. The State of Pulau Pinang recorded the highest growth rate of 3.7 per cent, followed by Selangor 3.3 per cent and Johor 2.8 per cent per annum.

5.09 Employment opportunities in the less developed states increased from 3.3 million in 1995 to 4.0 million in 2000. The average growth rate of 3.6 per cent per annum was higher than that recorded in the more developed states. Sabah recorded the highest average annual growth rate of 9.3 per cent, followed by Kedah 2.8 per cent and Pahang 2.4 per cent per annum.

Labour Force

5.10 The overall labour force increased from 8.3 million in 1995 to 9.6 million in 2000 at an average rate of 3.0 per cent per annum. There was an increase of 1.3 million persons in the labour market during the Plan period. During the same period, the unemployment rate remained at 3.1 per cent. An educational profile analysis of the labour force showed an improvement with more than half attaining secondary and tertiary education.

TABLE 5-2
LABOUR FORCE, EMPLOYMENT AND UNEMPLOYMENT BY STATE, 1995-2005
('000)

State	1995			2000			2005			Average Annual Growth Rate (%)		
	Labour Force	Employment	Unemployment Rate (%)	Labour Force	Employment	Unemployment Rate (%)	Labour Force	Employment	Unemployment Rate (%)	7MP	Labour Employment Force	8MP
More Developed States												
Johor	4,774.8	4,664.6	2.3	5,429.0	5,300.7	2.4	6,307.8	6,183.1	2.0	2.6	2.6	3.0
Kedah	957.3	933.1	2.5	1,096.7	1,071.5	2.3	1,285.7	1,258.6	2.1	2.8	2.8	3.3
Melaka	238.3	233.1	2.2	249.0	244.0	2.0	264.2	258.8	2.0	0.9	0.9	1.2
Negeri Sembilan	319.6	309.9	3.0	337.0	326.0	3.3	369.9	360.9	2.4	1.1	1.0	1.9
Perak	690.1	663.7	3.8	763.8	737.3	3.5	857.2	831.2	3.0	2.1	2.1	2.3
Pulau Pinang	515.2	508.3	1.3	621.2	610.8	1.7	753.8	742.1	1.6	3.8	3.7	3.9
Selangor ¹	1,428.5	1,400.9	1.9	1,676.8	1,644.2	1.9	2,019.6	1,984.9	1.7	3.3	3.3	3.8
Wilayah Persekutuan Kuala Lumpur	625.8	615.6	1.6	684.6	666.8	2.6	757.4	746.6	1.4	1.8	1.6	2.0
Less Developed States												
Kedah	3,479.2	3,334.6	4.2	4,143.5	3,970.5	4.2	4,854.1	4,675.8	3.7	3.6	3.6	3.2
Kelantan	556.0	545.2	1.9	644.1	626.5	2.7	742.1	722.9	2.6	3.0	2.8	2.9
Pahang	447.2	431.8	3.4	419.8	405.6	3.4	434.5	420.9	3.1	-1.3	-1.2	0.7
Perlis	402.7	388.6	3.5	449.9	437.2	2.8	506.1	492.3	2.7	2.2	2.4	2.4
Selangor ²	75.1	74.1	1.3	77.8	76.3	1.9	82.2	80.6	1.9	0.7	0.6	1.1
Sarawak	833.8	788.7	5.4	1,304.1	1,230.5	5.6	1,679.1	1,595.8	5.0	9.4	9.3	5.2
Terengganu	866.5	825.7	4.7	943.0	899.8	4.6	1,092.0	1,054.5	3.4	1.7	1.7	3.0
Malaysia	8,254.0	7,999.2	3.1	9,572.5	9,271.2	3.1	11,161.9	10,858.9	2.7	3.0	3.0	3.1

Notes:
¹ Includes Wilayah Persekutuan Putrajaya.
² Includes Wilayah Persekutuan Labuan.

5.11 In the more developed states, labour force increased from 4.8 million in 1995 to 5.4 million in 2000. The average rate of increase of the labour force at 2.6 per cent per annum was lower than the national average of 3.0 per cent per annum. The unemployment rate of the more developed states increased from 2.3 per cent in 1995 to 2.4 per cent in 2000. The labour force in the less developed states increased from 3.5 million in 1995 to 4.1 million in 2000 at an average annual growth rate of 3.6 per cent. The level of unemployment in the less developed states was 4.2 per cent in 1995 and it remained the same in 2000. The high rate of unemployment in the less developed states was due to the insufficient number of jobs created as a result of less manufacturing projects implemented relative to the more developed states.

State Economic Activities

5.12 During the Seventh Plan period, four states namely Selangor, Pulau Pinang, Johor and Kedah recorded Gross Domestic Product (GDP) growth rates that were higher than the national average of 4.7 per cent per annum. The major sources of growth in these states were from the manufacturing and services sectors. The per capita GDP in all states increased steadily during the Plan period, as shown in *Table 5-3*.

Per Capita Gross Domestic Product

5.13 The national average growth of per capita GDP was 6.3 per cent during the Plan period. The more developed states recorded an average growth of 6.1 per cent and the per capita GDP increased from RM12,940 in 1995 to RM17,410 in 2000. Wilayah Persekutuan Kuala Lumpur recorded the highest per capita GDP of RM30,727 in 2000, more than double that of the national average of RM14,584. Other more developed states with per capita GDP higher than the national average were Pulau Pinang, Selangor and Melaka.

5.14 The average per capita GDP of the less developed states increased from RM8,027 in 1995 to RM10,893 in 2000. However, in terms of average annual growth of per capita GDP, the less developed states registered 6.3 per cent, which was higher than that of the more developed states. This indicates that the income gap between the more developed and less developed states was narrowing. Overall, the significant growth of the less developed states was mainly due to the contribution of the manufacturing and services sectors and the favourable performance of the palm oil and food subsector. The State of Terengganu achieved

TABLE 5-3

GROSS DOMESTIC PRODUCT BY STATE, 1995-2005
(in 1987 prices)

State	GDP at Purchaser's Value				Per Capita GDP				Ratio of Per Capita GDP to Malaysian Average				
	RM million			Average Annual Growth Rate (%)	RM			Average Annual Growth Rate (%)					
	1995	2000	2005		1995	2000	2005	7MP	8MP	1995	2000	2005	
More Developed States	111,353	141,492	203,545	4.9	7.5	12,940	17,410	22,777	6.1	5.5	1.20	1.19	1.19
Johor	18,153	23,425	33,950	5.2	7.7	10,007	13,954	18,733	6.9	6.1	0.93	0.96	0.98
Melaka	5,080	6,148	8,743	3.9	7.3	11,305	15,723	21,410	6.8	6.4	1.05	1.08	1.12
Negeri Sembilan	5,440	6,776	9,562	4.5	7.1	9,034	12,791	17,555	7.2	6.5	0.84	0.88	0.91
Perak	14,166	17,153	24,371	3.9	7.3	9,290	13,183	18,616	7.3	7.1	0.86	0.90	0.97
Pulau Pinang	13,293	17,314	24,904	5.4	7.5	15,054	21,469	28,581	7.4	5.9	1.40	1.47	1.49
Selangor ¹	34,063	44,708	64,743	5.6	7.7	14,168	17,363	21,286	4.2	4.2	1.32	1.19	1.11
Wilayah Persekutuan Kuala Lumpur	21,157	25,968	37,272	4.2	7.5	22,799	30,727	39,283	6.1	5.0	2.12	2.11	2.05
Less Developed States	55,272	67,777	96,240	4.2	7.3	8,027	10,893	14,394	6.3	5.7	0.75	0.75	0.75
Kedah	7,185	9,087	13,041	4.8	7.5	6,391	8,918	12,132	6.9	6.3	0.59	0.61	0.63
Kelantan	4,319	5,061	6,987	3.2	6.7	4,484	6,241	8,638	6.8	6.7	0.42	0.43	0.45
Pahang	6,784	8,250	11,917	4.0	7.6	7,548	10,370	14,549	6.6	7.0	0.70	0.71	0.76
Perlis	1,126	1,362	1,940	3.9	7.3	7,634	10,802	15,166	7.2	7.0	0.71	0.74	0.79
Sabah ²	12,235	14,947	21,148	4.1	7.2	7,206	9,123	11,323	4.8	4.4	0.67	0.63	0.59
Sarawak	13,271	16,323	23,270	4.2	7.3	9,287	12,755	16,861	6.6	5.7	0.86	0.88	0.88
Terengganu	10,352	12,746	17,937	4.2	7.1	16,553	22,994	29,516	6.8	5.1	1.54	1.58	1.54
Malaysia	166,625	209,269	299,785	4.7	7.5	10,756	14,584	19,189	6.3	5.6	1.00	1.00	1.00

Notes:

¹ Includes Wilayah Persekutuan Putrajaya.² Includes Wilayah Persekutuan Labuan.

a per capita GDP above the national average due to the increase in oil and gas activities. However, the state was classified as less developed due to the low scores achieved on the composite index of development.

Structure of the State Economies

5.15 The Seventh Plan period witnessed a shift in the structure of the state economies. The less developed states, whose economic mainstay was agriculture and mining, recorded GDP growth rates of between 3.0 to 5.0 per cent per annum due to growth of the manufacturing and services sectors. The contribution of the manufacturing sector improved, particularly in the States of Pahang, Terengganu, Sabah and Sarawak due to the growth of the wood and wood-based, agro-based and petro-chemical industries, while in Kedah it was spearheaded by the electrical and electronic industries. The contribution of the services sector increased mainly in wholesale and retail trade, hotels and restaurants subsector for all the less developed states. The share of the mining sector to GDP for the States of Sabah, Sarawak and Terengganu reduced during the Plan period, while the contribution of the manufacturing and the services sectors increased.

Agriculture

5.16 The agriculture sector recorded a growth of 1.2 per cent per annum during the Plan period. The share of this sector to the national GDP declined from 10.3 per cent in 1995 to 8.7 per cent in 2000. However, agriculture remained an important sector for the less developed states. For the States of Kedah, Kelantan, Pahang and Sabah, agriculture contributed more than 15 per cent to the state GDP. The contribution of the agriculture sector was highest in Sabah with 24.5 per cent share to GDP followed by Pahang 21.3 per cent and Kedah 18.8 per cent. This was mainly due to the increase in the production of palm oil, logs and forest products and other agriculture products such as livestock and fisheries. Among the more developed states, agriculture contributed 16.2 per cent and 12.2 per cent to the state GDP of Perak and Johor, respectively.

Mining

5.17 The mining sector grew at an average rate of 0.4 per cent per annum mainly due to the growth of crude oil and natural gas production which accounted for 98 per cent of the total value added. The sector's contribution to total GDP declined from 8.2 per cent in 1995 to 6.6 per cent in 2000. For the States of

Terengganu, Sabah and Sarawak, the mining sector recorded double digit contribution to the state GDP, mainly due to crude oil and natural gas production. The mining sector continued to be the prominent sector in Terengganu as its contribution to the state GDP value-added was 54.8 per cent in 2000.

Manufacturing

5.18 The manufacturing sector registered a growth rate of 9.1 per cent per annum during the Plan period. Contribution of the manufacturing sector to the GDP increased from 27.1 per cent in 1995 to 33.4 per cent in 2000. A total of 3,908 manufacturing projects was approved with proposed capital investment of RM137 billion during the Plan period, as shown in *Table 5-4*. Of these projects, 62 per cent were in the States of Selangor, Johor and Pulau Pinang.

TABLE 5-4
APPROVED MANUFACTURING PROJECTS BY STATE,
1996-2000

<i>State</i>	<i>Number of Projects</i>	<i>Potential Employment</i>	<i>Potential Investment (RM million)</i>
More Developed States	3,109	299,161	79,862.2
Johor	857	76,253	19,775.2
Melaka	164	24,700	6,750.2
Negeri Sembilan	165	13,775	6,200.1
Perak	259	29,508	6,283.4
Pulau Pinang	519	62,625	16,592.6
Selangor ¹	1,051	87,017	23,479.5
Wilayah Persekutuan Kuala Lumpur	97	5,283	853.6
Less Developed States	796	108,261	44,845.2
Kedah	233	34,393	12,214.6
Kelantan	44	4,143	543.1
Pahang	116	13,248	10,405.7
Perlis	13	1,372	1,575.0
Sabah ²	130	16,111	3,757.4
Sarawak	181	30,166	15,338.9
Terengganu	79	8,828	13,225.1
Malaysia	3,908	407,422	136,994.4

Notes:

¹ Includes Wilayah Persekutuan Putrajaya.

² Includes Wilayah Persekutuan Labuan.

5.19 The average growth of the manufacturing sector in the more developed states was 9.0 per cent per annum as the availability of good infrastructure in these states continued to make them attractive destination for investments. In the manufacturing sector, the highest growth of 10.1 per cent per annum was achieved by Perak followed by Selangor 9.8 per cent and Pulau Pinang 9.6 per cent. The average annual growth rate of the manufacturing sector in the less developed states was higher than the national average at 9.4 per cent. Among the less developed states, Kedah, Pahang, Terengganu, Sabah and Sarawak had an average annual growth rate of more than 8.0 per cent. The manufacturing projects implemented in the States of Pahang, Sabah, Sarawak and Terengganu were mainly related to the petro-chemical and gas industries, electrical and electronic, and wood-based industries. This increase in investments was due to the efforts by the Government in the dispersal of industries to the Eastern Corridor and the principal growth areas in Sabah and Sarawak.

Construction

5.20 The construction sector which grew at an average rate of 13.4 per cent per annum in the period of 1996-97, recorded negative growth for the period 1998-2000 resulting in an overall negative growth of 1.1 per cent per annum during the Plan period. For the more developed states, the construction sector registered negative average growth of 1.4 per cent due to the deferment of major infrastructure projects as well as residential and commercial properties. The construction sector in the less developed states recorded negative average growth rate of 0.6 per cent per annum. However, three states had positive growth, namely Pahang 2.0 per cent, Sabah 0.4 per cent and Terengganu 0.2 per cent.

Services

5.21 The services sector grew at an average rate of 5.2 per cent per annum during the Plan period. The economic slowdown dampened its growth because the wholesale and retail trade, hotels and restaurants as well as the transport subsectors were affected by the decline in income and the contraction of the construction industry. However, the positive performance of the electricity, communications and the financial, insurance, real estate and business services subsectors moderated the negative effect. Although the average share of the services sector in the more developed states declined from 55 per cent in 1995 to 54.4 per cent in 2000, it was still higher than the national average of 52.4 per cent. The average share of the services sector in the less developed states increased from 43.5 per cent in 1995 to 48.3 per cent in 2000.

household income in all states

<i>Average Annual Growth Rate (%)</i>	<i>Incidence of Poverty (%)</i>	
1995-99	1995	1999
5.7	4.2	3.9
5.5	3.1	2.5
5.2	5.3	5.7
7.2	4.9	2.5
5.0	9.1	9.5
8.9	4.0	2.7
4.0	2.2	2.0
5.0	0.5	2.3
4.8	15.6	13.2
5.6	12.2	13.5
4.8	22.9	18.7
0.8	6.8	5.5
5.4	11.8	13.3
3.7	22.4	20.1
4.8	10.0	6.7
9.4	23.4	14.9
5.2	8.7	7.5

5.23 The mean monthly household income of the more developed states increased from RM2,277 in 1995 to RM2,846 in 1999, at an average rate of 5.7 per cent per annum. The mean monthly household income of the less developed states increased from RM1,376 in 1995 to RM1,660 in 1999, at an average rate of 4.8 per cent. Apart from the expansion of job opportunities in the secondary and tertiary sectors, the higher prices for commodities, especially palm oil contributed to an increase in rural household income in the less developed states.

5.24 With improvements in the household income levels, *the incidence of poverty* declined from 8.7 per cent in 1995 to 7.5 per cent in 1999. The incidence of poverty of the more developed states declined slightly from 4.2 per cent in 1995 to 3.9 per cent in 1999. The incidence of poverty in the less developed states dropped from 15.6 per cent in 1995 to 13.2 per cent in 1999, with Terengganu witnessing the most significant decline from 23.4 per cent in 1995 to 14.9 per cent in 1999.

5.25 The overall improvement in the economic development of the states was also reflected in the rise in living standards and quality of life, as shown in *Table 5-6*. All states registered significant improvement in living standards and quality of life, as reflected in the socio-economic indicators such as infant mortality rates, doctor per 10,000 population and motor vehicle ownership. More than 92 per cent of the population received piped water in all states except, Kelantan and Sabah. In the case of electricity supply, all states in Peninsular Malaysia had 100 per cent coverage in 2000 while Sarawak and Sabah had 80 per cent and 79 per cent respectively.

Urban Development

5.26 The level of urbanization increased from 55.1 per cent in 1995 to 61.8 per cent in 2000, as shown in *Table 5-7*. For the year 2000, the urbanization rate in the more developed states, ranged from 55 per cent to 100 per cent. Wilayah Persekutuan Kuala Lumpur was 100 per cent urban, followed by Selangor 88.3 per cent and Pulau Pinang 79.5 per cent. The rate of urbanization in the less developed states ranged between 33 per cent to 50 per cent. Among the less developed states, Terengganu recorded the highest urbanization rate of 49.4 per cent followed by Sabah 49.1 per cent.

5.27 Due to an expansion in urban economic activities, the incidence of urban poverty declined from 3.6 per cent in 1995 to 3.4 per cent in 1999. The urban population also earned higher incomes, with the mean monthly income of the

TABLE 5-7
URBANIZATION RATE BY STATE, 1995, 2000 AND 2005

State	Urbanization Rate (%)			Average Annual Growth Rate of Urban Population (%)	
	1995	2000	2005	7MP	8MP
More Developed States	66.5	73.4	77.7	4.9	3.8
Johor	54.4	63.9	69.1	5.7	3.8
Melaka	49.5	67.3	75.3	7.5	3.2
Negeri Sembilan	47.3	55.0	58.2	4.4	2.3
Perak	56.2	59.5	65.3	1.9	3.0
Pulau Pinang	77.0	79.5	83.3	2.7	3.1
Selangor ¹	80.8	88.3	92.7	7.3	5.0
Wilayah Persekutuan Kuala Lumpur	100.0	100.0	100.0	2.0	2.2
Less Developed States	37.4	42.1	45.9	4.7	3.9
Kedah	35.1	38.7	43.3	3.9	3.9
Kelantan	33.5	33.5	36.7	0.5	2.8
Pahang	35.0	42.1	44.0	5.2	2.2
Perlis	29.6	33.8	38.9	3.5	3.7
Sabah ²	39.8	49.1	53.2	7.7	4.9
Sarawak	41.8	47.9	54.6	4.4	4.8
Terengganu	46.6	49.4	50.1	2.7	1.6
Malaysia	55.1	61.8	66.9	4.8	3.8

Notes:

¹ Includes Wilayah Persekutuan Putrajaya.

² Includes Wilayah Persekutuan Labuan.

top 20 per cent increasing from RM6,474 in 1995 to RM7,580 in 1999. The bottom 40 per cent of the urban population enjoyed an increase in their mean monthly income, from RM942 in 1995 to RM1,155 in 1999.

5.28 With increasing urbanization, there was a need for more systematic planning, efficient administration and better delivery of services from local authorities. The emphasis in urban development was to ensure that the urbanization process was planned and implemented systematically to improve the quality of life and contribute towards economic growth. In this regard, the dispersal of urban development was undertaken as an important strategy to reduce pressures on major urban centres such as the relocation of the Federal Government Administrative Centre from Kuala Lumpur to Putrajaya and the development of Cyberjaya.

5.29 The construction and upgrading of roads and expressways such as North-South Highway (PLUS), North-Klang Valley Expressway (NKVE) and Damansara-Puchong Highway (LDP) further led to the establishment of townships such as Nilai and Bandar Baru Klang, as well as the creation of new townships such as Bukit Beruntung and Bandar Bukit Puchong. The Government also promoted the development of special feature and border towns such as Padang Besar and Bukit Kayu Hitam; historical and heritage towns, such as Melaka and Taiping; resort towns such as Port Dickson and Kuah in Langkawi; and specialized industrial towns such as Kulim and Kertih. In addition, the construction of business premises by various agencies such as UDA Holdings Berhad, *Majlis Amanah Rakyat (MARA)*, State Economic Development Corporations (SEDCs) and local authorities, provided more economic opportunities in the urban areas.

5.30 Measures were undertaken to improve planning and implementation of projects to address urban related issues such as flash floods, squatter settlements, traffic congestion, vector-borne diseases as well as air and water pollution. A total of RM779 million was spent for urban flood mitigation programmes, while a total of 34,148 low cost houses was in various stages of implementation in Kuala Lumpur under the *Program Perumahan Rakyat Bersepadu*. In addition, a total of 17,630 housing units was identified for implementation in other major towns. To alleviate traffic congestion, particularly in the Klang Valley, various measures were undertaken such as the creation of bus lanes, park-and-ride facilities, feeder bus services and Light Rail Transit (LRT). The Healthy Cities Initiative (HCI), introduced in Kuching and Johor Bahru in 1994, was expanded to include more cities and towns. The HCI focused on improving the physical and social environment and expanding the resources of communities in realizing their potentials. By 2000, a total of 15 cities and towns participated in the HCI project.

5.31 The Government launched the Local Agenda 21 programme in 1999 to strengthen sustainable development activities at the local level by involving local authorities, local communities and other community-based organizations. The pilot project was implemented in four local authorities, namely Petaling Jaya, Krian, Kuantan and Miri. In addition, a Sustainable Urban Development Project was launched in 1999 in Kuching and Kota Kinabalu, to improve the management of wastes, land use and natural resources.

5.32 With increasing urbanization, there were higher expectations in terms of service delivery. To improve the management and enforcement capabilities of local authorities, a total of 11 District and Municipal Councils was upgraded and

699 additional posts were approved during the Plan period. Kota Kinabalu and Shah Alam were proclaimed as cities and the district councils of Ampang Jaya, Selayang, Subang Jaya, Kajang, Johor Bahru Tengah, Maharani, Penggaram, Temerloh and Kluang were upgraded to municipal councils.

Rural Development

5.33 During the Plan period, continued efforts were undertaken to eradicate poverty and to create a resilient rural community motivated towards bringing about greater development. The New Philosophy of Rural Development (NPRD) implemented in 1996, accelerated the transformation process of the rural areas into modern, well developed and attractive environment. This philosophy emphasized both human and physical development as well as provided a stronger framework for rural development. In the area of village development, the *Gerakan Desa Wawasan* programme was implemented to encourage active participation of the *Jawatankuasa Keselamatan dan Kemajuan Kampung* (JKKK) and village leadership in planning, organizing and proposing village development projects. This programme benefited 2,168 villages. In addition, the Government continued to provide modern social and infrastructure amenities under various development programmes such as rural roads as well as water and electricity supply.

5.34 In terms of access to infrastructure and social amenities, 100 per cent of rural areas in Peninsular Malaysia had access to electricity supply, while Sarawak and Sabah had 80 per cent and 79 per cent, respectively. The construction and upgrading of rural roads enabled the rural population to participate in socio-economic development as well as improved accessibility to urban centres and modern services. In this regard, a total of 3,214 kilometres of new rural roads was constructed and 49,000 kilometres of roads were upgraded. Efforts were undertaken to reduce the performance gap in education between rural and urban schools, such as the upgrading of learning facilities and the provision of trained teachers to rural schools. In this respect, a total of 7,520 science laboratories was constructed and 7,230 trained Mathematics and Science teachers were deployed to rural schools. Residential facilities were built benefiting 12,130 students including *Orang Asli* students. Efforts were also undertaken to improve the coverage of basic health services for rural areas and remote parts of the country, through the implementation of 172 new primary health clinic projects and upgrading and refurbishing of 304 existing clinics.

5.35 The rural institution JKKK was strengthened to enhance their planning and implementing capacities. The Institute for Rural Advancement (INFRA) was established in 1996 in Bangi and a total of 9,321 rural leaders was trained in

the preparation of village master plans, project planning and management as well as organizational and leadership skills.

5.36 Measures were undertaken to improve the welfare and economic well-being of the *Orang Asli* to bring them into the mainstream of economic development. Under *Rancangan Pengumpulan Semula* (RPS), *Orang Asli* communities in the hinterland were resettled into new areas where basic infrastructure, housing and social amenities were provided. A total of 3,350 households was resettled in various RPS and 9,939 hectares of land developed by Rubber Industry Smallholder Development Authority (RISDA) and Federal Land Consolidation and Rehabilitation Authority (FELCRA). The Farmers Organization Authority involved 36 families in vegetable farming using modern technology covering an area of 20 hectares in the RPS Terisu, Cameron Highlands. The *Orang Asli* were also provided training in automotive repair and maintenance, building and construction as well as entrepreneurship development in *Orang Asli* training centres at Paya Bungor, Pahang and Bukit Lanjan, Selangor. During the Plan period, a total of 2,038 *Orang Asli* youths benefited from courses in various skill training institutes.

5.37 Overall, the concerted and coordinated efforts by various agencies created income-generating activities for the rural population such as cottage and handicraft industries, agro-based food processing industries and tourism projects. As a result, the mean monthly gross income of rural households increased from RM1,326 in 1995 to RM1,718 in 1999. The increase in household income contributed to a reduction in income disparity ratio between urban and rural households from 1:1.95 in 1995 to 1:1.81 in 1999. In addition, the incidence of rural poverty was reduced from 14.9 per cent in 1995 to 12.4 per cent in 1999. Higher income, better infrastructure and the provision of quality social amenities contributed towards improving the quality of life of the rural communities.

Growth Triangles Cooperation

5.38 At the ASEAN level, closer cooperation between neighbouring countries was fostered through the Growth Triangles, namely, the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT), the Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA), and the Indonesia-Malaysia-Singapore Growth Triangle (IMS-GT). Joint-venture projects in the Growth Triangles stimulated economic growth in the participating states of Malaysia. The private sector took a leading role in the development of joint-venture projects while the Governments of the participating countries facilitated their efforts.

5.39 Since the establishment of the three Growth Triangles, several-joint venture projects were implemented involving Malaysian companies. These projects were in the infrastructure sector including telecommunications, construction of factory buildings and fabrication of building materials. Among the agriculture projects implemented were oil palm plantation and the processing of marine products, fruits and other food products, while transportation services projects were related to air links and ferry services. In the tourism sector, projects were in eco-tourism development and hospitality training. In addition, joint-venture projects in human resource development included training and skill development in health services as well as the establishment of a university data information exchange among universities in the region.

III. PROSPECTS, 2001-2005

5.40 The Eighth Malaysia Plan will place greater emphasis on ensuring balanced regional development by further diversifying the economic base of the less developed states and developing knowledge-based activities to generate more job opportunities and higher incomes. In addition, economic activities based on the economic strengths of the states will be developed to ensure greater efficiency in resource utilization, thereby contributing to the development of sustainable and resilient state economies. Inter-state cooperation and resource-sharing in joint projects will also be encouraged to improve the quality of life in urban and rural areas. Cooperation in the Growth Triangles will aim at maximizing the economic benefits and complementarities within the areas.

Population Growth and Employment by State

5.41 *Population* growth trends in the various states will not be expected to change significantly during the Eighth Plan period, as shown in *Table 5-1*. Four states are expected to record growth rates higher than the national average of 2.3 per cent per annum. The State of Selangor is expected to register the highest growth rate at 4.0 per cent per annum. The population growth of Perak, Perlis and Kelantan are expected to increase moderately, below 1.0 per cent per annum due to their low rates of natural increase as well as out-migration.

5.42 The *urbanization* rate is expected to increase to 66.9 per cent by the end of Eighth Plan. The urban population is estimated to grow at a slower rate of 3.8 per cent per annum during the period. The more developed states are expected

to attract more people to the urban centres due to acceleration in economic activities, greater job opportunities and a better quality of life. Among the more developed states, Selangor is expected to record the highest growth in urban population at 5.0 per cent per annum, followed by Johor 3.8 per cent. Urban population growth in three less developed states is expected to be slightly higher than the national average, with Sabah at 4.9 per cent per annum, followed by Sarawak at 4.8 per cent and Kedah at 3.9 per cent.

5.43 *Employment* is expected to grow at an average rate of 3.3 per cent per annum in the less developed states and 3.1 per cent per annum in the more developed states. Among the less developed states, Sabah and Sarawak are expected to register a high growth in employment, arising from the expansion of downstream activities in the petroleum, agro-based and wood and wood-based industries.

State Economic Growth

5.44 Economic growth in all states is expected to remain high during the Eighth Plan period. The less developed states are projected to grow at an average rate of 7.3 per cent per annum, compared with 4.2 per cent per annum during the Seventh Plan period. The resource-based manufacturing sector as well as the wholesale and retail trade, hotels and restaurants subsector, will be the main contributors to growth in the less developed states of Kedah, Sabah, Sarawak and Terengganu. In addition, the Eastern Corridor development strategy will be further strengthened and enhanced to stimulate development.

5.45 The economic structure of the less developed states is expected to undergo a further shift towards the secondary and tertiary sectors. The contribution of these two sectors to the economies of the less developed states is projected to increase from 56.7 per cent in 2000 to 65.6 per cent by 2005. This shift in the economic structure will be significant in Terengganu, Kedah, Sabah and Sarawak, with the total value-added contribution of the manufacturing sector expected to increase from 15.4 per cent in 2000 to 28.5 per cent by 2005. The strong growth of the manufacturing sector in Terengganu will come from the iron and steel and petro-chemical industries, while in Kedah the contribution will be from the continued growth of electrical and electronic industries. The wood and wood-based, electrical and electronic and petroleum related industries are expected to be the main contributors to growth in Sabah and Sarawak.

5.46 Economic growth in the more developed states will remain high at an average rate of 7.5 per cent per annum during the Plan period. The manufacturing and services sectors will contribute significantly towards the expansion of economic activities and continue to provide the main impetus for economic growth. Wilayah Persekutuan Kuala Lumpur is projected to grow at a rate of 7.5 per cent per annum, with the finance, insurance, real estate and business services subsector contributing more than two-thirds of its economic growth.

Strategies for Balanced Regional Development

5.47 During the Eighth Plan period, the main thrusts for regional development will be as follows:

- ❑ *diversifying the economic structure of the less developed states;*
- ❑ *improving the quality of urban services;*
- ❑ *accelerating development in rural areas; and*
- ❑ *promoting Growth Triangles cooperation.*

Diversifying Economic Structure of the Less Developed States

5.48 Regional development strategies will be directed at diversifying the economic base of the less developed states. The manufacturing base of these states will be broadened, through the development of resource-based industries and additional economic activities based on the economic strengths of the states. In this regard, most of the states have identified suitable areas for manufacturing activities, such as Kulim in Kedah, Kuching in Sarawak and Kota Kinabalu in Sabah. In addition, industrial areas such as Gebeng, Pahang; Bintulu, Sarawak; and Kertih, Terengganu have been designated for petro-chemical industries. Supporting cluster industries will be encouraged to locate in the less developed states to take advantage of the relatively lower cost of doing business. To ensure that this strategy is implemented, the necessary infrastructure and facilities including telecommunications will be provided.

5.49 In agriculture, the emphasis will be to increase food production through the promotion of large- and medium-scale commercial ventures, enhancement of productivity and improvement of farm management. In this regard, states are encouraged to designate permanent food production areas for suitable crops based on crop-zoning guidelines. Efforts will also be made to encourage greater private sector participation in the production of food crops, especially crops with

high economic returns. To improve the income of poor households, new sources of supplementary income will be identified, such as from small-scale agro-based activities and processing of non-timber forest resources.

5.50 Efforts will be directed at identifying and developing new tourism products and upgrading the tourism infrastructure, particularly in the less developed states. The focus will be on developing eco-tourism and agro-tourism activities and re-packaging of current products to capture niche markets. Some of these products are Taman Negara in Pahang, Kinabalu Park in Sabah and Mulu and Niah caves in Sarawak.

5.51 The coverage of and accessibility to various social facilities and basic amenities, such as health, education, telecommunications as well as piped water and electricity, particularly in the less developed states, will be expanded to improve the standard of living and the quality of life of the people. At the same time, inter-state cooperation and resource sharing in joint cross border projects such as roads, highways, and technology parks will be promoted to optimize the utilization of resources.

Improving the Quality of Urban Services

5.52 The development strategies will continue to emphasize the improvement of the quality of urban services. This is to ensure that the urban areas are more livable, with its citizens enjoying a higher quality of life. Migration from the rural sector to areas within and the outskirts of urban centres has created pockets of urban poverty. Appropriate measures will be instituted to alleviate the situation. This will include proper urban planning and the provision of adequate public amenities such as open spaces for children, kindergartens, and community halls, together with programmes aimed at raising civic consciousness. The urban areas will be developed through the efficient management of resources such as land, social infrastructure and human resources. In this regard, an urban policy will be introduced which will emphasize a total planning concept in order to attain balanced and sustainable development, economically, socially, spiritually and environmentally. Under this policy, the urban areas will be evaluated in terms of size, roles, functions, population targets as well as human settlement planning and development. In addition, the spatial distribution and growth of existing and future urban areas will also be examined and improved. In medium- and small-sized towns, the development of essential facilities such as housing, schools, community facilities and commercial premises will be given priority to create a livable and attractive business environment.

5.53 Efforts will be carried out to encourage greater community participation in managing, improving and resolving urban environmental issues together with the local authorities. In this regard, local authorities will provide better human settlement facilities and improve the quality of life, in line with the Habitat Agenda and Local Agenda 21. The use of Information and Communications Technology (ICT), training of personnel, sharing of best practices and international networking will further enhance the effectiveness and efficiency of local authorities.

5.54 To ensure that the local authorities are able to face new challenges and cope with the expansion of urban areas, the institutional capacity including the implementation of planning guidelines and enforcement, will be further improved and upgraded. In this regard, there is a need to review and streamline rules, regulations and procedures. In addition, the National Spatial Plan will provide the necessary management tool for effective and efficient urban development.

Accelerating Development in Rural Areas

5.55 The focus of rural development programmes will be to create a conducive environment for investments and countryside living with the provision of quality infrastructure and social services. In this regard, the existing infrastructure facilities including telecommunications will be improved and upgraded. Infrastructure and social amenities will be extended to remote areas and fragmented estates. Rural communities will be regrouped into small townships to facilitate the provision of such facilities. Emphasis will also be given to increase the coverage of water and electricity supply through alternative means, particularly to the rural areas of Sabah and Sarawak. To ensure that the programmes will be implemented effectively, development policies and strategies of the agencies involved in rural development will be further integrated and coordinated. In this respect, development programmes of the Regional Development Authorities (RDAs) will be improved, consolidated and streamlined towards increasing the standard of living of the rural population. The major focus of rural development activities will be to provide better housing, promote development of rural tourism and increase training and income-generating opportunities for rural youths including those in land development schemes. The Government will encourage the development of specialized small-scale industries in the rural areas. Development of small-scale industries, such as handicrafts and resource-based, will be undertaken in areas where local resources are available. In this regard, simple technologies will be promoted at reasonable cost to support such industries. In addition, emphasis will be placed on the provision of necessary training to rural population

in the handicraft and agro-based industrial technologies as well as the usage of ICT applications for planning and information, linking urban distribution centres and identifying markets for rural products.

5.56 The socio-economic transformation of the *Orang Asli* communities will be expedited through an integrated programme that covers both physical and human development. The provision of basic infrastructure, housing, social services and amenities will be continued, particularly through the RPS. New measures will be undertaken to modernize and increase the income of *Orang Asli* households through organized land development programmes with the cooperation of state governments. In addition, the education and skill training of the *Orang Asli* will be intensified to expedite their assimilation into the mainstream of development. This is to enable the communities to participate in new areas of economic activities such as eco-tourism and agro-tourism, processing of herbal medicine and the production of bamboo and rattan-based products.

Promoting Growth Triangles Cooperation

5.57 A new approach focusing on core economic activities will be introduced to enhance Growth Triangles cooperation. Strategies to harness the economic complementarities of the Growth Triangles to promote the efficient utilization of resources and attract domestic and foreign investments will be continued. Emphasis will be given to facilitate cross border activities and improve infrastructure links to promote easier trade and business interactions.

5.58 Several Growth Triangle projects that were deferred due to the economic downturn will be revived. The Common Border Wholesale Markets in Kedah and Perlis, and Welcome Plazas in Sabah and Sarawak will be strengthened as the core activities of the region. In addition, the Seamless Songkhla-Penang-Medan Economic Corridor, comprising six component projects of the Landbridge, Common Border Wholesale Markets, Telecommunications, Tourism, Hinterland Development and Human Resource Development, will be implemented as focus areas, to further facilitate and expand trade and commerce in the IMT-GT. This will involve the necessary facilitation, particularly the standardization and harmonization of customs and immigration rules and procedures, while the private sector will be encouraged to initiate trade and business ventures within the core activities. In the BIMP-EAGA, the construction of the Pan-Borneo Multi-Modal Highway Project will be continued to improve land and sea transport as well as to enhance the development of economic activities, particularly in rural and remote areas.

Since vast opportunities still exist to develop the abundant resources in the region, the private sector will be encouraged to be more pro-active in identifying and implementing projects.

IV. CONCLUSION

5.59 Regional development strategies implemented in the Seventh Plan period resulted in improved living standards and a higher quality of life of the people in all states as well as reduced disparities between regions. During the Eighth Plan period, the main thrust for all states will be to diversify their economies, based on their economic strengths and to ensure a greater efficiency in resource utilization, thereby building sustainable and resilient economies. Urban and rural development strategies will continue to be directed at achieving higher living standards and a better quality of life. In addition, Growth Triangles cooperation is expected to enhance economic growth and development in the participating states.

Chapter 6

Public Sector Programme and Its Financing



6

PUBLIC SECTOR PROGRAMME AND ITS FINANCING

I. INTRODUCTION

6.01 The focus of the public sector programme was to enhance productivity and efficiency and to fulfil the increasing demand for better services. During the first half of the Seventh Plan period, the public sector accounts registered a surplus as a result of the Government's continuous efforts to strengthen the public sector's financial position by assuming a supportive role in the development process. However, in response to the 1997-1998 financial crisis, the Government embarked on a strategy of fiscal stimulus to prevent further economic contraction in 1998. The package was directed towards programmes and projects that have strong linkages with the economy and minimal import content. This resulted in the Federal Government overall account recording a deficit during the second half of the Plan period.

6.02 Public sector programme for the Eighth Plan will focus on strengthening the resilience and competitiveness of the economy and improving further the quality of life of all Malaysians. The public sector will continue to facilitate private sector initiatives in spearheading Malaysia's efforts to develop a knowledge-based economy, to meet the challenges of a globalized and liberalized world economy. As such, public sector investment will focus on expanding further the productive capacity of the economy and enhancing productivity and efficiency. This will be achieved through upgrading the quality of entrepreneurship and workforce, developing a critical mass of science and technology (S&T) human resource, increasing investment in research and development (R&D), fostering and promoting technology development, and improving social and physical infrastructure. Nevertheless, the public sector will continue exercising fiscal prudence to promote price stability and efficiency as well as to strengthen public sector finances.

II. PROGRESS, 1996-2000

6.03 During the first two years of the Plan period, the consolidated public sector account recorded an overall surplus equivalent to 5.5 per cent of the Gross National Product (GNP). This was attributed to the strong financial positions of the Federal Government and Non-Financial Public Enterprises (NFPEs). As a strategy to manage the financial crisis, the Federal Government introduced measures to prevent further contraction of the economy and a decline in the standard of living. In 1998, the Government launched a fiscal stimulus package amounting to RM7 billion to generate economic activities. This package was channelled mainly towards infrastructure facilities, housing, education and public health development. The Government also launched several assistance schemes, amounting to RM1 billion to mitigate the adverse impact of economic adjustments on the lower-income group and vulnerable segments of society. The programme under this scheme comprised Fund For Food, credit facilities for traders as well as rural industrial activities.

6.04 The total amount of the public sector development expenditure for the Seventh Plan period was RM222.9 billion, as shown in *Table 6-1*. Of this total, the Federal Government development expenditure amounted to RM99 billion. The bulk of the development expenditure was channelled to economic and social

TABLE 6-1

**PUBLIC SECTOR DEVELOPMENT ALLOCATION AND EXPENDITURE,
1996-2005
(RM million)**

	7MP			8MP	
	Original Allocation	Revised Allocation	Expenditure	Allocation	% of Total
Federal Government	67,500	103,565	99,037	110,000	43.4
State Governments, Local Authorities and Statutory Bodies ¹	20,000	14,441	4,372	34,018	13.4
NFPEs ¹	75,000	111,288	119,468	109,337	43.2
Total	162,500	229,294	222,877	253,355	100.0

Notes:

¹ Allocation and expenditure for State Governments, Local Authorities, Statutory Bodies and NFPEs reflect the utilization of their own sources.

programmes, with the economic sector receiving the largest allocation. Within this sector, infrastructure development received the highest allocation, reflecting the Government's efforts to provide an integrated transportation and communications network to facilitate economic development. The capital outlays for the social sector concentrated on education and training, health and housing, in line with the Government's on-going efforts to improve the social well-being of all Malaysians, particularly the lower-income group. Meanwhile, development expenditure for the state governments and local authorities as well as statutory bodies was RM35.5 billion, of which RM4.4 billion was from their own sources.

6.05 During the Plan Period, the number of NFPEs was revised. As shown in Table 6-2, 37 enterprises were included in the list of NFPEs. The inclusion was based on the criteria that the Government equity was at least 51 per cent and the turnover value was at least RM100 million. In addition, enterprises with large borrowing needs and capital expenditures were also included in the list because their activities and borrowings had a huge impact on the economy. Development expenditure of the NFPEs amounted to RM119.5 billion or 53.6 per cent of the total public sector development expenditure. The capital investment of most NFPEs was generally higher in the first two years of the Seventh Plan period as a result of rapid economic growth. Several NFPEs, especially *Petroleum Nasional Berhad* (PETRONAS), *Tenaga Nasional Berhad* (TNB), and *Telekom Malaysia Berhad* continued to undertake expansion and modernization programmes during the period. PETRONAS entered into several joint-venture agreements with multinational companies to develop large-scale petrochemical projects, with a total investment of USD2.9 billion in Gebeng, Pahang and Kerteh, Terengganu. TNB also began to reinforce the national grid by upgrading the transmission lines from 275 kilovolts (kV) to 500 kV and cater to the growing demand of industrial, commercial and residential customers to accommodate the additional supply of electricity. In 1998, the capital expenditure by NFPEs declined due to the scaling down or deferring of less essential projects and lower investment overseas. Nevertheless, several NFPEs, including PETRONAS and Sarawak Electricity Supply Corporation (SESCO), increased their capital spending for capacity expansion in 1999.

Development Expenditure by Sector

6.06 During the Seventh Plan period, the Government continued to improve the implementation capability of agencies to ensure that the development programmes and projects were implemented on schedule. In response to the 1997-1998 financial crisis, additional measures were undertaken to ensure an expeditious economic

TABLE 6-2

LIST OF NON-FINANCIAL PUBLIC ENTERPRISES (NFPEs)¹, 1999

Antara Steel Mills Sdn Bhd	Pacific Hardwoods Sdn Bhd
Bintulu Port Sdn Bhd	Penang Port Sdn Bhd
Cement Industries (SABAH) Sdn Bhd	Perwaja Terengganu Sdn Bhd
Central Spectrum (M) Sdn Bhd	Petroleum Nasional Berhad (PETRONAS)
Felda Agricultural Services Sdn Bhd	Pos Malaysia Berhad
Gas Malaysia Sdn Bhd	PPES Works (SARAWAK) Sendirian Berhad
Golden Hope Plantation Berhad ²	Putrajaya Holdings Sdn Bhd
Kelang Container Terminal Sdn Bhd	Rakyat Berjaya Sdn Bhd
Keretapi Tanah Melayu Bhd (KTMB)	Sabah Electricity Sdn Bhd
Klang Port Management Sdn Bhd	Sabah Energy Corporation
Kontena Nasional Sdn Bhd	Sabah Port Authority
Kuching Port Authority	Sarawak Electricity Supply Corporation
Kulim (Malaysia) Berhad ²	Sebor (SABAH) Sdn Bhd
Kumpulan Guthrie Berhad ²	Sergam Berhad
Malaysian Rubber Development Corporation Bhd (MARDEC)	Sinora Sdn Bhd
Malaysia Airport Bhd (MAB)	Telekom Malaysia Bhd ²
Marconi (Malaysia) Sdn Bhd	Tenaga Nasional Berhad (TNB) ²
Multimedia Development Corporation Sdn Bhd	TH Plantations Sdn Bhd
	UDA Holdings Sdn Bhd

Notes:

¹ From the original 28 entities, the current list excludes 10 agencies which were privatized/sold during the 1996-1999 period and includes 19 new enterprises.

² These companies are listed on the Kuala Lumpur Stock Exchange (KLSE), with the Government as the majority shareholder.

recovery. These measures included additional allocation for new programmes and projects, allowing implementing agencies to launch programmes and projects under forward commitment guidelines as well as delegating specific approving authority to the implementing agencies for the selection of contractors. These recovery measures undertaken by the Government during the second half of the Seventh Plan resulted in an increase of the Federal Government development allocation from RM89.5 billion to RM103.6 billion.

6.07 The development allocation and estimated expenditure of the Federal Government by sector, are as shown in *Table 6-3*. Economic and social programmes accounted for the major share of the development expenditure. The expenditure for the economic sector was RM47.2 billion or 47.6 per cent, social sector RM31.3 billion or 31.6 per cent, security sector RM11.6 billion or 11.8 per cent and general administration RM8.9 billion or 9.0 per cent of the total development expenditure.

6.08 Within the *economic sector*, the expenditure of the agricultural development programme amounted to RM8.1 billion or 8.2 per cent of the total development expenditure. The expenditure was largely utilized for *in-situ* development, particularly by the Integrated Agricultural Development Projects (IADPs), Regional Development Authorities (RDAs), Federal Land Consolidation and Rehabilitation Authority (FELCRA), Rubber Industry Smallholder Development Authority (RISDA) and Farmers Organization Authority (LPP). A total of RM1.7 billion was spent for drainage and irrigation projects and RM811 million was utilized to finance regional development programmes in various RDA areas. To further develop R&D and other support services, a total of RM388.7 million was spent, particularly to strengthen research in agricultural product development by Malaysian Agricultural Research and Development Institute (MARDI) and Malaysian Palm Oil Board (MPOB) and new technology development for the rubber industry by Malaysian Rubber Board (MRB).

6.09 Expenditure in the commerce and industry subsector during the Seventh Plan period constituted RM11.3 billion or 11.4 per cent of the total development expenditure. The expenditure was utilized to complement and enhance private sector participation as well as to sustain the activities of the subsector during the economic crisis. Priority was given to programmes that supported the development of small- and medium-scale enterprises (SMEs) as well as the provision of infrastructure facilities such as industrial parks and estates. Recognizing the importance of information and communications technology (ICT), various initiatives were taken to promote the utilization and diffusion of ICT, particularly the launching of the Multimedia Super Corridor (MSC). To promote tourism, several programmes were implemented which included the provision of tourism-related infrastructure and medium-budget accommodation as well as tourism product development.

6.10 About RM20.8 billion or 21.0 per cent of the total development expenditure was for the transport and communications subsector. This was to provide a comprehensive range of infrastructural facilities for the modern economy. In this regard, the nation's networks of roads, railways, ports and airports were expanded and modernized with the participation of the private sector. The major projects implemented included the Middle Ring Road II and the Light Rail Transit (LRT)

TABLE 6-3

**FEDERAL GOVERNMENT DEVELOPMENT ALLOCATION
AND EXPENDITURE BY SECTOR, 1996-2005**
(RM million)

Sector	7MP				8MP	
	Revised Allocation	(%)	Expenditure	(%)	Allocation	(%)
Economic	49,351.6	47.7	47,171.9	47.6	50,514.6	45.9
Agricultural Development	8,286.9	8.0	8,139.3	8.2	7,860.0	7.1
Mineral Resources Development	46.1	0.0	40.8	0.0	50.0	0.0
Commerce & Industry	12,208.8	11.8	11,257.8	11.4	10,295.4	9.4
Transport	21,677.7	20.9	20,826.2	21.0	21,818.9	19.8
Communications	51.3	0.0	47.0	0.0	146.5	0.1
Energy	2,544.0	2.5	2,543.6	2.6	2,601.6	2.4
Water Resources	3,131.5	3.0	2,999.5	3.0	5,988.4	5.4
Feasibility Study	299.3	0.3	264.9	0.3	131.0	0.1
Research & Development	1,106.0	1.1	1,052.8	1.1	1,622.8	1.5
Social	32,156.0	31.0	31,284.0	31.6	37,518.1	34.1
Education & Training	20,185.8	19.5	19,724.1	19.9	22,660.0	20.6
Health	3,737.1	3.6	3,725.5	3.8	5,500.0	5.0
Information & Broadcasting	246.2	0.2	192.3	0.2	254.1	0.2
Housing	3,372.4	3.3	3,330.8	3.4	4,223.3	3.8
Culture, Youth & Sports	1,571.3	1.5	1,365.4	1.4	964.8	0.9
Local Authorities & Welfare Services	1,624.9	1.6	1,565.1	1.6	2,972.6	2.7
Village & Community Development	1,350.4	1.3	1,318.5	1.3	943.3	0.9
Purchase of Land	67.9	0.1	62.3	0.1	0.0	0.0
Security	12,747.6	12.3	11,644.0	11.8	10,750.0	9.8
Defence	10,293.9	9.9	9,539.3	9.6	8,750.0	8.0
Internal Security	2,453.7	2.4	2,104.7	2.2	2,000.0	1.8
General Administration	9,309.7	9.0	8,937.1	9.0	11,217.3	10.2
General Services	9,106.5	8.8	8,746.1	8.8	10,975.6	10.0
Upgrading & Renovation	203.2	0.2	191.0	0.2	241.7	0.2
Total	103,564.9	100.0	99,037.0	100.0	110,000.0	100.0

System II in Klang Valley, the Second Link to Singapore, the Port of Tanjung Pelepas in Johor and the KL International Airport in Sepang.

6.11 During the Plan period, expenditure in the energy subsector constituted RM2.5 billion or 2.6 per cent of the total development expenditure, reflecting the Government's continuing effort to improve accessibility to electricity, particularly in the rural areas. The expenditure for the energy subsector was mainly for the initial construction of the Bakun Hydroelectric project in Sarawak and the completion of seven transmissions and distribution system reinforcement projects in Sabah. In the water resources subsector, RM3.0 billion or 3.0 per cent was expended during the Seventh Plan. The completion of several water supply projects such as the Kelinchi Dam in Negeri Sembilan, Babagon Dam in Sabah and the Sungai Selangor Phase II project, increased the national water supply coverage from 87 per cent in 1995 to 92 per cent in 2000.

6.12 To support R&D, RM1.1 billion was expended during the Seventh Plan. Of this expenditure, RM718.1 million was for direct public sector involvement in R&D through the Intensification of Research in Priority Areas (IRPA) programme. In addition, to promote R&D in the private sector, the Industry Research and Development Grant Scheme was launched to foster collaborative market-oriented R&D involving the private sector, universities and research institutions.

6.13 The Government continued to finance and support programmes in education and training, health, housing and other social services for the *social sector*. The expenditure for this sector amounted to RM31.2 billion or 31.6 per cent of the total development expenditure. Human resource development continued to be given priority to support the implementation of productivity-driven growth programmes. The education and training programmes focused on increasing accessibility and improving quality. Additional facilities were provided at all levels, while existing facilities were expanded to increase capacity as well as create a more conducive teaching and learning environment. To improve the performance of rural students, 205 science laboratories and 230 computer laboratories were constructed and a total of 5,750 computers supplied to these schools. Efforts were also undertaken to provide housing facilities, particularly for teachers in rural areas, with the provision of 38,970 quarters. In addition, the absorptive capacity of public institutions of higher learning was increased with the expansion of existing institutions. Seven additional advanced skills training centres were also built to meet the demand for highly skilled, trained and multi-skilled workers.

6.14 Expenditure for the health subsector reflected the importance accorded to the provision of comprehensive health services. A total of 300 rural and urban health clinics as well as 33 new hospitals were under construction while 11 existing hospitals in the state capitals were upgraded. In addition, four training colleges for allied health professionals were in various stages of implementation.

6.15 Expenditure in the housing subsector was mainly for the construction of low- and low-medium cost houses, to cater for the housing needs of the low-income group and public sector employees. This included the construction of low-cost flats for the resettlement of squatters in the Federal Territory of Kuala Lumpur and major towns in various states. In order to promote the development of a fit and healthy society as well as participation in recreation and sports, new sports facilities were built, including several sports stadiums of international standard.

6.16 Expenditure in the *security sector*, comprising defence and internal security, amounted to RM11.6 billion or 11.8 per cent of the total development expenditure. The largest portion of the expenditure was for the purchase of hardware and equipment for the replacement of existing stock and modernization of the armed forces and police. The main emphasis of the sector was to strengthen and enhance the capability of the armed forces and police through the training of manpower and use of modern equipment.

6.17 During the Plan period, the emphasis of the *general administration sector* was to build and upgrade government office premises and staff accommodations, particularly the construction of the new Federal Government Administrative Centre at Putrajaya. During the Plan period, most of the agencies under the Prime Minister's Department shifted to Putrajaya, thus becoming the pioneer group to work in an environment with modern facilities. In addition, a total of 20 Road Transport Department offices, 16 Customs offices, 16 court buildings, 32 common use, land and district office buildings, as well as five foreign missions were completed. Expenditure for the general administration sector amounted to RM8.9 billion or 9.0 per cent of the total expenditure.

Expenditure for Rural Development

6.18 Rural development programmes involved an expenditure totalling RM12.6 billion, of which RM2.8 billion was spent for rural education, health and housing and RM3.8 billion for new land and *in-situ* development. Another RM2.8 billion was expended for the implementation of various agricultural programmes such as the development of *Orang Asli*, fishery development, support services, irrigation, primary commodities and forestry. In order to increase the standard of living, measures were undertaken to provide the rural population with basic infrastructure, particularly village roads, electricity, water supply and other village development programmes. A total of RM3.2 billion was expended to implement these programmes.

6.19 In line with the implementation of the *Gerakan Desa Wawasan*, aimed at upgrading the village leadership skills and strengthening the capabilities of the Village Development and Security Committee (JKKK) in planning, organizing and proposing village development projects, various short-term courses and counselling classes were conducted. In addition, the rural population was also provided with credit facilities to encourage them to participate in income generating activities in their respective villages. During the Plan period, a total of RM115.9 million was spent for this programme.

Development Expenditure for Poverty Eradication

6.20 During the Seventh Plan period, poverty eradication programme continued to be given special emphasis. The *Program Pembangunan Rakyat Termiskin (PPRT)* was instrumental in uplifting the standard of living of the hardcore poor. In this respect, the Government increased the allocation for the construction of houses for the hardcore poor from RM6,000 to RM10,370 per house in Peninsular Malaysia and from RM6,900 to RM11,930 for Sabah and Sarawak. This was to enable the houses to be more spacious and comfortable and installed with the minimum facilities such as piped water and electricity. Allocation for the rehabilitation of dilapidated houses was also increased from RM3,000 to RM5,190 per unit in Peninsular Malaysia and from RM3,450 to RM5,970 for Sabah and Sarawak.

Development Expenditure by State

6.21 The Federal Government development expenditure in the *more developed states*, namely Selangor, Wilayah Persekutuan, Johor, Perak, Pulau Pinang, Negeri Sembilan and Melaka amounted to RM33.0 billion or 33.3 per cent of the total development expenditure, as shown in *Table 6-4*. Among the major projects were rail links to the West Port of Port Klang and to Segamat Inland Port in Johor, the construction and realignment of Road B15 from Cyberjaya to Dengkil in Selangor as well as the construction of the Teluk Bahang Dam in Pulau Pinang.

6.22 Development expenditure for the *less developed states*, namely Sabah, Sarawak, Kedah, Pahang, Terengganu, Kelantan and Perlis amounted to RM25.6 billion or 25.9 per cent. A large proportion of the expenditure was on the construction of higher educational institutions such as *Universiti Malaysia Sabah (UMS)* and Faculty of Medicine of the International Islamic University (UIA) in Pahang, Langkawi International Airport, Kuala Perlis-Changloun Highway and water supply in Sabah.

TABLE 6-4
FEDERAL GOVERNMENT DEVELOPMENT ALLOCATION
AND EXPENDITURE BY STATE, 1996-2005
(RM million)

State	7MP				8MP	
	Revised Allocation	(%)	Expenditure	(%)	Allocation	(%)
Johor	5,628.7	5.4	5,556.1	5.6	5,937.3	5.4
Kedah	3,891.3	3.8	3,781.8	3.8	5,179.5	4.7
Kelantan	2,306.5	2.2	2,284.2	2.3	2,905.4	2.6
Melaka	1,628.1	1.6	1,566.2	1.6	2,464.7	2.2
Negeri Sembilan	2,268.8	2.2	2,118.9	2.1	5,221.2	4.7
Pahang	3,091.1	3.0	2,983.6	3.0	3,820.7	3.5
Perak	3,298.1	3.2	3,237.9	3.3	4,848.9	4.4
Perlis	1,275.8	1.2	1,259.7	1.3	1,581.0	1.4
Pulau Pinang	2,746.0	2.7	2,641.9	2.7	4,040.2	3.7
Sabah	6,970.2	6.7	6,933.0	7.0	7,989.7	7.3
Sarawak	5,951.0	5.7	5,928.0	6.0	8,676.3	7.9
Selangor	11,244.6	10.9	11,022.8	11.1	7,847.8	7.1
Terengganu	2,558.7	2.5	2,467.6	2.5	2,443.3	2.2
Wilayah Persekutuan	6,864.9	6.6	6,821.1	6.9	9,868.2	9.0
Multi-state ¹	43,841.1	42.3	40,434.2	40.8	37,175.8	33.8
Total	103,564.9	100.0	99,037.0	100.0	110,000.0	100.0

Note: ¹ Multi-state projects are projects that benefit several states or nation as a whole.

6.23 A total of RM40.4 billion or 40.8 per cent was spent on *multi-state* projects, which are projects that benefit several states or the nation as a whole. Some of the major projects implemented were the new Federal Government Administrative Centre in Putrajaya, the Middle Ring Road II in Klang Valley, Eastern Access to KL International Airport and the road from Simpang Pulai, Perak to Kuala Berang, Terengganu via Lojing and Gua Musang in Kelantan.

Current Expenditure

6.24 During the Seventh Plan period, the Federal Government's current expenditure increased at an average rate of 9.1 per cent, amounting to RM236.4 billion, as shown in Table 6-5. Expenditure on wages and salaries, increased moderately by 3.6 per cent per annum. The share of debt service payments to total current expenditure declined from 17.8 per cent in 1995 to 17.0 per cent of total expenditure in 2000. Expenditure on supplies and services, comprising mainly the purchase of supplies and equipment, including the leasing of computers

TABLE 6-5
FEDERAL GOVERNMENT EXPENDITURE AND FINANCING,
1995-2005

Item	RM million					% of GNP			Average Annual Growth Rate (%)	
	1995	2000	2005	Cumulative		1995	2000	2005	7MP	8MP
				7MP	8MP					
Total Revenue	50,953	61,864	90,023	301,267	396,748	24.0	19.9	19.4	4.0	7.8
Direct Taxes	22,699	29,156	37,166	142,702	171,669	10.7	9.4	8.0	5.1	5.0
Indirect Taxes	18,972	18,017	36,201	96,053	144,938	8.9	5.8	7.8	-1.0	15.0
Non-Tax Revenue	8,467	14,097	15,659	59,406	75,873	4.0	4.5	3.4	10.7	2.1
Non-Revenue Receipts	814	594	996	3,107	4,269	0.4	0.2	0.2	-6.1	10.9
Current Expenditure	36,573	56,547	68,243	236,361	322,375	17.2	18.2	14.7	9.1	3.8
Current Surplus	14,381	5,317	21,780	64,906	74,373	6.8	1.7	4.7	-18.0	32.6
Development Expenditure ¹	14,051	27,941	18,200	99,037	110,000	6.6	9.0	3.9	14.7	-8.2
Repayment ²	1,531	2,908	1,000	8,368	5,800					
Overall Surplus/Deficit	1,861	-19,717	-4,580	-25,763	-29,827					
(% of GNP)	0.9	-6.3	1.0	-1.9	-1.5					
Sources of Financing										
Net Foreign Borrowing ³	-1,635	844	0	1,703	8,229	-0.8	0.3	0.0		
Net Domestic Borrowing	0	12,714	0	28,420	26,859	0.0	4.1	0.0		
Change in Assets & Special Receipts ⁴	-226	6,158	-4,580	-4,361	-5,261	-0.1	2.0	-1.0		

Notes:

¹ Includes transfer to Development Fund for 2000-2005.

² Loan repayments by State Governments, Local Authorities, Statutory Bodies and NFPs.

³ (-) Indicates net repayment.

⁴ (-) Indicates build up in assets; (+) drawdown in assets.

as well as payments for other items including travelling, utilities, maintenance and repairs, increased moderately by 5.9 per cent per annum.

Sources of Revenue

6.25 The Federal Government revenue registered a moderate increase of 4.0 per cent, amounting to RM301.3 billion, as shown in Table 6-6. This was attributed to the higher revenue collected from company and petroleum taxes, sales and service taxes and non-tax revenue, in tandem with the impressive economic performance during the first half of the Plan period and the recovery in aggregate demand in 1999-2000 from the severe contraction in 1998.

TABLE 6-6

FEDERAL GOVERNMENT REVENUE, 1995-2005

Source	RM million					% of total			Average Annual Growth Rate (%)	
	1995	2000	2005	Cumulative		1995	2000	2005	7MP	8MP
				7MP	8MP					
Direct Taxes	22,699	29,156	37,166	142,702	171,669	44.5	47.1	41.3	5.1	5.0
Income Taxes	20,095	27,016 ¹	34,214	129,921 ¹	158,861	39.4	43.7	38.0	6.1	4.8
Company	11,707	13,905	19,577	77,795	87,909	23.0	22.5	21.7	3.5	7.1
Individual	6,203	7,015	9,737	32,935	42,744	12.2	11.3	10.8	2.5	6.8
Petroleum	2,185	6,010	4,900	18,976	28,049	4.3	9.7	5.4	22.4	-4.0
Other Direct Taxes	2,604	2,140	2,952	12,781	12,807	5.1	3.5	3.3	-3.8	6.6
Indirect Taxes	18,972	18,017	36,201	96,053	144,938	37.2	29.1	40.2	-1.0	15.0
Export Duties	853	1,032	908	4,419	5,003	1.7	1.7	1.0	3.9	-2.5
Petroleum	751	999	807	4,193	4,614	1.5	1.6	0.9	5.9	-4.2
Palm Oil	75	4	0	66	6	0.1	0.0	0.0	-44.1	-100.0
Others	27	29	101	160	384	0.1	0.0	0.1	1.2	28.6
Import Duties	5,622	3,599	4,411	24,843	20,985	11.0	5.8	4.9	-8.5	4.2
Excise Duties	5,280	3,803	6,018	23,956	25,622	10.4	6.1	6.7	-6.4	9.6
Sales Tax	4,869	5,968	17,637	25,941	64,988	9.6	9.6	19.6	4.2	24.2
Service Tax	1,016	1,701	3,807	7,313	14,371	2.0	2.7	4.2	10.9	17.5
Other Indirect Taxes	1,332	1,914	3,421	9,580	13,969	2.6	3.1	3.8	7.5	12.3
Non-Tax Revenue	8,467	14,097	15,659	59,406	75,873	16.6	22.8	17.4	10.7	2.1
Petroleum ²	3,810	6,384	7,175	23,699	35,447	7.5	10.3	8.0	10.9	2.4
Other Non-Tax Revenue ³	4,658	7,713	8,484	35,707	40,426	9.1	12.5	9.4	10.6	1.9
Non-Revenue Receipts ⁴	814	594	996	3,107	4,269	1.6	1.0	1.1	-6.1	10.9
Total	50,953	61,864	90,023	301,267	396,748	100.0	100.0	100.0	4.0	7.8

Notes:

¹ Includes income tax from cooperatives.² Includes petroleum dividends and royalties on petroleum and gas.³ Includes items such as Government commercial undertakings, interest and returns on investment, licences and service fees.⁴ Includes rental revenue from Federal Territories, income from sale of equity and assets, fines and forfeitures and contributions from foreign governments and international agencies.

6.26 During the Plan period, revenue collected from *direct taxes* recorded an increase of 5.1 per cent, amounting to RM142.7 billion. The collection from direct taxes increased by 11.3 per cent per annum during the first two years of the Plan period, particularly from corporate taxes, as a result of increased profitability of the private sector arising from the rapid economic growth. Despite the reduction in the individual income tax rate in the 1996 Budget, revenue from individual income tax expanded by 5.7 per cent during the 1997-1998 period. However, as a result of the financial crisis, there was a reduction in revenue from all major categories of direct taxes, which fell by 9.2 per cent in 1999. In addition, the

reduction in the collection of income taxes was attributed to the restructuring of tax payments, particularly for companies facing cash flow problems, and the provision of tax concessions and incentives to stimulate business activities and to strengthen the financial sector. Other fiscal measures introduced during the second half of the Plan period included an income tax waiver for income received in 1999, in line with the introduction of an assessment of income tax based on the current year income, tax exemption on interest income of unit trusts, and tax incentives to promote food production and tourism. Other direct taxes, comprising mainly stamp duties and receipts from estate duty, declined by 3.8 per cent, partly due to the reduction in the number of transactions, particularly in 1998.

6.27 *Indirect taxes* revenue registered a moderate decline of 1.0 per cent per annum during the Plan period. Sales and service taxes grew at an average rate of 4.2 per cent and 10.9 per cent per annum, respectively. Revenue from these taxes was especially substantial during the first two years of the Plan period, but suffered a decline in 1998 before rebounding to register an increase in 1999-2000, due to the expansion of consumer demand.

6.28 During the Plan period, revenue from export duties rose by 3.9 per cent per annum as a result of the higher volume of exports and the rise in the price of crude oil in 2000. Import duties, however, fell by 8.5 per cent per annum due to the reduction or abolition of import duties on about 3,500 raw materials, components and equipments as well as lower imports during the economic downturn. Excise duties also declined by 6.4 per cent as a result of lower demand for locally manufactured products due to the financial crisis and the removal of excise duties on petrol and petroleum products, effective from 2000.

6.29 *Non-tax revenue* increased at the rate of 10.7 per cent per annum during the Plan period. The growth was mainly attributed to revenue from PETRONAS's dividends, road tax, licences and permits and royalties on oil and gas.

Consolidated Public Sector Financing

6.30 During the Seventh Plan period, the public sector account recorded an overall surplus of RM20.5 billion or 1.5 per cent of GNP, as shown in *Table 6-7*. This was achieved despite a deficit amounting to RM7.3 billion recorded during 1998-2000. This deficit was due to the slower overall revenue growth in the public sector, increased development expenditure by the Federal Government to stimulate economic growth and increased capital expenditures by several NFPEs, especially PETRONAS and Putrajaya Holdings.

TABLE 6-7

CONSOLIDATED PUBLIC SECTOR EXPENDITURE AND FINANCING, 1995-2005

Item	RM million					% of GNP			Average Annual Growth Rate (%)	
	1995	2000	2005	Cumulative		1995	2000	2005	7MP	8MP
				7MP	8MP					
General Government¹										
Revenue	62,270	73,587	104,017	364,457	464,071	29.4	23.7	22.5	3.4	7.2
Operating Expenditure	41,394	63,005	79,582	267,725	369,489	19.5	20.2	17.2	8.8	4.8
Current Surplus	20,876	10,582	24,435	96,731	94,582	9.8	3.4	5.3	-12.7	18.2
NFPEs Current Surplus	15,993	38,713	38,896	146,684	187,530	7.5	12.5	8.4	19.3	0.1
Public Sector Current Surplus	36,869	49,295	63,330	243,415	282,112	17.4	15.9	13.7	6.0	5.1
Development Expenditure	29,801	58,979	43,039	222,877	253,355	14.1	19.0	9.3	14.6	-6.1
General Government	16,171	29,794	26,712	103,409	144,017	7.6	9.6	5.8	13.0	-2.2
NFPEs ²	13,630	29,185	16,327	119,468	109,337	6.4	9.4	3.5	16.4	-11.0
Public Sector Overall Surplus/ Deficit	7,068	-9,684	20,291	20,538	28,757					
(% of GNP)	3.3	-3.1	4.4	1.5	1.5					
Sources of Financing										
Net Foreign Borrowing ³	6,529	-1,003	0	13,765	3,097	3.1	-0.3	0.0		
Net Domestic Borrowing	-10,786	10,099	0	-34,410	12,285	-5.1	3.2	0.0		
Change in Assets & Special Receipts ⁴	-2,811	588	-20,291	107	-44,139	-1.3	0.2	-4.4		

Notes:

¹ General Government comprises Federal Government, State Governments, Local Authorities and Statutory Bodies.

² Includes estimated capital transfers and net borrowing from Federal Government during Eighth Plan period.

³ (-) Indicates net repayments.

⁴ (-) Indicates build up in assets; (+) drawdown in assets.

6.31 The current surplus of the Government sector, comprising the Federal and state governments, local authorities and statutory bodies, increased from RM20.9 billion in 1995 to RM29.6 billion in 1997, due to the collection of a higher revenue. However, the surplus declined to RM10.6 billion in 2000, mainly due to the slower revenue growth of the Federal and state governments, local authorities and statutory bodies. With additional development expenditure, the overall balance of the Federal Government account registered a deficit of RM25.8 billion or 1.9

per cent of GNP during the Plan period. The fiscal deficit was largely financed by non-inflationary domestic borrowing and loans from bilateral lenders and multilateral institutions. The increased reliance on foreign sources of financing was to avoid the crowding-out of private sector activities. The total net borrowing for the period amounted to RM30.1 billion.

6.32 During the Plan period, the current balance of NFPEs as a group grew at 19.3 per cent per annum and registered a surplus of about RM146.7 billion. This was mainly attributed to better turnover, especially during the 1996-1997 and 1999-2000 period. Development expenditure of NFPEs grew at the rate of 16.4 per cent per annum and amounted to RM119.5 billion. The capital outlays of the NFPEs were financed by internally generated funds as well as domestic and external borrowings. Most of the loans were utilized to fund productive investments, including investment overseas that generated foreign exchange revenue to service the debt.

III. PROGRAMMES AND FINANCING, 2001-2005

6.33 As the economy progresses along a sustainable growth path, the Government will revert to its role as a facilitator to private sector initiatives, particularly in spearheading the development of a knowledge-based economy. As such, the Government will continue to maintain prudent fiscal management by consolidating public sector finance. The public sector programme will focus on strengthening the resilience and competitiveness of the economy and further improving the quality of life of all Malaysians.

Development Allocation

6.34 For the Eighth Plan period, the total public sector development allocation will amount to RM253.4 billion, as shown in *Table 6-7*. Of this total, the Federal Government's share will constitute 43.4 per cent or RM110 billion. The NFPEs' development expenditures will constitute 43.2 per cent and the remaining 13.4 per cent will be from state governments, local authorities and statutory bodies. The total development allocation will be 13.7 per cent higher than the Seventh Plan development expenditure. Although this amount is significant, its share to GNP is, however, lower at 12.9 per cent compared with 16.3 per cent achieved during the Seventh Plan period.

Development Allocation by Sector

6.35 During the Eighth Plan period, emphasis will be given to further improve inter-sectoral linkages and promote complementarities among sectors. In this regard, the economic sector will be given the largest allocation, amounting to RM50.5 billion or 45.9 per cent of the total, as shown in *Table 6-3*. The social sector will receive RM37.5 billion or 34.1 per cent, the security sector RM10.8 billion or 9.8 per cent and the general administration sector RM11.2 billion or 10.2 per cent.

6.36 In line with the continuous effort to strengthen the economy, the allocation for the *economic sector* will focus on the development of agriculture, industrial, transport and communications as well as utility subsectors. The agriculture subsector will be provided with RM7.9 billion or 7.1 per cent of the total development allocation in the Eighth Plan. A major portion of this allocation will be given to *in-situ* development as well as for irrigation and flood mitigation. The implementation of these programmes is expected to increase food production, enhance the supply of raw materials as well as improve foreign exchange earnings.

6.37 The allocation for the commerce and industry subsector will amount to RM10.3 billion or 9.4 per cent of total development allocation. This allocation will continue to focus on supporting private sector initiatives, to intensify their contribution to the economy. Priority will be given to capacity-building, particularly with respect to skill development in support of the development of high technology industries. The implementation of the second phase of the Advanced Materials Research Centre at the Kulim Hi-Tech Park in Kedah will intensify R&D on new materials for the high technology industries. To further enhance the development of skilled manpower and technopreneurs, a centre for Computer Numerical Control (CNC) machines and machine tooling will be set up to provide training in the fabrication of CNC machines and parts as well as machine tooling. In addition, financial and infrastructure support for strategic industries and activities such as in R&D, information technology (IT) and technology acquisition, will be emphasized. Towards this end, a sum of RM1.6 billion will be allocated to promote R&D activities and technology advancement, particularly increasing indigenous technology capability and commercialization of R&D output.

6.38 To accelerate the momentum of the development and utilization of ICT, the first wave of the MSC flagship application projects will be rolled out. The second wave applications projects will also be introduced focusing on e-business and e-services as well as providing the catalyst for the development of a critical mass of SMEs involved in ICT. The development of the tourism subsector will

be further supported by intensifying the implementation of eco-tourism development programmes. In addition, the preservation and conservation of historical buildings, sites and monuments, provision of affordable accommodation as well as beautification and cleanliness programmes will be undertaken.

6.39 The transport and communications subsector will be allocated a sum of RM22.0 billion or 20 per cent of the total development allocation mainly to increase capacity and accessibility of these services in the less developed areas as well as increase their quality, efficiency and reliability in urban areas. Among the major projects to be implemented are the Kuala Kangsar-Grik Road in Perak, upgrading of Federal Route 50 from Batu Pahat to Kluang, Johor, electrified double track railway from Rawang, Selangor to Ipoh, Perak, the Ranca-Ranca Port in Labuan and the new Bintulu Airport in Sarawak.

6.40 A total of RM2.6 billion will be allocated to the energy subsector, of which RM926 million will be for the revival of the Bakun Hydroelectric project in Sarawak as well as RM450 million for strengthening the transmission system and RM230 million for upgrading the distribution networks in Sabah. In addition, RM856.7 million will be allocated for improving the rural electricity coverage, mainly in Sabah and Sarawak. Water resources subsector will be allocated a sum of RM6.0 billion or 5.4 per cent of the total development allocation. To meet increasing water demand in water-stressed areas, especially the Klang Valley, the Pahang-Selangor Raw Water Transfer Scheme will be implemented.

6.41 The *social sector* will be allocated a sum of RM37.5 billion or 34.1 per cent of the total development allocation. Social programmes will continue to focus on education and training, health and housing. Education and training programmes will be allocated RM22.7 billion, aimed at producing students with broad-based knowledge, thinking skills and innovativeness to contribute to the knowledge-based economy. Towards this end, the delivery system will be strengthened to create a pool of trained, skilled and knowledge manpower. Additional facilities will be provided, while existing ones will be upgraded to meet the demand for places at all levels. This will include the construction of about 20,000 classrooms, four new universities and 15 training institutes. Computer laboratories will be built in about 8,000 schools. To nurture the cooperative spirit, tolerance and understanding among Malaysians as well as to further strengthen national unity, the Vision School Concept will be implemented. The private sector is expected to complement the public sector efforts, especially in the provision of places at the tertiary levels and in skill training.

6.42 The health subsector will be provided an allocation of RM5.5 billion or 5.0 per cent of the total development allocation. This will support the on-going expansion programme of the medical services, promotive health and prevention of diseases, rural health services and manpower training. The construction of 31 hospitals and upgrading of 11 existing hospitals and 300 clinics will be continued, while 172 new health clinics will also be built. Existing institutions for the training of allied health professionals will be upgraded and five new ones built, while training will be continued to be outsourced with the cooperation of the private sector. With regard to housing development, emphasis will continue to be given to the supply of low- and low-medium-cost houses, while 62,000 houses for public sector employees will be built during the Plan period. Housing development in rural areas through Traditional Village Regrouping, Rehabilitation of Dilapidated Houses as well as Site and Services Programmes will be improved to ensure the effectiveness of its delivery. An allocation of RM4.2 billion or 3.8 per cent of the total development allocation will be provided for housing development.

6.43 The *security sector* will be allocated a sum of RM10.8 billion or 9.8 per cent of the total allocation. A significant proportion of the allocation will be for strengthening the nation's defence capability and improving the capacity of the Royal Malaysian Police and other internal security agencies to maintain law and order. Several modern training facilities will be completed while existing ones will be upgraded to meet the training needs of the security forces.

6.44 Allocation for the *general administration sector* will amount to RM11.2 billion or 10.2 per cent of the total. Allocation for public amenities at Putrajaya will comprise a major part of the general administration sector allocation. Substantial allocation will also be given for the construction of court buildings and office premises for various Federal Government departments in line with the Government's aspiration to provide world-class administrative facilities and services. In addition, the construction of the embassy building in Beijing will be continued and new buildings constructed in Singapore, Vientiane and Moscow.

Allocation for Rural Development

6.45 During the Eighth Plan period, rural development programmes will be provided with an allocation of RM13.2 billion. A major portion of this allocation amounting to RM9.3 billion will be channelled to land development, human resource enhancement and the implementation of various physical and social infrastructure works including rural roads, electricity and water supply. In order

to increase the participation of rural population in income-generating activities, the scope of credit facilities for rural industries will be expanded to include tourism, agriculture as well as the services sector. This programme is provided with an allocation of RM121 million.

6.46 Rural health services will be further expanded with the construction of more hospitals and health clinics as well as upgrading of existing facilities. Safe water supply will continue to be provided to areas where the incidence of water-borne diseases is high through the water supply and environmental health programme (BAKAS). An allocation of RM715 million is allocated for the expansion of rural health facilities and BAKAS.

6.47 To improve accessibility and provide better learning environment for rural students, more schools will be built in rural areas, replacing those that are dilapidated. In addition, hostels to accommodate students for remote areas and housing for teachers will also be built. Under the Computer Literacy Programme, about 2,240 rural schools will be supplied with computers. To undertake these programmes, an allocation of RM2.3 billion will be provided.

Development Allocation for Poverty Eradication

6.48 The poverty eradication programme will continue to be given special emphasis during the Plan period, particularly the eradication of poverty among the hardcore group including the *Orang Asli*. PPRT will be replaced with a new programme namely the *Skim Pembangunan Kesejahteraan Rakyat* (SPKR) which will cover both the hardcore poor and the other poverty groups. Among the major programmes are, human resource development, provision of infrastructure, income upgrading as well as social, welfare and poverty studies.

Development Allocation by State

6.49 The distribution of the Federal Government development allocation by state in the Eighth Plan, as shown in *Table 6-4*, reflects the Government's effort to promote a more balanced development among states. This allocation takes into account the current status of development, the need and potential for growth, resource availability and implementation capacity at the state level.

6.50 The *more developed states* will receive an allocation of RM40.2 billion or 36.6 per cent of the total development allocation, reflecting the demand for

facilities due to faster development and the need to address the infrastructure constraints in these states. The bulk of this allocation is for upgrading the Johor Bahru Inner Ring Road Interchange and the Kota Tinggi-Pasir Gudang Highway in Johor, the construction of the Sungai Terip Phase III water treatment plant in Negeri Sembilan as well as the construction of a university in Melaka and a polytechnic in Balik Pulau, Pulau Pinang.

6.51 The allocation for the *less developed states* will amount to RM32.6 billion or 29.6 per cent of total development allocation. This allocation will be for the development of the transport subsector, energy projects, agricultural development as well as education and training. Among the projects to be implemented are the construction of the Greater Kuantan Water Supply in Pahang, hospitals in Alor Setar, Kedah and Temerloh, Pahang, universities in Perlis and Pahang as well as the upgrading of the road from Jitra, Kedah to Arau and Kangar, Perlis.

6.52 A total of RM37.2 billion or 33.8 per cent of the development allocation will be provided to *multi-state* projects. These projects will include the continued development of Putrajaya, *Program Perumahan Rakyat Bersepadu*, R&D programme, the Pahang-Selangor Raw Water Transfer Project, the dredging of river mouths in the smaller ports of Peninsular Malaysia as well as the upgrading and the refurbishment of the water distribution system.

Current Expenditure

6.53 During the Eighth Plan period, the current expenditure of the Federal Government is estimated to amount to RM322.4 billion or 16.4 per cent of GNP, as shown in *Table 6-5*. Emoluments will continue to account for the largest portion of the current expenditure, growing at an average rate of 2.8 per cent per annum, lower than the 3.6 per cent per annum of the Seventh Plan period. Expenditure on supplies and services is projected to rise by 12 per cent per annum, mainly for the maintenance and enhancement of the quality and efficiency of the public service. Debt service charges are anticipated to increase at a lower rate of 4.3 per cent per annum.

Sources of Revenue

6.54 The total Federal Government revenue is expected to register a faster growth of 7.8 per cent per annum during the Eighth Plan period, as shown in

Table 6-6. Direct taxes will continue to be the major contributor but its growth is expected to slow down in line with Government efforts to provide a competitive tax structure to further improve the environment for doing business in Malaysia. Its share to GNP is estimated to be 8.7 per cent, slightly lower than the 10.4 per cent achieved in the Seventh Malaysia Plan. Income taxes, comprising company, individual and petroleum taxes are expected to grow at an average rate of 4.8 per cent, lower than the 6.1 per cent achieved in the previous Plan. This is due to the anticipated lower revenue from petroleum tax, which is projected to decline by 4.0 per cent, while company and individual taxes are expected to register a growth of 7.1 per cent and 6.8 per cent per annum, respectively. Revenue from stamp duties is estimated to grow at 5.5 per cent per annum, in line with the expected increase in the number of transactions, while other direct taxes are expected to grow by 11.8 per cent per annum.

6.55 Even though revenue from *indirect taxes* is the second largest, its growth is anticipated to surpass that of direct taxes. Its share to total revenue will increase to 36.5 per cent, reflecting a gradual transformation of Malaysia's tax structure from income-base to consumption-base. This is in line with the Government's efforts to reduce dependency on direct taxes and broaden the revenue base. The major contribution is expected from sales and service taxes, which are projected to grow by 24.2 per cent and 17.5 per cent per annum, respectively, arising from the anticipated increase in the income of all Malaysians and the promotion of Malaysia as an attractive tourist destination. Import duty is estimated to register a moderate growth of 4.2 per cent per annum due to the reduction of tariffs in line with Malaysia's commitment to the ASEAN Free Trade Area (AFTA) and World Trade Organization (WTO). Excise duty is also expected to grow moderately at 9.6 per cent per annum, while other indirect taxes will grow at an average rate of 12.3 per cent per annum.

6.56 *Non-tax revenue* will contribute 19.1 per cent to the total Federal Government revenue during the Plan period. The contribution is mainly from the collection of dividends from Government's investments and payments for licences and permits.

Consolidated Public Sector Financing

6.57 For the Eighth Plan period, the public sector consolidated account is estimated to register a surplus of RM28.8 billion or 1.5 per cent of GNP, as shown in *Table 6-7*. The Federal Government current account is projected to

record a surplus of 3.8 per cent of GNP amounting to RM74.4 billion. With this surplus, the Government will be able to finance part of its development expenditure. The Federal Government account is, thus expected to register an overall deficit of 1.5 per cent of GNP, as shown in *Table 6-5*. This deficit will be financed by domestic resources as well as external sources. However, the Government will ensure that it will not crowd-out private investment and exert pressure on prices.

6.58 The continued effort to improve productivity and efficiency will result in a higher current surplus for the NFPEs, amounting to RM187.5 billion. Together with the capital expenditure, estimated to be around RM109.3 billion for the Eighth Plan period, the overall account for the NFPEs is estimated to register a larger surplus. The account of state governments and local authorities as well as statutory bodies are also expected to record an overall surplus.

IV. CONCLUSION

6.59 Efforts undertaken during the Eighth Plan period are expected to accelerate Malaysia's development of a knowledge-based economy. As this development will be spearheaded by the private sector, the Government will have to ensure the emplementation of the necessary environment and supportive conditions. Towards this end, the public sector programme will focus on the provision of the required social and physical infrastructure in order to improve the competitiveness and efficiency of the private sector to drive economic growth. In undertaking this task, the Government will remain committed to maintaining fiscal discipline and will ensure that the budget deficit is at a level that will not put at risk long-term development.

Chapter 7

Privatization



7

PRIVATIZATION

I. INTRODUCTION

7.01 Privatization continued to be an essential part of the overall strategy in the country's economic development. During the Seventh Plan period, the privatization programme contributed towards the growth and development of the economy, in line with the private sector-led growth strategy and the Malaysia Incorporated Policy. At the same time, the programme contributed towards promoting Bumiputera participation in business and commerce. In undertaking the programme, emphasis was placed on expanding capacities to develop the infrastructure required to effectively foster the development of industries and supporting services as well as provide better comfort and access to consumers. Steps were also initiated to ascertain that the appropriate regulatory framework is in place.

7.02 In the Eighth Plan period, privatization will continue to be implemented to facilitate economic growth. Besides infrastructure projects, emphasis will also be given to projects that generate multiplier effects and upgrade the quality of services to the people. The programme will continue to enhance wider Bumiputera participation and to ensure the sustainability of privatized concerns. The Government will provide support to projects which have social implications and require large capital expenditure, in order to reduce tariffs and other charges to consumers. To ensure that the public will have equitable access in the participation of privatized entities, corporatized entities which are commercially successful will be listed on the Kuala Lumpur Stock Exchange (KLSE), while the process of identifying other potential government entities for corporatization will be continued. Further efforts will also be undertaken to strengthen the regulatory framework to safeguard consumer interests and monitor the performance of privatized entities.

II. PROGRESS, 1996-2000

7.03 The implementation of the privatization programme continued to be guided by the Privatization Master Plan and aimed at benefiting all Malaysians. Although the economic crisis affected the implementation of some projects, remedial measures were undertaken promptly to revitalize the affected projects such as rescheduling their implementation and reducing the project scope. To increase economic activities, the concept of deferred payment was introduced, whereby the company undertook the financing and construction of the facilities and received scheduled payments upon handing over of the completed facilities.

Projects Privatized

7.04 During the Plan period, 98 projects were privatized, of which 47 were existing projects and 51 new projects. Of the total new projects, 49 were in the construction, transportation and the electricity and gas sectors. Five of these projects were completed, while 25 were in various stages of implementation and the balance in the initial planning stage. The completed projects were the Damansara-Puchong Highway, upgrading of the Sungai Besi Road and the three Independent Power Producers in Sandakan, Karambunai and Batu Sapi in Sabah. Major projects which were at various stages of implementation included the Monorail System in Kuala Lumpur, the Express Rail Link (ERL) from Kuala Lumpur to the Kuala Lumpur International Airport (KLIA), the development of 10,000 units of quarters for teachers and Phase III of the water supply project in Selangor. Details of the privatized projects are as shown in *Table 7-1*.

Benefits of Privatization

7.05 *Efficiency and productivity.* The services and management of privatized entities improved significantly as evidenced by increases in the efficiency and productivity indicators of selected entities, as shown in *Table 7-2*. This was due to the upgrading of facilities by these companies which were also able to acquire new and modern technology, expanded capacity and service network, fostered changes in management and organization, as well as inculcated positive attitude among their employees. In addition, privatization also led to faster implementation of projects, particularly highways and ports. In this regard, the construction of the Port of Tanjung Pelepas in Johor was completed six months ahead of schedule, while the construction of the Damansara-Puchong Highway was completed in 28 months instead of 36 months.

TABLE 7-1
NUMBER OF PRIVATIZED PROJECTS BY SECTOR AND MODE, 1996-2000

Sector	Mode of Privatization								Total	%	Savings in Capital Expenditure (RM million)
	SOE	BOT	SOA/Land Swap	BOO	COR	MBO	LOA	MC			
Agriculture & Forestry	4	0	2	0	1	0	1	0	8	8.2	565.0
Manufacturing	0	0	0	0	0	2	0	0	2	2.0	0.0
Construction	0	0	25	0	1	1	0	0	27	27.6	7,896.1
Electricity & Gas	0	0	1	10	1	0	0	0	12	12.2	23,458.8
Transport	1	14	1	0	0	0	0	0	16	16.3	15,155.4
Water & Sewerage	1	1	0	0	2	0	0	0	4	4.1	2,100.0
Wholesale & Retail Trade, Hotels & Restaurants	2	0	0	0	0	2	0	2	6	6.1	1.5
Finance, Real Estate & Business Services	3	0	0	0	0	0	0	0	3	3.1	0.0
Government Services	0	0	3	0	4	2	2	9	20	20.4	75.4
Total	11	15	32	10	9	7	3	11	98	100.0	49,252.2
Notes: SOE = Sale of Equity BOT = Build-Operate-Transfer SOA = Sale of Asset BOO = Build-Operate-Own COR = Corporatization MBO = Management-Buy-Out LOA = Lease of Asset MC = Management Contract											

TABLE 7-2

EFFICIENCY AND PRODUCTIVITY INDICATORS
OF SELECTED PRIVATIZED ENTITIES

<i>Indicator</i>	<i>Before Corporatization/ Privatization</i>	<i>After Corporatization/ Privatization (2000)</i>
Telekom Malaysia Berhad ¹		
Return on Assets (per cent)	4.0	4.7
Revenue Per Subscriber (RM)	1,227	1,755
Production Per Employee (RM)	34,372	51,672
Direct Exchange Lines Per Employee	36	183
Response to Complaints/Faults (per cent)	80	100
Tenaga Nasional Berhad ²		
Revenue Generated (RM billion)	3.3	14.3
Cost Per Unit Per Output (cent/kWh)	16.6	19.4
Access to The Public (number of service centres)	100	166
Cost to Public Per Unit Per Output (cent/kWh)	18.0	23.5
Johor Port Berhad ³		
Return on Assets (per cent)	6.6	7.9
Operation Cost Per Tonne - Freight Weight (RM)	8.3	6.7
Annual Gross Profit (RM million)	29.1	83.4
Operating Revenue Per Employee (RM)	110,000	339,374
Average Container Throughput (TEU's)	128,556	659,181
Average Number of TEU's Per Vessel	110	280
Average Handling Rate Per Ship Per Hour	28	56
Crane Handling Rate Per Hour (TEU's)	28	28
Penang Port Sdn. Bhd. ⁴		
Return on Assets (per cent)	11.0	9.0
Operation Cost Per Tonne - Freight Weight (RM)	6.9	7.1
Annual Gross Profit (RM million)	30.7	44.7
Operating Revenue Per Employee (RM)	58,253	116,988
Average Container Throughput (TEU's)	330,922	586,788
Average Number of TEU's Per Vessel	271	419
Average Handling Rate Per Ship Per Hour	23.4	29.0
Crane Handling Rate Per Hour (TEU's)	21.5	26.0

Notes:

¹ Privatized in 1998.² Privatized in 1998.³ Privatized in 1985.⁴ Corporatized in 1994.

7.06 *Benefits to the public.* The privatization programme benefited the public as the facilities provided through privatization were made available earlier than they would have been if they were to be undertaken by the Government. This was due to the limited resources on the part of the Government. The public also benefited through the provision of more efficient and wider coverage of services. The introduction of rail services such as *Keretapi Tanah Melayu Berhad* (KTMB) Commuter Services, Light Rail Transit System I (LRT-STAR) and LRT-System II (LRT-PUTRA) provided a fast and efficient alternative transportation system in the Klang Valley. These rail services reduced travelling time and contributed to the alleviation of the urban traffic congestion. To increase ridership, park-and-ride facilities and covered walkways were also provided. The ridership of the KTMB Commuter services showed a positive trend since the start of commercial run in August 1995. Its ridership increased from 18,780 passengers per day in 1995 to 53,820 passengers per day by the end of 2000. The ridership of LRT-STAR increased from 20,000 passengers per day in 1997 to an average of 85,000 passengers per day by the end of 2000, while the ridership of LRT-PUTRA increased from an average 15,000 passengers per day in 1998 to nearly 120,000 passengers per day by the end of 2000. The significant rise in the ridership signalled an increase in public acceptance of the use of rail services, particularly in urban transportation.

7.07 The construction of the privatized toll highways changed the travelling pattern of road users, as they benefited from reduced travelling time and lower vehicle operating costs. These highways provided wider medians, strategically located and well-illuminated signages as well as rest areas that contributed substantially to the comfort and safety of road users. The completion of the Shah Alam Expressway in November 1996 and the Damansara-Puchong Highway (LDP) in January 1999, completed the loop for the Middle Ring Road Two (MRR2). This enabled road users to have alternative routes to commute within the Klang Valley and to reduce their travelling time. For example, travelling time from Petaling Jaya to Ampang via LDP and MRR2 only took 37 minutes compared with 55 minutes previously, even though the distance travelled increased from 21 kilometres to 35 kilometres. Furthermore, the highway users were less prone to traffic accidents, including fatal crashes, as reflected by the *Ops Statik V* figures, as shown in *Table 7-3*. During the 2000 year-end celebrations, 665 accidents occurred along the tolled highways involving 10 deaths compared with 3,067 accidents along the Federal roads with 70 deaths.

7.08 The quality of services of privatized utilities showed an overall improvement. About 98 per cent of calls made by subscriber trunk dialling (STD) were successful on the first attempt, while 96 per cent of calls made to *Telekom Malaysia Berhad* (TMB) operators were answered within 10 seconds. Consumers also gained from

TABLE 7-3

TRAFFIC ACCIDENTS BY ROAD CLASSIFICATION
(OPs STATIK V, 18 - 31 DECEMBER 2000)

	<i>No. of Accidents</i>	<i>%</i>	<i>No. of Deaths</i>	<i>%</i>
Expressway ¹	665	6.5	10	5.0
Federal Road	3,067	29.9	70	34.7
State Road	2,124	20.7	72	35.6
Municipal Road	3,800	37.1	36	17.8
Others	600	5.8	14	6.9
Total	10,256	100.0	202	100.0

Note: ¹ Privatized/Tolled Highways

the improved performance of *Tenaga Nasional Berhad* (TNB). Incidences of breakdown were substantially reduced from 311,190 upon privatization, to 42,850 in 2000. This translated to a System Average Interruption Duration Index (SAIDI) from 770 minutes per customer per year in 1996, to 319 minutes per customer per year in 2000.

7.09 The privatization of the solid waste disposal services was divided into four regions covering the central and eastern regions; the northern region; the southern region; and Sabah, Sarawak, and the Federal Territory of Labuan. Although the privatization of solid waste disposal was not fully implemented, the concessionaires for the central and eastern regions as well as the southern region took over the services, on an interim basis, from several local authorities in the respective states. As a result of the takeover, there was a general improvement in the level of services of the solid waste collection. To ensure optimum efficiency in the waste collection system, the concessionaires reorganized and optimized their collection routes, resulting in an increase in the number of collections per trip. For the central region, the number of collections per trip increased to an average of 1,100 during the interim period, from about 700 before the interim period. In terms of improving the storage system, the concessionaires also introduced and provided standardized waste bins with wheels in certain areas. To further

improve service level to the public, the concessionaires also purchased additional equipment and vehicles as well as invested in improvement works to the existing landfills.

7.10 To ensure only healthy foreign workers were allowed to work in the country, Fomema Sdn. Bhd. was appointed to monitor their medical examinations. Standardized procedures in health examination were introduced which resulted in a more accurate and reliable screening of foreign workers. As a result of this screening exercise, there was a reduction in the number of unfit foreign workers detected, as employment agencies took greater care to ensure that their foreign workers were fit, as shown in *Table 7-4*.

7.11 *Gains to Government.* The Government also benefited from the privatization programme in terms of proceeds from concession payments, corporate taxes and savings from the reduction in public expenditure. A total of 17,442 employees was transferred to the private sector, reducing the government administrative burden. During the Plan period, savings in capital expenditure to the Government amounted to RM49.3 billion, of which 47.6 per cent of the total savings was from the electricity and gas sector. This was followed by the transportation sector at RM15,155.4 million or 30.7 per cent. Although the construction sector had the largest number of privatized projects, it only accounted for RM7,896.1 million or 16 per cent of total savings. Details of the total savings to the Government are as shown in *Table 7-5*.

TABLE 7-4
RESULTS OF MEDICAL EXAMINATION
ON FOREIGN WORKERS, 1998-2000

<i>Examination of Foreign Workers</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>
Number of Foreign Workers	644,382	524,622	486,598
Number of Unfit Foreign Workers Detected	24,880	13,455	9,292
Percentage of Unfit Foreign Workers Detected	3.9	2.6	1.9

TABLE 7-5

**PROCEEDS, SAVINGS AND REDUCTION IN PUBLIC SECTOR
EMPLOYEES, 1996-2000**

<i>Item</i>	<i>1996 - 2000</i>
Savings (RM million)	
Capital Expenditure	49,252.2
Proceeds (RM million)	
Sale of Equity	2,083.5
Sale of Assets	2,428.5
Number of the Public Sector Employees Transferred	17,442

Bumiputera Participation

7.12 In line with the NDP, Bumiputera participation was given further emphasis through the privatization programme. It enabled a wider participation of Bumiputera in commercial and industrial activities through the management-buy-out (MBO) exercise, contracting works and vendor development programmes. In addition, various collaborations and joint ventures were encouraged among Bumiputera and non-Bumiputera companies as well as institutional investors including State agencies and cooperatives. The programme also allowed for broad-based participation through the offering of shares to the public, thus providing opportunities for all Malaysians to own shares of listed privatized entities.

7.13 *Equity ownership and control.* The privatization guidelines stipulated that Bumiputera should hold a minimum of 30 per cent equity in all privatized projects. Out of the 98 entities privatized during the Plan period, Bumiputera controlled 67 companies. However, out of the total paid-up capital of RM5.4 billion, Bumiputera shareholding only accounted for 15.6 per cent. Although the Government had controlling interest in 20 entities, its shareholding represented 71 per cent of the total paid-up capital, as shown in Table 7-6. Its shareholding was through investment agencies such as *Khazanah Nasional Bhd.*, Minister of Finance Incorporated, *Menteri Besar Incorporated* and *State Secretary Incorporated*.

TABLE 7-6
EQUITY OWNERSHIP OF PRIVATIZED ENTITIES
UPON PRIVATIZATION, 1996 -2000

<i>Equity Ownership</i>	<i>Par Value (RM million)</i>	<i>%</i>
Bumiputera	845.4	15.6
Non-Bumiputera	653.3	12.0
Government	3,851.3	71.0
Foreign	74.2	1.4
Total	5,424.2	100.0

Various measures were introduced in order to retain Bumiputera interests after privatization, including the imposition of a three-year moratorium on divestment of shares.

7.14 Based on the 203 companies privatized since 1983, Bumiputera equity increased from 21.7 per cent upon privatization to 25.6 per cent in 2000, as shown in Table 7-7. In terms of value, Bumiputera equity increased by RM4.4 billion. Although the Government's share in privatized entities reduced from 62.7 per cent to 49.5 per cent, its value increased from RM12 billion to RM16.5 billion.

TABLE 7-7
EQUITY OWNERSHIP OF PRIVATIZED ENTITIES

	<i>Upon Privatization</i>		<i>December 2000</i>	
	<i>Par Value (RM million)</i>	<i>%</i>	<i>Par Value (RM million)</i>	<i>%</i>
Bumiputera	4,146.6	21.7	8,573.7	25.6
Non-Bumiputera	1,856.4	9.7	4,684.1	14.0
Government	11,989.0	62.7	16,555.5	49.5
Foreign	1,130.9	5.9	3,630.4	10.9
Total	19,122.9	100.0	33,443.7	100.0

7.15 *Wider distribution of benefits.* Privatization of government entities through the MBO method as well as other schemes such as the Employees Share Option Scheme (ESOS), benefited employees and management who were mostly Bumiputera. In addition, the listing of privatized entities on the KLSE provided greater opportunities for the public to own shares and benefit from privatization. The privatization of entities through the MBO method or through a combination of MBO and sale of equity (SOE) method included *Lembaga Kemajuan Wilayah Jungka (LKWJ)*, *MARA Shipyard & Engineering (Terengganu) Sdn. Bhd.*, *UDA Holdings Bhd.*, *MARA Holdings Sdn. Bhd.*, *Development Authority of Pahang Tenggara (DARA)* and the subsidiaries of *Perbadanan Nasional Berhad (PERNAS)*.

7.16 *Vendor Development Programme.* The vendor development programme continued to be an effective tool for the promotion of Bumiputera participation in privatization. Bumiputera entrepreneurs were encouraged to form small-and-medium-scale enterprises (SMEs) to become vendors for the supply of inputs to privatized companies. During the Plan period, a total of RM10.1 billion worth of vendor schemes was offered to 501 companies, of which 347 or 69.3 per cent were Bumiputera-owned. These vendor programmes were mostly for the supply of product and components, repair and remedial works as well as operations and maintenance works, including those in the utility and services sectors.

7.17 During the Plan period, the vendor development programme undertaken included the component scheme programme by *Perusahaan Otomobil Nasional Berhad (PROTON)* and entrepreneur development programme undertaken by TNB. However, the programme was affected by the economic downturn in mid-1998, which resulted in a number of vendors ceasing operations. Nevertheless, the economic recovery during the latter half of the Plan period enabled the reactivation of some vendors, particularly those under the PROTON vendor scheme. The vendor programme undertaken by selected privatized companies are as shown in Table 7-8.

7.18 *Contract works.* As part of the ongoing efforts to increase active Bumiputera participation, the requirement to award at least 30 per cent of contract works to Bumiputera contractors continued to be imposed. Privatized companies were not allowed to award contracts to contracting companies which were directly or indirectly owned by them or their shareholders. During the Plan period, major privatized companies such as TMB, TNB, *Syarikat Pengeluar Air Selangor Sdn. Bhd.*, *Sistem Penyuraian Trafik KL Barat Sdn. Bhd.*, and *Puncak Niaga Sdn. Bhd.* contracted out RM4.1 billion worth of works, of which RM1.9 billion or 46 per cent were to Bumiputera companies.

TABLE 7-8

**VENDOR PROGRAMMES UNDERTAKEN BY SELECTED
PRIVATIZED COMPANIES, 1996-2000**

<i>Company</i>	<i>Value (RM million)</i>	<i>No. of Vendors</i>
Malaysia Airlines System Berhad	25.7	23
Perusahaan Otomobil Nasional Berhad	8,195.9	167
Tenaga Nasional Berhad	712.3	23
Petronas Dagangan Berhad	22.7	9

Training Programme

7.19 To increase productivity and efficiency, privatized entities undertook in-house and on-the-job training to improve the key functional skills in finance, marketing, personnel management and public relations. Special training programmes were also undertaken by these entities to enable employees to make a smooth transition from the public to the private sector. A total of 256,760 employees was trained, of whom 212,666 were Bumiputera and 44,094 were non-Bumiputera, as shown in *Table 7-9*. The total amount expended for this purpose during the period was RM323.7 million.

Market Capitalization

7.20 The listing of privatized companies on the KLSE enabled a wider distribution of equity ownership to the public. A total of 40 privatized companies was listed on the KLSE, of which 16 were listed during the Plan period, as shown in *Table 7-10*. Of the new listing, the Malaysian public was allocated 939.4 million shares (81 per cent), approved Bumiputera investors or institutions 159.1 million shares (13.7 per cent) and employees of the privatized companies 61.6 million shares (5.3 per cent). The listing of the privatized companies on the KLSE contributed RM131.1 billion or 30.3 per cent of the total market capitalization as at 26 December 2000. These privatized companies constituted only 5.0 per cent of the total listed companies, as shown in *Table 7-11*.

TABLE 7-9
**EXPENDITURE ON TRAINING OF SELECTED PRIVATIZED
COMPANIES, 1996-2000**

Year	Bumiputera		Non-Bumiputera		Total	
	No. of Workers	Expenditure (RM million)	No. of Workers	Expenditure (RM million)	No. of Workers	Expenditure (RM million)
1996	46,224	59.2	9,690	13.9	55,914	73.1
1997	43,732	61.2	7,564	13.8	51,296	75.0
1998	38,462	42.1	7,455	9.0	45,917	51.1
1999	44,405	59.8	9,611	12.9	54,016	72.7
2000	39,843	42.4	9,774	9.4	49,617	51.8
Total	212,666	264.7	44,094	59.0	256,760	323.7

TABLE 7-10
**MARKET CAPITALIZATION OF PRIVATIZED COMPANIES
LISTED ON KLSE, 1996-2000**
(RM million)

Company	1996 ¹	1997 ¹	1998 ¹	1999 ¹	2000 ²
Sarawak Enterprise Corp Berhad	4,870.4	1,906.7	1,497.9	2,726.7	1,416.0
Perak Corp Berhad	204.0	77.0	133.0	224.0	98.0
Bina Darul Aman Berhad	222.0	39.2	88.4	94.2	65.2
Johor Tenggara Oil Palm Berhad	379.2	152.0	211.2	219.2	152.0
Powertek Berhad	1,145.4	920.0	956.8	1,140.8	966.0
Johor Port Berhad	1,372.8	412.5	448.8	551.1	435.6
Kumpulan FIMA Berhad	889.5	157.9	155.3	315.8	134.2
Lingkar Transkota Holdings Berhad	1,560.0	744.0	954.2	1,438.7	1,071.5
Johore Land Berhad	442.0	500.0	162.0	168.0	105.0
YTL Power International Berhad	-	5,702.6	5,702.6	7,232.2	6,431.2
Puncak Niaga Holdings Berhad	-	725.0	700.0	955.0	910.0
Padiberas Nasional Berhad	-	405.0	344.0	735.1	388.1
Pasdec Holdings Berhad	-	327.6	316.8	230.4	88.2
Digi.com Berhad	-	1,970.0	1,425.0	3,075.0	3,645.0
Uda Holdings Berhad	-	-	-	621.2	448.2
Malaysia Airports Holdings Berhad	-	-	-	3,410.0	1,870.0
Total Market Value	11,085.3	14,039.5	13,096.0	23,137.4	18,224.2

Source: Kuala Lumpur Stock Exchange

Notes:

¹ Market capitalization as at 31 December each year

² Market capitalization as at 26 December 2000.

TABLE 7-11

**PAID-UP CAPITAL AND MARKET CAPITALIZATION OF
LISTED PRIVATIZED COMPANIES**

	Number of Companies		Paid-Up Capital (RM million)		Market Capitalization (RM million)	
	1995	2000 ¹	1995	2000 ¹	1995	2000 ¹
Listed Privatized Companies	24	40	13,157	18,174	124,695	131,141
Total Companies Listed	529	795	82,219	146,414	547,394	433,414
Per Cent of Listed Privatized companies	4.5	5.0	16.0	12.4	22.8	30.3

Note: ¹ As at 26 December 2000

7.21 The shares of listed privatized companies were relatively less affected by the financial crisis, as reflected by their market capitalization which increased from about 20 per cent before the crisis to 29.4 per cent as at 31 December 1997. This was attributed mainly to secured investment of these companies which provided reasonable returns to their investors. The public also benefited from the newly listed privatized companies in terms of capital appreciation as the share prices were higher than their initial offer price.

7.22 During the Plan period, of the 16 listed privatized companies, a total of five was listed as Infrastructure Project Companies (IPCs), namely Powertek Berhad, *Lingkar Transkota Holdings Berhad*, YTL Power International Berhad, *Puncak Niaga Holdings Berhad* and Digi.com Berhad. The listing of IPCs further deepened and broadened the capital market and enabled the public to invest in new counters. In addition, the IPCs were able to raise financing in the capital market to undertake infrastructure projects which cost more than RM500 million. The IPCs raised a total of RM3.5 billion through the issuance of new shares.

Regulatory Authorities

7.23 To protect consumer interests and to regulate the privatized sectors which included transport and utilities, a total of 18 regulatory authorities was established. However, these regulatory authorities were unable to function effectively mainly

due to the lack of expertise and legislative support. To address this issue, the Government undertook steps to restructure and streamline these authorities into sector-based regulators, as shown in *Table 7-12*. The newly-created regulatory authorities were entrusted to establish economic and safety regulations to safeguard consumer interests and to promote a healthy development of the respective sectors. The Communications and Multimedia Commission was established in 1999, while the formation of the other four regulatory authorities were at various stages of establishment.

Technology Development

7.24 Privatized projects, particularly those implemented under the build-operate-transfer (BOT) and build-operate-own (BOO) methods, adopted state-of-the-art technologies and enabled the transfer of technology such as the construction and management of a modern integrated hazardous waste treatment facility. The energy sector provided opportunity to more Malaysian companies in the transmission and distribution activities such as cable-laying, construction of transmission towers and construction of sub-stations, previously dominated by foreign companies. New techniques were adopted including micro-piling and recoiling for road surfacing, tunnel boring for underground tunnels and stations, and fully automated and driverless system in light rail transit. The transfer of technology was also facilitated through management and technical training.

TABLE 7-12

ESTABLISHMENT OF SECTOR-BASED REGULATORS

<i>Commission/Regulator</i>	<i>Areas</i>
Communications and Multimedia	Broadcasting, communications and multimedia
Energy	Electricity and gas industries
Transport	Rail and toll highways
Water and Sanitation	Water, sewerage and solid waste management
National Port Authority	All ports

Monitoring of Privatized Projects

7.25 With a view to ensuring that privatized projects provide the service level required by consumers and is sustainable on a long-term basis, the Government undertook on a continuous basis the evaluation of performance of major privatized entities. As a result of this review, the Government adopted several measures including the takeover of shares and assets of companies in strategic sectors such as sewerage, air and urban rail transportation. This represents an interim measure and will be followed by divestment or restructuring in the privatization arrangement to enable the Government to own the capital assets, while the private sector remain as operators of the services. Such an arrangement will enable the optimal mix of build-up of modern assets by the Government and efficient service delivery by the private sector.

III. PROSPECTS, 2001-2005

7.26 In line with private sector-led growth, privatization will continue to be an important vehicle to facilitate economic growth and ensure an equitable distribution of income among ethnic groups during the Eighth Plan period. Efforts will be intensified to safeguard the social and economic well-being of the public through the establishment and strengthening of the regulatory mechanism. The strategies for privatization will be as follows:

- ☐ *Emphasizing projects which stimulate economic growth;*
- ☐ *Further strengthening and streamlining the implementation process to ensure the effectiveness of the privatization programme;*
- ☐ *Ensuring that privatized projects are commercially viable and contribute to social well-being;*
- ☐ *Strengthening the regulatory authorities to protect consumer interests and foster the healthy development of privatized sectors;*
- ☐ *Enhancing Bumiputera participation through vendor schemes and provision of better access to capital; and*
- ☐ *Promoting wider public participation in privatized entities through public listing.*

Strengthening and Streamlining the Privatization Process

7.27 *Project identification and implementation.* During the Plan period, the Government will continue to identify projects that will generate multiplier effects and upgrade the quality of services in areas such as transportation, construction and utilities. Towards this end, the Privatization Action Plan which is a two-year rolling plan as stipulated in the Privatization Master Plan, will be reviewed and reformulated. Projects to be privatized will take into consideration national priorities as set out in the National Vision Policy (NVP). Selection will continue to be based on certain prescribed criteria such as consistency with sector strategies, relative advantage of the private sector over the public sector in the delivery of services in terms of efficiency and quality as well as the long-term viability and sustainability of the projects. To ensure that privatization continues to provide the impetus in accelerating further economic growth, major projects approved during the Seventh Plan period will be implemented, as shown in Table 7-13.

TABLE 7-13

MAJOR ENTITIES/PROJECTS APPROVED IN PRINCIPLE FOR PRIVATIZATION

Entities/Projects

South Klang Valley Expressway (SKVE)
Kajang Traffic Dispersal Ring Road (SILK)
Jelutong Expressway (JEWay)
Senai-Johor Perdana-Desaru Expressway
Construction of the Logistic Complex and Quarters for the Royal Malaysian Police in Shah Alam
Southern International Gateway (SIG)
Management of Kuala Lumpur Sentral Station
Statutory Inspection Services of The Department of Occupational Safety and Health
National Solid Waste Management

7.28 *Strengthening the implementation process.* Efforts will continue to be undertaken to streamline procedures at various stages of the implementation process. In this regard, at the pre-privatization stage, a more stringent project evaluation will be adopted to ensure that the prospective companies possess management expertise and have access to capital to undertake the proposed projects. In addition, the evaluation process will also include the appointment of independent consultants and project auditors as well as ascertaining public opinion through surveys. This is to ensure the acceptability and viability of the project. Adherence to all the terms and conditions in the privatization agreement will be further emphasized at the implementation stage and during the concession period. In this regard, the implementation agencies and regulatory authorities are expected to monitor and enforce the provisions of the agreements as well as undertake post-privatization evaluation. For inter-state projects which require the sharing of resources or projects under the legal jurisdiction of the State Governments, closer cooperation between the Federal and the State Governments will be further enhanced. This is to facilitate and expedite the smooth implementation of projects and the harmonization of charges.

7.29 *Meeting the social objectives.* Through privatization, consumers will enjoy better quality of services, as privatized entities are expected to use new and more modern facilities. However, the 'user-pay principle', though reflecting the economic costs of providing such services, will not be the guiding principle in the determination of tariff rates and charges. The Government will continue to control tariff setting and reviews so as to ensure that the public will enjoy these services at affordable rates. Towards this end, the Government will continue to support privatized projects that require large capital expenditure and have wide social impact to ensure the viability of these projects. *Bank Pembangunan dan Infrastruktur Malaysia Berhad* will also assist privatized infrastructure companies in securing loans at better terms to finance projects which require huge capital investment.

Strengthening the Regulatory Framework

7.30 The establishment of regulatory authorities for the relevant sectors will be expedited and strengthened through legislative support and capacity-building, to enable them to undertake continuous monitoring and evaluation of privatized entities in order to safeguard public interest and ensure a healthy development of the sectors. A review of the existing regulatory authorities in sectors such as education and health will be undertaken to restructure them into effective sector-based regulatory authorities. This is to ensure that public interest are adequately protected and social obligations are fulfilled. These regulatory authorities are expected to be financially independent in the long run to enable them to be autonomous.

Enhancing Bumiputera Participation

7.31 The Government will continue to promote and sustain Bumiputera participation in the privatization programme with further emphasis on the MBO method. In addition, collaboration with institutional investors and major corporations will be encouraged, to enable the MBO proponents to meet the financing requirement as well as to undertake capital expansion.

7.32 Various measures will continue to be undertaken to protect and sustain Bumiputera interests after privatization. The three-year moratorium imposed on the shareholding structure of the privatized entities will be reinforced by imposing that the shareholding structure of the shareholders of the privatized entities be maintained and that any proposed divestment will require the prior approval of the Government. For projects which do not have a specific concession period such as land development projects, a moratorium will be imposed throughout the construction period until the completion of the project. In order to prevent further dilution of Bumiputera interests in privatized entities, priority will be accorded to other Bumiputera or trust agencies to purchase shares approved for divestment.

7.33 Vendor programmes will continue to be implemented during the Plan period. Efforts will be further intensified to promote collaboration between large privatized entities and small-and-medium-scale Bumiputera entrepreneurs to provide opportunities for them to participate in the privatized entities. To meet this objective, project proponents will be encouraged to identify and incorporate in their proposals programmes which support entrepreneur development by providing training, market opportunities and technology transfer.

Promoting Wider Public Participation in the Capital Market

7.34 The Government entities which can operate on a commercial basis will be corporatized before being considered for privatization, through listing on the KLSE. Corporatized entities which are commercially viable will be encouraged to be listed on the KLSE. Such listing will enable a wider participation by the general public and provide a source of fund for the privatized entities. In addition, to enable employees to own shares in the privatized companies, the policy of reserving 5.0 to 10 per cent of the shares upon flotation and ESOS will be continued.

7.35 The policy to allow the Infrastructure Project Companies (IPCs) to be listed on the KLSE will be continued to enable them to tap funds from the capital market. For strategic industries, the Government will retain control of certain listed entities to safeguard national and public interest. In addition, private companies will be encouraged to source funds through private debt securities such as long-term bonds including Islamic bonds, warrants and securitization.

IV. CONCLUSION

7.36 The privatization programme will continue to be implemented during the Eighth Plan period as it has contributed to increased efficiency and productivity of the privatized entities and consequently, benefited the public and spur economic development. Emphasis will be given to viable projects that have high multiplier effects and at the same time, meet social objectives. Steps will be undertaken to further strengthen and streamline the implementation process as well as the regulatory framework, to ensure the effectiveness of the privatization programme.



Chapter 8

Agricultural Development



8

AGRICULTURAL DEVELOPMENT

I. INTRODUCTION

8.01 During the Seventh Plan period, the agriculture sector remained as one of the major sectors of the economy after manufacturing and services, contributing to national income and export earnings. In line with the Third National Agricultural Policy (NAP3), the sector contributed not only as a supplier of raw materials to the resource-based industries, but also in terms of food production. The increase in earnings of major commodities, particularly palm oil and pepper as well as food commodities enabled the sector to retain its workforce and withstand the economic downturn of 1997-1998.

8.02 During the Eighth Plan period, new and innovative measures will be undertaken to increase the contribution of the agriculture sector to the national economy. Domestic food production will be further enhanced by encouraging large-scale and organized farming, intensifying land use, improving agronomic practices as well as using modern technologies and management. Production of primary commodities will be reoriented to improve productivity and competitiveness through an integration programme with livestock, wider crop mix practices and mechanization. In addition, production of specialty natural products such as medicinal plants as well as non-wood forest products will be promoted as new sources of growth.

II. PROGRESS, 1996-2000

8.03 During the Plan period, the agriculture sector performed favourably as reflected by the growth in value added, productivity per worker as well as export earnings, despite labour shortages, competition for suitable land and higher input prices. The sector, through its various programmes and activities, also facilitated efforts to upgrade the standard of living of rural communities.

Growth Performance

8.04 Total agricultural value added grew by 1.2 per cent per annum compared with the Plan target of 1.9 per cent, as shown in *Table 8-1*. However, palm oil grew at 7.9 per cent exceeding the target set and remained as the most significant contributor to the growth in value added. Other subsectors that recorded an increase in value added included, livestock, fisheries, padi and other food crops, although their growth was lower than targeted. The contribution of the agriculture sector to Gross Domestic Product (GDP) decreased from 10.3 per cent in 1995 to 8.7 per cent in 2000. Agricultural export earnings in current value increased by 1.1 per cent per annum from RM21.6 billion to RM22.9 billion, particularly as a result of palm oil exports. Despite this increase, the proportion of agricultural exports to total exports declined from 11.7 per cent to 6.1 per cent during the period.

8.05 In line with the emphasis to increase domestic food production and reduce the import bill, the relative contribution of food to total agricultural value added increased, particularly livestock, fisheries, fruits and vegetables. On the other hand, the contribution of industrial commodities to total agricultural value added declined due to a reduction in the value added of rubber and forestry products.

Employment

8.06 Employment in the agriculture sector decreased further during the Plan period, from 1.5 million in 1995 to 1.4 million in 2000, a decline of 1.2 per cent per annum, as shown in *Table 8-2*. Productivity gains were recorded in several subsectors, particularly padi, tobacco, vegetables and poultry, through the application of various labour-saving technologies and better farming practices in large-scale commercial production. Value added per worker in the agriculture sector improved further by 2.4 per cent per annum, from about RM11,500 in 1995 to about RM12,900 in 2000. This was slightly lower than the Plan target of 3.3 per cent per annum due to the relatively slow process of mechanization in several subsectors such as oil palm, rubber and cocoa.

8.07 Labour shortages continued to be prevalent in the agriculture sector, especially for industrial commodities. In particular, the estate subsector relied substantially on foreign labour with about 190,200 foreign workers with work permits in 2000, accounting for 13.4 per cent of total agricultural employment.

TABLE 8-1

AGRICULTURAL VALUE ADDED, 1995-2005
(RM million in 1987 prices)

Commodity	1995	%	2000	%	2005	%	Average Annual Growth Rate (%)		
							7MP Target	7MP Achieved	8MP Target
Rubber	2,129	12.4	1,178	6.5	1,025	4.9	-4.1	-11.2	-2.7
Palm Oil	4,235	24.7	6,199	34.1	7,364	35.0	4.2	7.9	3.5
Forestry and Logging	4,139	24.2	3,395	18.7	3,038	14.5	-8.5	-3.9	-2.2
Cocoa	1,225	7.3	1,159	6.4	1,192	5.7	-1.9	-1.6	0.6
Padi	516	3.0	532	2.9	673	3.2	0.9	0.6	4.8
Livestock	953	5.6	1,109	6.1	1,454	6.9	5.1	3.1	5.6
Fisheries	1,964	11.5	2,375	13.1	2,998	14.3	4.0	3.9	4.8
Miscellaneous ¹	1,924	11.2	2,207	12.2	3,274	15.6	7.9	2.8	8.2
Total	17,115	100.0	18,154	100.0	21,018	100.0	1.9	1.2	3.0

Note: ¹ Includes coffee, tea, coconut, tobacco, pepper, vegetables, fruits, flowers, herbs and others.

TABLE 8-2

**EMPLOYMENT AND PRODUCTIVITY IN AGRICULTURE,
1995-2005**

	1995	2000	2005	Average Annual Growth Rate (%)		
				7MP Target	7MP Achieved	8MP Target
Employment in Agriculture ('000)	1,493	1,408	1,307	-3.6	-1.2	-1.5
Percentage to Total Employment	18.7	15.2	12.0			
Value Added Per Worker (RM in 1987 prices)	11,466	12,898	16,088	3.3	2.4	4.5

Land Utilization

8.08 Agricultural land use increased from about 5.7 million hectares in 1995 to about 6.0 million hectares in 2000, as shown in *Table 8-3*, mainly due to the opening up of new land for oil palm cultivation in Sabah and Sarawak. Increase in hectareage was recorded for oil palm, pepper, tobacco, vegetables and fruits. However, about 430,800 hectares of rubber and cocoa land was converted for oil palm and other uses.

TABLE 8-3
AGRICULTURAL LAND USE, 1995-2005
(hectares)

				Average Annual Growth Rate (%)		
Commodity	1995	2000	2005	7MP Target	7MP Achieved	8MP Target
Agricultural Industrial Commodities						
Rubber	1,727,000	1,430,700	1,301,500	-3.8	-3.7	-1.9
Oil Palm	2,507,611	3,460,000	3,100,000	1.1	6.7	-2.2
Cocoa	234,538	105,000	105,000	-1.9	-14.8	0.0
Pepper	8,600	11,480	12,500	-1.1	5.9	1.7
Pineapple	9,081	10,233	16,000	4.5	2.4	9.4
Tobacco	10,539	15,000	12,500	-1.0	7.3	-3.6
Food Commodities						
Padi ¹	592,410	572,196	611,000	-9.7	-0.7	0.6
Coconut ¹	298,740	220,000	201,000	-5.0	-5.9	-1.8
Vegetables ¹	42,000	51,420	77,290	3.0	4.1	8.5
Fruits ¹	244,471	297,436	379,613	7.1	4.0	5.0
Others ¹	68,146	67,534	67,737	-0.3	-0.2	0.1
Total¹	5,743,137	5,949,934	6,314,977	-1.4	0.7	1.2

Notes:

¹ Based on harvested area.

² Includes tea, coffee and other crops.

³ Refers to physical area and excludes multi-cropping.

Agricultural Production

8.09 During the Plan period, the overall production in the agriculture sector recorded an improvement, as shown in *Table 8-4*. Production of palm oil, pepper and cut flowers showed remarkable growth due to favourable world prices and expanding markets. However, rubber and cocoa registered negative growth. In line with the policy to increase local food production and reduce imports, the food subsector recorded substantial growth in the production of all food commodities except pork and coconut.

Agricultural Industrial Commodities

8.10 Crude *palm oil* (CPO) production increased by 6.8 per cent per annum, from 7.8 million tonnes in 1995 to 10.8 million tonnes in 2000 due to improvement in yield and expansion in hectareage of matured trees. The price of CPO fluctuated from RM1,472 per tonne in 1995 to its highest peak at RM2,377.50 per tonne in 1998 before falling to RM1,000 per tonne in 2000 due to the increase in world production and build-up in stocks as well as competition from other vegetable oils. Consequently, the export earnings from palm oil declined by 3.0 per cent per annum, from RM11.7 billion in 1995 to RM10 billion in 2000.

8.11 *Rubber* production declined by 10.8 per cent per annum, from about 1.1 million tonnes 1995 to about 616,000 tonnes in 2000. Reduction in rubber production was attributed to the decrease in tapped area and yields, labour shortages as well as the high cost of production and protracted low rubber prices. The planted areas of rubber declined from 1.7 million hectares to 1.4 million hectares as a result of conversion to oil palm and other uses in the Plan period. The yield of rubber dropped from 1,000 kilogrammes per hectare to 970 kilogrammes per hectare mainly due to the lack of proper management and agronomic practices among smallholders. The price of rubber fell from RM3.90 per kilogramme in 1995 to RM2.50 per kilogramme in 2000 due to increase in production from other major producer countries and failure of the international stock piling mechanism.

8.12 *Cocoa* bean production declined from 131,000 tonnes in 1995 to 70,000 tonnes in 2000 due to a reduction in planted areas from 234,500 to 105,000 hectares, adverse weather conditions, labour shortages and the high cost of production. With the decrease in production, export earnings declined from

TABLE 8-4

AGRICULTURAL PRODUCTION, 1995-2005
(*000 tonnes)

Commodity	1995	2000	2005	Average Annual Growth Rate (%)		
				7MP Target	7MP Achieved	8MP Target
Agricultural Industrial Commodities						
Rubber	1,089	616	560	-1.7	-10.8	-1.9
Crude Palm Oil	7,811	10,840	12,416	3.2	6.8	2.8
Palm Kernel Oil	2,396	3,220	3,774	3.2	6.1	2.3
Sawlogs ¹	31,842	23,898	18,864	-3.5	-5.6	-2.4
Cocoa	131	70.0	115	0.5	-11.9	7.4
Pepper	13.0	24.0	30.0	-1.1	12.6	4.6
Pineapple	140	184	264	1.4	5.6	7.5
Tobacco	10.0	11.0	15.0	5.6	1.1	6.4
Flowers ²	365,070	501,697	686,010	16.2	6.6	6.5
Food Commodities						
Padi	2,127	2,235	2,813	-2.1	1.0	4.7
Fruits ³	1,020	1,376	1,982	8.5	6.2	7.6
Vegetables ³	718	1,019	1,390	5.8	7.2	6.4
Coconut ⁴	1,389	550	824	-2.0	-16.9	8.4
Fisheries	1,241	1,511	1,860	4.0	4.0	4.2
Marine	1,108	1,256	1,360	1.2	2.5	1.6
Aquaculture	133	255	500	20.1	14.0	14.4
Livestock						
Beef	17.0	28.0	40.0	3.6	10.5	7.5
Mutton	0.8	1.0	1.5	4.2	5.2	5.9
Pork	283	150	183	1.0	-11.9	4.0
Poultry	687	1,050	1,329	5.4	8.8	4.8
Eggs ⁴	6,242	8,221	9,974	3.4	5.7	3.9
Milk ⁵	37.0	50.0	65.0	2.1	6.1	5.5

*Notes:*¹ Measured in thousand cubic metres.² Measured in thousand stalks.³ Refers to commercial cultivation.⁴ Measured in million units.⁵ Measured in million litres.

RM626 million in 1995 to RM493 million in 2000. However, the use of high-yielding clones and the adoption of good agronomic practices increased the yield of cocoa beans per hectare from 700 kilogrammes in 1995 to about 950 kilogrammes in 2000.

8.13 *Pepper* production increased by 12.6 per cent per annum, from 13,000 tonnes in 1995 to 24,000 tonnes in 2000 due to yield improvements from better farm management. Stimulated by higher prices, the planted area under pepper also increased from 8,600 hectares to 11,500 hectares in 2000.

8.14 Production of *tobacco* remained as an alternative source of income for farmers in the States of Kelantan, Terengganu, Kedah and Perlis, contributing about RM150 million additional revenue per year. The demand for local tobacco increased substantially from 10,000 tonnes in 1995 to 15,000 tonnes in 2000 and consequently, the planted area was increased by 8.6 per cent per annum, from 10,500 hectares to 15,000 hectares during the same period. However, due to adverse weather conditions in 1999 and 2000, the production increased only by 0.4 per cent per annum, from 10,000 tonnes to 11,000 tonnes, lower than the demand in the Plan period.

8.15 To ensure sustainable forest management, the annual allowable cut in permanent forests was reduced to 46,000 hectares in Peninsular Malaysia, 60,000 hectares in Sabah and 170,000 hectares in Sarawak during the Plan period. Consequently, the production of *sawlogs* declined by 5.6 per cent per annum, from 31.8 million cubic metres in 1995 to about 24 million cubic metres in 2000. Accordingly, the production of sawntimber decreased from 7.5 million cubic metres in 1995 to 5.2 million cubic metres in 2000. As a substitute, rubber wood became a major source of raw material in the furniture and other wood-based industries with total exports increasing from RM1.9 billion in 1995 to RM4.3 billion in 2000.

Food Commodities

8.16 The NAP3 focused on the need to increase domestic food production and sourcing of food strategically to ensure adequate supply and accessibility to safe, nutritious and high quality food at affordable prices. With the economic downturn, the subsector was given impetus to help revitalize the economy and improve the trade balance as well as strengthen food security. As a result, the self-sufficiency

levels (SSL) of several food commodities improved, as shown in *Table 8-5*. Despite the improvement in SSL, the food trade balance continued to widen in favour of imports. Food imports increased by 10.7 per cent per annum, from RM7.8 billion in 1995 to RM13 billion in 2000, mainly due to the depreciation of the ringgit as well as the varied taste of consumers, including for produce that cannot be grown locally. Nevertheless, exports increased by 8.1 per cent per annum, from RM4.4 billion to RM6.6 billion, as shown in *Table 8-6*.

TABLE 8-5
SELF-SUFFICIENCY LEVELS OF FOOD COMMODITIES, 1995-2005
(%)

Commodity	1995	2000	2005
Rice	76.3	71.0	72.0
Fruits	88.9	91.3	98.6
Vegetables	71.6	88.5	95.6
Fishery Produce	92.0	89.0	90.0
Beef	19.2	22.7	23.2
Mutton	6.0	6.4	7.1
Pork	104.0	80.0	76.1
Poultry	110.7	127.8	143.2
Eggs	110.3	138.8	152.5
Milk	3.5	4.0	4.5

8.17 *Padi* production increased from about 2.1 million tonnes in 1995 to about 2.2 million tonnes in 2000 through productivity improvements, recording a growth of 1.0 per cent per annum. Mechanization of padi production and the consolidation of smallholdings through group farming and estatization were intensified to promote commercialization and greater private sector involvement. By the end of the Plan period, almost all farming operations in the major padi growing areas were fully mechanized. As a result, the labour input per hectare

TABLE 8-6
EXPORTS AND IMPORTS OF FOOD, 1995-2005
(RM million)

Item	1995	%	2000	%	2005	%	Average Annual Growth Rate (%)	
							7MP	8MP
Exports	4,466.0	100.0	6,599.0	100.0	9,268.6	100.0	8.1	7.0
Live Animals	552.5	12.4	736.9	11.2	1,020.0	11.0	5.9	6.7
Meat & Meat Preparations	21.3	0.5	26.6	0.4	32.6	0.4	4.6	4.1
Dairy Products	245.8	5.5	403.1	6.1	575.3	6.2	10.4	7.4
Fruits & Vegetables	496.0	11.1	701.2	10.6	918.4	9.9	7.2	5.5
Rice	1.9	0.0	1.5	0.0	2.8	0.0	-4.8	12.9
Fish, Crustaceans, Mollusc & Preparations thereof	824.6	18.5	1,236.1	18.7	1,711.0	18.5	8.4	6.7
Feed stuff for Animals ¹	326.1	7.3	597.8	9.1	1,002.5	10.8	12.9	10.9
Others	1,997.8	44.7	2,895.7	43.9	4,006.0	43.2	7.7	6.7
Imports	7,784.3	100.0	12,964.8	100.0	21,896.8	100.0	10.7	11.1
Live Animals	142.0	1.8	205.8	1.6	354.2	1.6	7.7	11.5
Meat & Meat Preparations	279.0	3.6	465.6	3.6	767.2	3.5	10.8	10.5
Dairy Products	951.9	12.2	1,420.3	11.0	2,364.8	10.8	8.3	10.7
Fruits & Vegetables	1,127.8	14.5	1,913.6	14.8	3,255.0	14.9	11.2	11.2
Rice	356.1	4.6	500.7	3.9	764.8	3.5	7.1	8.8
Fish, Crustaceans, Mollusc & Preparations thereof	773.1	9.9	1,342.8	10.4	2,302.4	10.5	11.7	11.4
Feed Stuff for Animals ¹	582.3	7.5	1,219.7	9.4	2,166.1	9.9	15.9	12.2
Others	3,572.1	45.9	5,896.4	45.5	9,922.4	45.3	10.5	11.0

Note: ¹ Excludes importation of whole grain maize and soya bean.

declined from 47 work days in 1995 to 15 work days in 2000, thus further reducing the cost of production. In addition, the average yield in these areas improved from 4.0 tonnes per hectare to 5.8 tonnes per hectare. The revision of the guaranteed minimum price of padi in 1997 further increased the income of the farmers. The minimum prices for long grains and short grains were increased from RM49.60 to RM55 per hundred kilogrammes and from RM46.30 to RM51.69 per hundred kilogrammes, respectively.

8.18 Production in the *fruit and vegetable* subsectors continued to increase to meet local demand and for export. Production of fruits registered an increase of 6.2 per cent annually from one million tonnes in 1995 to 1.4 million tonnes in 2000, while the harvested area grew by 4.0 per cent per annum, from 244,500 hectares to 297,400 hectares. A total of 15 fruit types was promoted for commercial cultivation including banana, papaya, pineapple, watermelon, starfruit, mango, durian, rambutan, guava and citrus fruits. The production of vegetables, mainly from leafy, root and fruit vegetables, also increased from 718,000 tonnes in 1995 to one million tonne in 2000, recording a growth of 7.2 per cent per annum. The harvested area under vegetables grew by 4.1 per cent annually from 42,000 hectares to 51,400 hectares. The increase in production of both fruits and vegetables was made possible through expansion in planted areas, the provision of basic infrastructure and inputs as well as the promotion of organized and commercial cultivation.

8.19 Responding to the promotional efforts by the Government, the *fishery* subsector became more commercially oriented with the active participation of the private sector and the use of new technologies. Fishery production increased by 4.0 per cent per annum, from 1.2 million tonnes in 1995 to 1.5 million tonnes in 2000, of which about 85 per cent was from marine catch and the balance from aquaculture. Inshore fish landings contributed more than 80 per cent of the total marine catch and employed more than 75 per cent of the 98,600 workforce in the subsector in 2000. Sustainable resource management was encouraged by promoting the Code of Conduct for Responsible Fisheries developed by the Food and Agriculture Organization (FAO) of the United Nations in 1997.

8.20 Aquaculture production, which involved about 19,700 farmers, increased from 133,000 tonnes in 1995 to 255,000 tonnes in 2000, registering an annual growth of 14 per cent. Shrimps and brackish-water fish, valued at RM840 million in 2000, involving a total area of 11,000 hectares, were the major products of the aquaculture subsector. Ornamental fish breeding was introduced as a commercial activity during the Plan period. Its production increased from

253 million in 1995 to 350 million in 2000 with a market value that doubled to reach RM90 million.

8.21 The *livestock* subsector recorded an improvement in terms of value added and grew at 3.1 per cent per annum, from RM953 million in 1995 to RM1.1 billion in 2000. The production of beef, mutton and milk recorded a high growth, ranging from 5.2 to 10.5 per cent per annum, mainly due to the integration of livestock rearing in oil palm and rubber plantations. Land development agencies namely, the Federal Land Development Authority (FELDA), Rubber Industry Smallholder Development Authority (RISDA) and the Federal Land Consolidation and Rehabilitation Authority (FELCRA) together with the Pahang State Farmers Organization (PASFA) and the Johor State Farmers Organization (PPNJ) participated in the integration programme and were rearing 15 per cent of the cattle population under the programme by 2000. In addition, credit facilities, infrastructure support and extension services were provided to smallholders to encourage their participation in the programme.

8.22 The poultry industry continued to be the main source of growth for the livestock subsector accounting for RM4.3 billion in current value or 67.1 per cent of the total livestock produce in 2000. During the Plan period, it registered 8.8 per cent growth per annum, whereby production increased from 687,000 tonnes in 1995 to one million tonne in 2000. The cost of production continued to rise mainly due to the increase in the price of imported animal feed and other inputs. In this regard, the Government introduced a price mechanism to ensure reasonable returns to producers and to protect consumers. Egg production increased from 6.2 billion units in 1995 to 8.2 billion units in 2000, a growth of 5.7 per cent per annum, to meet local and export markets. In addition, the commercialization of research and development (R&D) findings resulted in the production of better quality and cholesterol-free eggs.

8.23 Pork production reduced drastically from 283,000 tonnes in 1995 to 150,000 tonnes in 2000 due to the culling of pigs to control the outbreaks of the Japanese Encephalitis and the Nipah viruses. Promotion of exotic animals as an alternative meat source, especially for low-cholesterol meat to cater for niche markets was emphasized. The population of ostrich and deer increased from 2,400 birds and 94,300 heads in 1995 to 5,000 birds and 165,100 heads, respectively, in 2000. Besides the meat, by-products such as feather, leather and eggshells of ostrich and deer horn fetched high prices for quality accessories, crafts and home products.

Local Processing

8.24 With commercialization of various R&D findings and the provision of incentives such as tax relief, the downstream processing of agricultural products, especially food, increased during the Plan period. The processing of processed palm oil, rubber and pepper increased while that of sawlogs and cocoa decreased, as shown in Table 8-7. In the case of rubber, more than 80 per cent of the total domestic consumption was used by the gloves, thread and tyre and tube industries. Sawlogs used for timber-based products decreased from 24 million cubic metres in 1995 to 18.4 million cubic metres in 2000 due to the annual allowable coupe. Similarly, production of plywood and veneer decreased from 3.7 million cubic metres to 3.4 million cubic metres and from 2.2 million cubic metres to one million cubic metres, respectively, during the Plan period. The use of local cocoa beans also declined from 79,000 tonnes in 1995 to 59,000 tonnes in 2000 due to reduction in locally produced cocoa beans.

TABLE 8-7
**LOCAL PROCESSING AND UTILIZATION OF AGRICULTURAL INDUSTRIAL
COMMODITIES, 1995-2005**
(‘000 tonnes)

Commodity	1995	2000	2005	Average Annual Growth Rate (%)	
				7MP	8MP
Processed Palm Oil (PPO)	7,654	10,623	12,195	6.8	2.8
PPO used for End-products	1,159	1,423	1,485	4.2	0.9
% of PPO used for End-products	15.1	13.4	12.2		
Rubber	1,089	616	560	-10.8	-1.9
Rubber used for End-products	327	375	490	2.7	5.5
% of Rubber used for End-products	30.1	61.1	87.5		
Sawlogs (‘000 cubic metre)	31,842	23,898	18,864	-5.6	-2.4
Sawlogs used for End-products	23,978	18,394	19,000	-5.2	0.7
% of Sawlogs used for End-products	75.3	77.0	89.9		
Cocoa	131	70.0	115	-11.9	7.4
Cocoa used for End-products	79.0	59.0	70.0	-5.7	3.5
% of Cocoa used for End-products	60.3	84.3	60.9		
Pepper	13.0	24.0	30.0	12.6	4.6
Pepper used for End-products	0.95	2.0	3.0	16.1	8.4
% of Pepper used for End-products	7.3	8.3	10.0		

8.25 The processing of food, especially from fruits, vegetables, meat and fish continued to be promoted during the Plan period. The Malaysian Agricultural Research and Development Institute (MARDI) adapted new technologies in processing and packaging, such as dehydrating and vacuum-packing for local food products. The processing of local fruit juices such as carambola, mango, calamansi and tamarind; *coco de nata* from coconut as well as fish and meat-based products was further developed. Progress was also made in the processing of plants and aquatic-based organisms, particularly for food, health care and industrial uses. Among those successfully developed and promoted included noni juice, cosmetic and ointment from *gamat*, pills and medicated soap from goat's milk, herbal products, aromatic products and food flavourings. The value of the domestic market for herbal medicine in 1999 was around RM2 billion, with imports at RM430.5 million, compared with an export value of RM63.4 million. Insufficient and inconsistent supply of raw materials was identified as two major factors constraining the local processing industry.

Restructuring of Agricultural Agencies

8.26 With the view to further consolidating and improving the effectiveness of the agricultural institutions, several agencies were restructured during the Plan period. The Malaysian Rubber Exchange and Licensing Board (MRELB), Malaysian Rubber Research and Development Board (MRRDB) and the Rubber Research Institute of Malaysia (RRIM) were amalgamated into a single body, the Malaysian Rubber Board (MRB), responsible for the development of the rubber industry. Similarly, the Palm Oil Research Institute of Malaysia (PORIM) and Palm Oil Registration and Licensing Authority (PORLA) were merged to form the Malaysian Palm Oil Board (MPOB). Further, in order to rationalize and optimize resources, the Project Management Units (PMU) of the five Integrated Agricultural Development Projects (IADPs) outside the main padi growing areas were closed down and their functions reassigned to the respective line departments and agencies. With regard to land development, two regional development authorities (RDAs), namely the Development Authority of Pahang Tenggara (DARA) and Jengka Development Authority, were privatized. Meanwhile, FELDA, FELCRA and RISDA reorganized their management functions towards corporatization in order to improve their efficiency and effectiveness.

Agricultural Programmes

8.27 During the Plan period, agricultural programmes were carried out to modernize the sector and maximize the income of farmers. In this regard, the

modernization of the smallholders subsector was emphasized through promotion of group farming activities as well as provision of support services. *In-situ* development, through the rehabilitation and consolidation of existing agricultural land, continued to be the main strategy for agricultural development. However, new land development was also undertaken, mainly by the state and regional agencies as well as the private sector. In addition, the Government provided support services and appropriate incentives, including land, to facilitate private sector participation in large-scale commercial farming, especially for food production as well as floriculture and aquaculture activities.

In-situ and New Land Development

8.28 The *in-situ* land development approach continued to be adopted as a strategy to better utilize the land resources of smallholders and to overcome the limited availability of suitable land. As a result, about 395,500 hectares of land were replanted, consolidated and rehabilitated, as shown in *Table 8-8*, particularly through joint-ventures with the private sector or farmer groups. RISDA, FELCRA and Sarawak Land Consolidation and Rehabilitation Authority (SALCRA) helped farmers to consolidate their lands and replant with oil palm and rubber, using new clones and planting techniques including mixed farming. In addition, the Department of Agriculture (DOA), Farmers Organization Authority (FOA) and other public sector agencies actively promoted the cultivation of food crops on smallholdings using the nucleus estate and group farming concepts. With regard to cocoa, the Malaysian Cocoa Board (MCB) rehabilitated 1,100 hectares of cocoa holdings with the direct participation of smallholders.

8.29 During the Plan period, government agencies, with the involvement of private companies, developed a total of 132,500 hectares of *new land*, mainly for oil palm cultivation, as shown in *Table 8-9*. Among the government agencies, the State Agriculture Development Corporations (SADC) of Pahang, Perak and Selangor were the major developers of new land involving 47,200 hectares, mainly on a joint-venture basis with private companies. In addition, the state DOA of Sarawak and Sabah developed 46,000 hectares, while the RDAs developed 27,000 hectares.

Agricultural Support Services

8.30 The modernization of the agriculture sector was further accelerated through improvements in the delivery of agricultural support services. These services were provided to encourage farmers to venture into commercial farming, adopt

TABLE 8-8

**REPLANTING, LAND CONSOLIDATION AND REHABILITATION PROGRAMMES
BY AGENCY, 1996-2005**
(hectares)

Agency	7MP			8MP	
	Target	Achieved	% Achieved of Target	Target	% of Total
Replanting	234,423	214,530	91.5	532,354	55.8
Rubber Industry Smallholder Development Authority	139,315	137,472	98.7	109,260	11.4
Federal Land Development Authority	54,548	43,963	80.6	111,682	11.7
State Economic Development Corporations/Authority	16,788	11,294	67.3	20,054	2.1
Department of Forestry, Sarawak	10,000	9,000	90.0	257,500	27.0
Sarawak Land Development Board	5,574	4,541	81.5	-	-
Sabah Rubber Fund Board	4,490	4,498	100.2	7,000	0.7
South Kelantan Development Authority	1,311	1,121	85.5	7,928	0.8
Department of Agriculture, Sabah	595	830	139.5	4,910	0.5
Department of Agriculture, Semenanjung Malaysia	1,600	1,609	100.6	7,800	0.8
Regional Development Authority	202	202	100.0	3,220	0.3
Sarawak Land Consolidation & Rehabilitation Authority	-	-	-	3,000	0.3
Land Consolidation & Rehabilitation	292,724	180,995	61.8	422,057	44.2
Department of Forestry, Sabah	250,000	138,433	55.4	258,000	27.0
Federal Land Consolidation & Rehabilitation Authority	27,500	25,237	91.8	25,097	2.6
Sarawak Land Consolidation & Rehabilitation Authority	12,154	11,687	96.2	50,398	5.3
Department of Agriculture, Semenanjung Malaysia	2,540	4,544	178.9	87,562	9.2
Malaysian Cocoa Board	530	1,094	206.4	1,000	0.1
Total	527,147	395,525	75.0	954,411	100.0

new technologies and increase productivity. These services included R&D, training, extension and support services as well as the provision of credit facilities and basic infrastructure.

8.31 R&D activities were carried out to remove constraints in the agriculture sector, particularly low productivity and the shortage of labour. In the case of palm oil, the MPOB improved productivity through mechanization and the development of high-yielding dwarf oil palm. In addition, new products such as enriched margarine and oil blends including products from the blending of palm oil with goat milk were developed. MPOB also commissioned an Experimental

TABLE 8-9
NEW LAND DEVELOPMENT, 1996-2005
(hectares)

Agency	7MP			8MP	
	Target	Achieved	% Achieved of Target	Target	% of Total
State Agriculture Development Corporations	87,114	47,202	54.2	100,932	27.6
Private Companies	85,800	n.a	n.a	84,294	23.1
State Department of Agriculture ¹	53,963	45,855	85.0	89,692	24.6
Sabah/Sarawak Land Development Agencies	34,977	5,241	15.0	30,000	8.2
Regional Development Authorities ²	10,311	27,157	263.4	12,641	3.5
State Economic Development Corporations ¹	6,466	1,565	24.2	26,036	7.1
Sabah Rubber Fund Board	5,000	4,686	93.7	5,000	1.4
Forestry Department	1,206	779	64.6	3,900	1.1
Aborigines Affairs Department, Malaysia (Orang Asli reserve)	-	-	-	12,774	3.5
Total	284,837	132,484	46.5	365,269	100.0

Notes:

¹ Refers to Negeri Sembilan, Perlis, Sabah and Sarawak.

² Includes joint ventures with private sector.

n.a: not available

Palm Oil Mill for commercial operation in 1999 to provide facilities for R&D on cutting-edge milling technologies and training. In addition, a Field Mechanization Research Centre was commissioned in 2000 to carry out R&D on farm mechanization. With regard to rubber, MRB concentrated research efforts to develop and further promote latex-timber clones (LTC) of the RRIM 2000 series to ensure the supply of rubber and quality timber for the rubber- and wood-based industries.

8.32 R&D activities undertaken by the Forest Research Institute of Malaysia (FRIM) focused on sustainable forest management and development of timber and non-timber forest products including medicinal plants. Other R&D activities by FRIM included research on agro-forestry plantation involving integration of timber species with agricultural crops, as well as forest plantations. Meanwhile, MCB concentrated its research efforts on biological pest control and more pest and disease resistant clones as well as product development of cocoa-based food, beverages, cosmetic and pharmaceutical products.

reoriented to increase productivity and competitiveness. This will require a major shift from small-scale, monocropping and low technology farming to that of large-scale, integrated and high technology production. Towards this end, a greater involvement of the private sector and organized farming will be promoted, particularly in food production. To generate new sources of growth, activities and crops with commercial potential will be developed and greater linkages will be established with other sectors of the economy.

Policy Thrust

8.36 During the Eighth Plan period, the thrust will be to transform the agriculture sector into a modern, dynamic and competitive sector in line with the strategies of the NAP3. The main strategies for agricultural development for the Plan period will be:

- ☐ *expanding food production substantially to meet growing demand with a view to reducing imports and increasing exports;*
- ☐ *promoting private sector participation in medium- and large-scale commercial food production through the establishment of more permanent food production areas such as agro-technology and urban-horticulture parks as well as satellite farms;*
- ☐ *intensifying aquaculture development both inland and open sea;*
- ☐ *intensifying land use by enhancing a wider crop mix, integrating food production with plantation crops and promoting agro-forestry activities;*
- ☐ *enhancing competitiveness of agricultural produce by further promoting cost and labour-saving technologies and accelerating downstream processing;*
- ☐ *intensifying R&D, particularly in yield improvements and development of more end-products from agricultural by-products and waste;*
- ☐ *consolidating oil palm hectareage to rationalize production and establishing standards for Malaysian palm oil to increase competitiveness;*
- ☐ *reorienting rubber as a strategic crop supplying timber for the wood-based industry as well as latex for the rubber-based industry;*
- ☐ *utilizing natural resources, particularly forestry resources, on a sustainable and environment-friendly basis and promoting linkages with other activities such as manufacturing, eco- and agro-tourism;*

- ❑ *developing activities and crops with commercial potential including specialty natural products, other non-timber forest products, biotechnology products, floriculture and ornamental fish;*
- ❑ *strengthening human resource development by promoting new skills such as those related to information and communications technology (ICT) and new technologies to generate skilled workers in line with the knowledge-based economy as well as by enhancing the skill and knowledge of agricultural frontliners; and*
- ❑ *enhancing the income of farmers and smallholders by strengthening support services, improving the delivery mechanism, increasing the accessibility of credits and establishing insurance coverage as well as increasing their direct involvement in downstream processing.*

Agricultural Production

8.37 The sector is expected to grow by 3.0 per cent per annum, as shown in Table 8-1, compared with a growth of 1.2 per cent per annum in the Seventh Plan. The improved forecast is attributed to the aggressive implementation of food and other commodities production programmes. In addition, the intensification of land use, improvements in agronomic aspects, farming methods and management will also contribute to the growth. However, commodities such as sawlogs and rubber are projected to experience a negative growth as less forest will be available for logging in line with sustainable forest management practices and a decline in the planted hectareage for rubber.

Food Commodities

8.38 Food production will be expanded substantially to cater for the growing demand in the domestic market and with the objective of reduction in the import bill as well as for exports. Value added of the subsector is expected to grow, mainly due to the increase in the production of major food commodities, namely fisheries, livestock, padi as well as fruits and vegetables. The increase in production will be achieved through new hectareage, greater land intensity as well as improvements in efficiency and productivity. In addition, a wider adoption of new technologies and the use of high yielding seeds and biotechnology will also contribute to the increase in food production. Toward this end, the participation of private sector in medium- and large-scale commercial operations will be enhanced through the establishment of more permanent production areas such

as agro-technology and urban-horticulture parks as well as satellite farms. Supporting infrastructure facilities and services such as farm collection and distribution centres, packing house facilities, cold rooms and wholesale markets as well as transportation services will be upgraded.

8.39 *Fisheries* production is expected to increase from 1.5 million tonnes in 2000 to 1.9 million tonnes in 2005, registering a growth of 4.2 per cent per annum. The potential of medium- and large-scale aquaculture, both inland and open sea will be harnessed by establishing more production areas and greater participation of the private sector. To improve the income of farmers and fishermen, they will be encouraged and organized to venture into commercial aquaculture. Infrastructure such as modern landing and processing facilities together with other supporting services will be expanded to encourage private sector participation. In addition, ornamental fish rearing will be actively promoted as a new source of income for the subsector.

8.40 *Livestock* value added is projected to grow by 5.6 per cent per annum, from RM1.1 billion in 2000 to RM1.5 billion in 2005, particularly through the adoption of new technologies and upgrading of existing production technologies. To meet the expanding local and export markets, the production of chicks and ducklings, processing and marketing of poultry and higher value added products will be further integrated. Poultry production is expected to increase by 4.8 per cent per annum, from one million tonnes in 2000 to 1.3 million tonnes in 2005. The production of eggs is targeted to increase from 8.2 billion units to ten billion units with a growth of 3.9 per cent per annum during the same period. The production of beef and mutton is estimated to increase by 7.5 per cent per annum and 5.9 per cent per annum, respectively, from 28,000 tonnes and 1,000 tonnes in 2000 to 40,000 tonnes and 1,500 tonnes in 2005, due to improvements in the management system, breeding and disease control. The new breeds, namely *Brakmas* and *Malin*, will be promoted, particularly through the existing integration programmes with plantation crops to boost the local meat production. Pig production will be confined to pig farming areas (PFA) to control pollution and disease outbreaks.

8.41 *Padi* production is estimated to increase by 4.7 per cent per annum, from 2.2 million tonnes in 2000 to 2.8 million tonnes in 2005, contributing about 3.2 per cent of the growth in the food subsector. This will be achieved through productivity improvements where the average yield is targeted to improve from 4.5 to 7.0 tonnes per hectare for the granary areas and 3.5 to 5.5 tonnes per hectare for the non-granary areas. The participation of the private sector in opening up new land for commercial cultivation, particularly in Sabah and Sarawak, will further increase padi production.

8.42 *Fruits and vegetables* will continue to be given special focus because of their high development potential. Production of fruits and vegetables will be increased to meet domestic and export markets as well as to meet the demand of processing industries. Local demand for high quality fresh fruits and vegetables is expected to increase with the expanding population and higher purchasing power, while external demand is expected to increase due to promotional efforts in existing and new export markets. Permanent production areas including agro-technology parks, urban-horticulture parks, satellite farms and rubber-based integrated farming areas will be promoted to increase production. During the Plan period, the production of fruits is estimated to grow by 7.6 per cent per annum, from 1.3 million tonnes to two million tonnes, where priority will be given to nine types of fruits, namely mandarin orange, pineapple, jackfruit, papaya, carambola, mango, watermelon, guava and durian. The planted area for fruits is expected to increase by 5.0 per cent per annum, from 297,400 hectares in 2000 to 378,600 hectares in 2005. Efforts will also be taken to increase the production of quality vegetables through more intensive utilization of modern farming techniques such as rain shelters and insect proof structures, hydroponics, aeroponics, fertigation as well as post-harvest handling technology. Production of vegetables is expected to increase by 6.4 per cent per annum, from one million tonne in 2000 to 1.4 million tonnes in 2005, in tandem with the expected growth in planted area by 8.5 percent per annum, from 51,400 hectares to 77,300 hectares.

Agricultural Industrial Commodities

8.43 The agricultural industrial commodity subsector is expected to register a moderate growth during the Plan period. Production of CPO and palm kernel oil (PKO) is expected to increase at a rate of 2.8 per cent and 2.3 per cent per annum to 12.4 million tonnes and 3.8 million tonnes, respectively. The increase in production is attributed to the expansion in the matured area and improvements in the yield and oil extraction rate (OER). The planted area for *oil palm* is expected to decline at a rate of 2.2 per cent per annum to reach 3.1 million hectares in 2005 in line with the Government's policy to rationalize oil palm cultivation. Malaysian palm oil standards will be established to market the unique and high quality Malaysian palm oil.

8.44 The production of *rubber* is expected to decline by 1.9 per cent per annum, from 616,000 tonnes in 2000 to 560,000 tonnes in 2005, with the expected reduction in planted area due to conversion to other users as well as unfavourable prices. However, rubber cultivation will still be a significant contributor to the

sector's growth through the production of rubber wood for the wood-based industry. The subsector will be reoriented by encouraging the involvement of large-scale plantation in the downstream processing of rubber wood. A minimum of 20,000 hectares per year will be replanted with LTC to sustain the supply of rubber wood for the wood-based industry. The replanting and new planting of LTC will be integrated with other economic activities such as livestock rearing and fruit farming. The implementation of the mixed farming system, together with the wider utilization of LITS is expected to boost the income of land owners and rubber tappers. In this regard, funds for replanting and adoption of LITS will be provided.

8.45 *Cocoa* production is expected to increase by 7.4 per cent per annum, from 70,000 tonnes in 2000 to 115,000 tonnes in 2005 due to improved productivity. Export earnings from cocoa and cocoa-based products are also expected to increase to RM615 million in 2005. Domestic demand for cocoa beans is anticipated to increase due to expansion in downstream activities, in particular cocoa grindings.

8.46 *Pepper* production is expected to increase by 4.6 per cent per annum, from 24,000 tonnes in 2000 to 30,000 tonnes in 2005 due to better maintenance of farms and an expansion in planting areas to 12,500 hectares. The development and wider acceptance of end-products from pepper such as pepper sauce, sweets and confectionery as well as other food seasonings is expected to increase the demand for pepper.

8.47 Production of *tobacco* is expected to increase by 6.4 per cent per annum, from 11,000 tonnes in 2000 to 15,000 tonnes in 2005, while the area under cultivation is expected to decline by 3.6 per cent to 12,500 hectares. The increase in production is mainly due to yield improvements, which is estimated to reach about 1,900 kilogrammes per hectare in 2005. However, with market liberalization under the Common Effective Preferential Tariff (CEPT) of the ASEAN Free Trade Area (AFTA), the tobacco industry will be restructured and alternative crops promoted to generate additional income to growers and curers.

8.48 The conservation of biological diversity will continue to be given emphasis during the Plan period by expanding sustainable forest management practices. With the conservation efforts, *sawlogs* production is expected to decline by 2.4 per cent, from 23.9 million cubic metres in 2000 to 18.9 million cubic metres in 2005. The national guideline for tracking sawlogs and timber products as required in the timber certification system, will be further improved to meet international requirements. Greater focus will be given to increasing the productivity of forest resources to meet the expanding demand for raw materials from the

timber-based industries. This will be undertaken through improved silvicultural treatment, forest rehabilitation, afforestation as well as more intensified R&D and support services. In addition, the promotion and development of agro-forestry and forest plantations especially for rubber and other selected timber species will be intensified. The development of non-timber forest products including bamboo and rattan and timber by-products, will be promoted to increase value added and provide new sources of growth for the sector. Similarly, eco-tourism and related services will also be promoted to capitalize on the uniqueness of the tropical rain forest for recreation and education.

8.49 *Floriculture* is expected to register an annual growth of 6.5 per cent per annum during the Plan period with the production of cut flowers increasing from 500 million stalks in 2000 to 686 million stalks in 2005. The main increase in production will be from highland flowers and ornamental plants. Measures will be undertaken to improve the production of flowers at the farm level through high-tech farming methods and improved facilities in handling and transportation, particularly through the provision of larger air cargo capacity.

Specialty Natural Products

8.50 The emergence of various specialty natural product industries such as for health, cosmetics and flavour as well as fragrances, is expected to contribute to the development of high value added specialty natural resources. In this respect, R&D efforts will focus on the development of products from plants and aquatic-based organisms. To further develop the industry, a pool of researchers and support personnel will be trained in several key areas, particularly pharmaceutical, biotechnology, medicinal and industrial chemistry.

Employment

8.51 Employment in the agriculture sector is expected to decline by 1.5 per cent per annum, from 1.4 million in 2000 to 1.3 million in 2005. The value added per worker is projected to increase by 4.5 per cent per annum during the Plan period. Several subsectors will continue to experience labour shortages due to the slow adoption of mechanized and automated production systems and processes as well as other labour-saving technologies. With the changing structure and focus towards modernization of the agriculture sector, the demand for workers with technical competence and managerial skills, as well as techno-prenuership among farmers is expected to increase.

Restructuring of Agricultural Agencies

8.52 The restructuring of agricultural agencies will be continued to enhance their professionalism in providing technical and regulatory services, particularly to facilitate private sector involvement in medium- and large-scale agriculture production as well as to augment the income of their clientele. Corporatization of agencies such as FELDA, FELCRA and RISDA will be reviewed to ensure that the interest of the settlers and smallholders will not be effected. Measures will be taken to ensure that settlers and smallholders benefit from the involvement of these agencies in downstream and related industries through their subsidiaries and associated companies.

8.53 In addition, various departments under the Ministry of Agriculture (MOA) will be restructured in line with the newly developed MOA Incorporated (MOA Inc.) model, which among others, emphasizes the role of MOA frontliners in supporting the participation of the private sector. In this regard, the delivery systems of agencies such as FAMA, DOA, the Department of Veterinary Services (DVS) and Department of Fisheries (DOF), which are directly interfacing with the target groups will be enhanced. FAMA will be reoriented to strengthen agricultural marketing and will take a leading role in organizing farmers and smallholders involvement in marketing through establishment of contract farming and creating better linkages with supermarkets and retailers.

Agricultural Programmes

In-situ and New Land Development

8.54 A total of 954,400 hectares of land will be developed *in-situ* through replanting, land consolidation and rehabilitation programmes by various agencies, as shown in *Table 8-8*. From this amount, a total of 532,300 hectares will be under replanting programmes and the remaining 422,100 hectares under the land consolidation and rehabilitation programmes.

8.55 During the Plan period, a total 365,000 hectares *new land* will be developed, as shown in *Table 8-9*. Of this total, SADCs and RDAs will develop 100,900 hectares or 27.6 per cent and 12,600 hectares or 3.5 per cent, respectively, which will mostly be developed jointly with the private sector. A big proportion of this land development will be in Sabah and Sarawak.

8.56 During the Plan period, agricultural support services, which include R&D, extension services, marketing, training, credit facilities as well as institutional support, will be further strengthened. R&D efforts will emphasize the development of more end-products from agricultural by-products and waste. In addition, R&D will focus on establishing means to increase the local processing of agricultural produce and on modern technologies to improve productivity and quality, as well as on commercialization of R&D findings. Managerial and organizational skills of the marketing institutions will be strengthened to further improve marketing services of agricultural produce in order to increase income of farmers and smallholders. In addition, an income augmentation mechanism as well as more income generating activities will be introduced to assist farmers and smallholders. Professional advisory and consultancy services, training and credit facilities as well as infrastructure will be extended to smallholders to increase their participation in commercial agricultural activities. Similarly, incentives and advisory services will also be extended to the private sector to encourage their involvement.

8.57 In the food subsector, R&D efforts will concentrate on developing new technology packages ranging from production to post-harvest handling and downstream processing. MARDI will focus on priority research areas including genetic improvement and pest management using biotechnology; post-harvest technology and mechanization; and development of value added products including end-products from agricultural by-products and waste such as coconut trunks, fronds and shells, coupled with attractive product packaging. In the fishery subsector, research efforts will emphasize genetic improvement, product development, new culture systems such as open and deep-sea cage culture, and treatment of water and effluents. R&D in livestock will be reoriented towards meeting the needs of the industry through collaborative research with the private sector, particularly in the area of automation in intensive livestock production, breed improvement as well as feed from local alternatives. MARDI, FRIM and other research institutions will also carry out research on commercial cultivation of kenaf, jojoba, herbs, spices and medicinal plants and development of herbal products for health care, food colouring and flavours, essential oils, phytomedicine and other specialty natural products.

8.58 In the industrial commodity subsector, MPOB will continue its research on oil palm, including breeding, harvesting, milling and refinery technologies, biotechnology, product development as well as utilization of oil palm waste and biomass. Likewise, MRB will continue to enhance research on a viable planting and crop-mix system, integrating rubber with other agricultural activities. As

part of the efforts to reorientate rubber as a strategic crop, a RM1 billion fund will be launched to provide allocation to smallholders to replant rubber using LTC, which will be integrated with food production activities. R&D for cocoa and pepper will concentrate on modern farming technology, new end-products and commercialization of research findings.

8.59 In the forestry subsector, R&D efforts in sustainable forest management and forest product development, including utilization of under-utilized species such as bamboo and rattan, as well as wood-waste and by-products, will be continued. In this regard, research activities will focus on diversifying the utilization of forest resources and promoting higher operational efficiency in the production system through the introduction of innovative and environment-friendly production and processing technologies.

8.60 In line with the knowledge-based economy, agricultural extension services and training will emphasize modern agronomic practices, management and entrepreneurship incorporating the use of ICT and modern technologies to improve productivity. In this respect, the new skills and knowledge required will be incorporated in formal and non-formal training programmes. At the tertiary level, courses on modern agriculture, especially estate management of mixed-farming enterprises will be introduced. In addition, training programmes and curricula of existing agricultural training institutes will be reorganized to train agricultural frontline workers in the latest technology and management techniques.

8.61 Agricultural investment is expected to increase during the Plan period, particularly in food production. The Government will undertake measures to increase accessibility of credit as well as introduce insurance coverage and services to support agricultural activities. In addition, the Government will continue to provide incentives such as soft loans to encourage investment in small-, medium- and large-scale operations, particularly by the private sector. BPM will continue to extend credit to encourage small farmers in food production, promote mechanization and automation as well as encourage the commercialization of R&D findings and development of new ventures. In addition, the terms and conditions of 3F will be reviewed to enable more farmers to benefit from the fund.

8.62 The Government will continue to provide basic physical infrastructure to modernize the agriculture sector as well as to encourage the participation of farmers in commercial food production. The drainage and irrigation system will be further upgraded to increase the efficiency of water utilization in the granary areas. In the fishery industry, the establishment of fishery complexes at Tanjung

Gemok in Pahang, Tok Bali in Kelantan and Batu Maung in Pulau Pinang will be accelerated to support the integrated fishery industry. At the same time, a new fishery complex will be developed at Tanjung Manis, Sarawak to cater for the potential fishing industry in the state.

IV. ALLOCATION

8.63 The total allocation of the various public agencies involved in agricultural development in the Eighth Plan is RM7.9 billion, as shown in *Table 8-10*. This allocation represents 7.1 per cent of the total Plan allocation of RM110 billion. The various provisions for extension and support services and infrastructure

TABLE 8-10
DEVELOPMENT ALLOCATION FOR AGRICULTURE, 1996-2005
(RM million)

<i>Programme/Subsector</i>	<i>7MP Allocation</i>	<i>7MP Expenditure</i>	<i>8MP Allocation</i>
New Land Development	475.9	475.9	274.2
Regional Development	812.9	807.0	570.1
<i>In-Situ</i> Land Development ¹	3,115.4	2,941.9	2,265.1
Forestry	144.4	143.8	225.2
Fishery	495.8	465.3	414.3
Livestock	223.6	176.3	127.5
Support Services ²	409.5	354.3	719.0
Irrigation and Flood Mitigation	1,715.6	1,929.9	2,170.2
Other Programmes	893.8	844.9	1,094.4
Total	8,286.9	8,139.3	7,860.0

Notes:

¹ Includes IADPs, replanting scheme and land consolidation and rehabilitation programme.

² Includes agricultural credits, R&D (excluding allocation under IRPA), marketing and extension and other services.

programmes under the MOA, including *in-situ* development and irrigation and flood mitigation will receive significant allocations, reflecting the greater emphasis given to food production. The allocation for the industrial commodities subsector will concentrate on strengthening R&D as well as support services to increase the competitiveness of the commodities.

V. CONCLUSION

8.64 During the Seventh Plan period, the agriculture sector recorded an improvement in real value added and proved to be a resilient sector during the economic downturn. The thrust of agricultural development during the Eighth Plan period will continue to be guided by the NAP3 to become a modern, dynamic and competitive sector. While efficiency and productivity improvements will be achieved through modernization and mechanization of agricultural activities as well as through the active participation of the private sector, focus will be given on food production to meet growing demand and reduce the import bill. Specialty natural products from forest and other sources will be developed on a sustainable basis in line with the effort to conserve resources. In the industrial commodities subsector, oil palm cultivation will be rationalized while rubber will be reoriented as a strategic crop.

Chapter 9

Industrial Development



9

INDUSTRIAL DEVELOPMENT

I. INTRODUCTION

9.01 The expansion of the manufacturing sector continued to provide the main stimulus to the growth of the Malaysian economy. During the Seventh Malaysia Plan period, various measures were implemented by the Government to consolidate and strengthen the competitiveness of the manufacturing sector. Although the sector was adversely affected during the economic slowdown, improvements in external and domestic demand during 1999-2000 contributed to a broad-based recovery in the manufacturing sector.

9.02 During the Eighth Malaysia Plan period, emphasis will be given to the development of a new competitive advantage based on information and communications technology (ICT) and enhanced productivity, to enable the sector to advance further. Industrial development will be supported with greater efforts in research and development (R&D) to enable industries to improve on existing products as well as introduce new ones, which are more competitive in the market. The implementation of the Small and Medium Industry Development Plan (SMIDP) is expected to contribute to the establishment of resilient and competitive small- and medium-scale industries that will strengthen inter- and intra-industry linkages in the economy. In addition, efforts at product and market promotion will be intensified to sustain and enhance Malaysia's exports in the global market.

II. PROGRESS, 1996-2000

Growth Performance by Industry

9.03 Manufacturing output expanded during the period at an average annual rate of 9.1 per cent, higher than the revised Plan target of 3.9 per cent. While

output was affected during the economic slowdown in 1998, with the sector registering a contraction of 13.4 per cent, the overall performance of the manufacturing sector recovered strongly in 1999. The sector grew by 13.5 per cent in 1999 and 21.0 per cent in 2000, in line with the rapid growth in demand for manufactured goods. With the favourable performance of the sector, its share to Gross Domestic Product (GDP) rose from 27.1 per cent in 1995 to 33.4 per cent in 2000, as shown in *Table 9-1*.

TABLE 9-1
GROWTH OF MANUFACTURING INDUSTRIES, 1995-2000

Industry	Value Added (RM million in 1987 prices)		Share of Value Added (%)		Average Annual Growth Rate, 1996-2000 (%)
	1995	2000	1995	2000	
Resource-Based	21,814	29,939	48.3	42.9	6.5
Vegetables, Animal Oils & Fats	1,203	2,222	2.7	3.2	13.1
Other Food Processing, Beverages & Tobacco	3,504	4,724	7.8	6.8	6.2
Wood & Wood Products	3,030	3,196	6.7	4.6	1.1
Paper & Paper Products	1,888	2,802	4.2	4.0	8.2
Industrial Chemical & Fertilizer	2,581	3,495	5.7	5.0	6.3
Other Chemical & Plastic Products	2,613	3,528	5.8	5.0	6.2
Petroleum Products	2,477	4,252	5.5	6.1	11.4
Rubber Processing & Products	1,549	1,853	3.4	2.7	3.6
Non-Metallic Mineral Products	2,969	3,867	6.6	5.5	5.4
Non-Resource-Based	22,306	38,439	49.4	55.0	11.5
Textiles, Wearing Apparel & Leather	2,311	2,451	5.1	3.5	1.2
Basic Metal Industry	513	1,049	1.1	1.5	15.4
Metal Products	1,551	3,182	3.4	4.6	15.5
Manufacture of Machinery Except Electrical	2,675	3,434	5.9	4.9	5.1
Electronics	10,288	19,460	22.8	27.9	13.6
Electrical Machinery	832	1,507	1.8	2.2	12.6
Transport Equipment	4,136	7,356	9.2	10.5	12.2
Others	1,055	1,489	2.3	2.1	7.1
Total	45,175	69,867	100.0	100.0	9.1
% to GDP			27.1	33.4	

9.04 During the Plan period, the non-resource-based industries grew at an average annual rate of 11.5 per cent compared with resource-based industries, which grew at 6.5 per cent. The electronics industry remained as the leading industry in terms of its contribution to manufacturing value added, with its share increasing to 27.9 per cent in 2000 compared with 22.8 per cent in 1995. The high global demand for products in this subsector was largely attributable to the increased usage of the Internet and electronic commerce (e-commerce) as well as intensified efforts in upgrading facilities to address the Y2K problem. The period also witnessed double-digit growth in the basic metal, transport equipment, oils and fats as well as petroleum products industries, which further supported the growth of the sector.

Export of Manufactured Goods

9.05 The expansion of exports provided the main impetus to the growth and recovery of the manufacturing sector in the Seventh Plan. The export performance of the sector was impressive, increasing by 16.6 per cent per annum from RM147.3 billion in 1995 to RM317.9 billion in 2000, as shown in *Table 9-2*. As a result, exports of manufactured goods accounted for a higher share of 85.2 per cent of total gross exports in 2000 compared with 79.6 per cent in 1995. The main contributor to this growth was the electrical and electronic products industry, which accounted for 72.5 per cent of total manufactured exports in 2000. In line with the shift into higher value-added industries, a wider range of electrical and electronic products was exported including electro-diagnostic apparatus and digital video discs. Other industries that contributed favourably to the growth in exports included the chemical products, petroleum products, manufactures of metal as well as textiles, clothings and footwear.

9.06 In terms of market destination, the United States, Europe and Japan remained the major trading partners for Malaysia's manufactured exports, as shown in *Chart 9-1*. Export to these countries accounted for about 51 per cent of the total exports of manufactures. Nevertheless, progress was also made in new markets, particularly in the Asia-Pacific region in countries such as Taiwan, Australia and the People's Republic of China. The share of manufactured exports to ASEAN countries declined from 27.8 per cent in 1995 to 26.6 per cent in 2000 due to the economic slowdown in the region.

Employment, Productivity and Training

9.07 The expansion of the manufacturing sector contributed significantly to employment creation during the Seventh Plan period. Employment in the sector

TABLE 9-2
EXPORTS OF MANUFACTURED GOODS¹, 1995-2000
(RM million)

Industry	1995	%	2000	%	Average Annual Growth Rate, 1996-2000 (%)
Resource-Based	22,896.4	15.5	42,923.9	13.5	13.4
Food	3,218.1	2.2	4,508.5	1.4	7.0
Beverages & Tobacco	397.0	0.3	1,206.6	0.4	24.9
Petroleum Products	3,126.6	2.1	8,130.7	2.6	21.1
Chemical & Chemical Products	6,256.5	4.2	15,011.3	4.7	19.1
Rubber Products	3,267.8	2.2	4,695.0	1.5	7.5
Wood Products	4,953.7	3.4	6,801.3	2.1	6.5
Non-Metallic Mineral Products	1,676.7	1.1	2,570.5	0.8	8.9
Non-Resource-Based	113,172.9	76.9	252,383.3	79.4	17.4
Textiles, Clothing & Footwear	6,518.5	4.4	10,433.4	3.3	9.9
Manufactures of Metal	4,655.6	3.2	8,617.8	2.7	13.1
Electrical & Electronic Products	96,747.8	65.7	230,429.3	72.5	19.0
Transport Equipment	5,251.0	3.6	2,902.8	0.9	-11.2
Other Manufactures	11,183.7	7.6	22,601.1	7.1	15.1
Total	147,253.0	100.0	317,908.3	100.0	16.6
Total (US\$) ²	58,711.0		83,660.1		7.3
% of Total Gross Exports	79.6		85.2		

Notes:

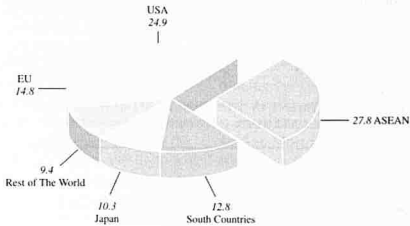
¹ Exclude exports of processed palm oil and other edible oil products.

² Based on the following exchange rates: RM/US\$: 1995 = RM2.5081 and 2000 = RM3.8000.

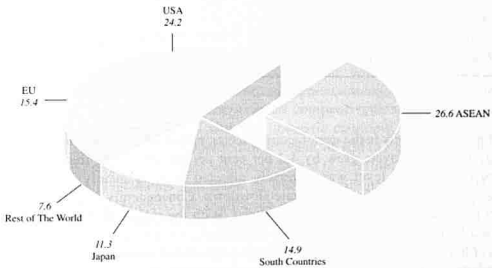
expanded at a rate of 4.8 per cent per annum, faster than the target of 3.4 per cent. As a result, the sector accounted for 41.7 per cent or 530,800 of the new jobs created during the period. A total of 2,558,300 people was employed in the sector in 2000 compared with 2,027,500 in 1995. The subsectors that contributed significantly to employment creation in the manufacturing sector were the electrical and electronic products, wood and wood products, rubber products and textile industries. The demand for all categories of workers expanded during the period, as shown in *Table 9-3*. The technical and supervisory category grew at a high rate of 8.0 per cent per annum and accounted for 10.5 per cent of total employment

CHART 9-1

**MAJOR EXPORT DESTINATIONS FOR MANUFACTURED PRODUCTS,
1995-2000
(%)**



**1995
RM147.3 billion**



**2000
RM317.9 billion**

created in the manufacturing sector by 2000. This was a positive development and indicated increasing adoption of new technologies in the manufacturing sector. The largest share of employment of 31.2 per cent was for the unskilled category of workers. However, the skilled category recorded a high growth of 5.2 per cent compared with 3.1 per cent for the unskilled category. The higher demand for skilled workers also reflected a shift towards more technology-intensive industries.

TABLE 9-3
EMPLOYMENT IN THE MANUFACTURING SECTOR
BY CATEGORY OF WORKERS, 1995-2000

Category	1995	%	2000	%	Average Annual Growth Rate, 1996-2000 (%)
Managerial & Professional	87,183	4.3	122,797	4.8	7.1
Technical & Supervisory	182,475	9.0	268,622	10.5	8.0
Clerical	127,733	6.3	156,056	6.1	4.1
General Workers	62,852	3.1	74,191	2.9	3.4
Skilled	527,150	26.0	677,950	26.5	5.2
Semi-skilled	354,812	17.5	460,494	18.0	5.4
Unskilled	685,295	33.8	798,190	31.2	3.1
Total	2,027,500	100.0	2,558,300	100.0	4.8

9.08 Productivity in the manufacturing sector, measured in terms of manufacturing output per employee, grew by 4.2 per cent per annum during the Plan period. The productivity level was adversely affected in 1998 mainly due to excess capacities because of the economic slowdown. Consequently, a negative rate of 7.9 per cent in productivity was recorded. With the robust growth of the sector towards the end of the Plan period, a positive growth rate of 10.8 per cent was recorded in 2000. Among the initiatives undertaken to enhance productivity were the continuous upgrading of the quality of the workforce, enhancing productivity and quality systems, higher technology utilization and strengthening institutional support systems. These initiatives were supported by promotional activities and information dissemination undertaken by the National Productivity Corporation

(NPC) and SIRIM Berhad, to educate enterprises on the latest techniques in productivity and quality improvements.

9.09 The Government continued to give emphasis on industrial training to meet the increasing demand for skilled manpower. In this regard, a total of RM87.4 million was provided by the Federal Government to the state skill development centres (SDCs), mainly for the purchase of equipment. The SDCs also received support from the state governments in the form of land and building as well as for their operating budgets while the private sector provided some equipment and management expertise in running the centres. During the Plan period, a total of 72,187 people was trained. Of this total, 71 per cent were workers while the remainder were school leavers who were given early exposure on basic skills to prepare them for the job market. Most of the training provided was in high-technology and high-skilled areas including industrial automation and electronics, information and communications technology (ICT), manufacturing technology and mechatronics. In addition to the SDCs, the industrial training institutes also produced skilled manpower totalling 14,855 during the period to meet the needs of industry.

Manufacturing Investment

9.10 During the Plan period, private investment in the manufacturing sector was significant and amounted to about RM90 billion compared with RM84 billion during the Sixth Plan period. In consonance with the Government's policy to promote investments, especially in high-technology and value-added industries that would strengthen international competitiveness of the sector as well as generate strong linkages with the domestic economy, a total of 3,908 projects was approved with a proposed investment of RM137 billion, as shown in Table 9-4. Foreign investments amounted to RM73.7 billion or 53.8 per cent, while domestic investments amounted to RM63.3 billion. The high level of foreign investment reflected the confidence and continued commitment among foreign investors to invest in the country.

9.11 Project approvals were highest in the electrical and electronic products industry, machinery manufacturing, fabricated metal products, chemical and chemical products as well as transport equipment industries. A significant development was the large number of projects for expansion and diversification.

Almost one-half of the approved projects was for this purpose, indicating the attractiveness of the country as a location for manufacturing investments. Proposed investments were highest in the electrical and electronic products (RM40.9 billion) followed by the petroleum products including petrochemicals (RM23.1 billion), basic metal products (RM9.9 billion), chemical and chemical products (RM9.6 billion) and natural gas (RM9.5 billion) industries. About 63 per cent of projects with proposed investments of RM100 million and above were from these industries.

TABLE 9-4
APPROVED MANUFACTURING PROJECTS, 1996-2000¹

Industry	Number	Capital Investment (RM million)		
		Domestic	Foreign	Total
Resource-Based	1,609	38,092.3	32,912.0	71,004.3
Food Manufacturing	229	1,679.1	1,479.2	3,158.3
Beverages & Tobacco	34	198.4	595.9	794.3
Wood & Wood Products	191	2,224.9	732.0	2,956.9
Furniture & Fixtures	178	836.4	343.6	1,180.0
Paper, Printing & Publishing	121	4,599.4	3,616.6	8,216.0
Chemical & Chemical Products	241	3,641.4	5,947.7	9,589.1
Petroleum Products	55	9,347.2	13,775.3	23,122.5
Natural Gas	3	7,993.5	1,477.9	9,471.4
Rubber Products	116	908.4	872.3	1,780.7
Plastic Products	225	1,457.2	1,047.0	2,504.2
Non-Metallic Mineral Products	216	5,206.4	3,024.5	8,230.9
Non-Resource-Based	2,233	24,966.9	40,610.5	65,577.4
Textiles & Textile Products	218	926.6	1,902.0	2,828.6
Leather & Leather Products	14	45.5	31.7	77.2
Basic Metal Products	187	6,926.4	2,971.0	9,897.4
Fabricated Metal Products	249	1,406.3	2,051.9	3,458.2
Machinery Manufacturing	292	1,329.1	1,596.9	2,926.0
Electrical & Electronic Products	1,003	10,734.8	30,176.5	40,911.3
Transport Equipment	237	3,547.9	1,621.7	5,169.6
Scientific & Measuring Equipment	33	50.3	258.8	309.1
Miscellaneous	66	249.1	163.6	412.7
Total	3,908	63,308.3	73,686.1	136,994.4

Note: ¹ For the year 2000, capital investment is defined to include financing for working capital requirement and pre-operational expenses.

9.12 In terms of the distribution of projects by state, the approved investment projects were largely located in the States of Selangor, Johor and Pulau Pinang, as shown in *Table 9-5*. These states attracted 2,427 projects or 62 per cent of the total number of projects. Some progress was also made in encouraging investors to locate in the Eastern Corridor of Peninsular Malaysia¹, Sabah and Sarawak. Investments totalling RM43.2 billion were approved in these areas compared with RM35.9 billion during the Sixth Plan period. The incentives to promote investments in the Eastern Corridor included income tax exemption of 85 per cent of statutory income to companies granted pioneer status or an investment tax allowance of 80 per cent in respect of the qualifying capital expenditure incurred. During the Plan period, the Government also focused efforts in developing the physical and social infrastructure of the designated Eastern Corridor of Peninsular Malaysia, Sabah and Sarawak to improve its attractiveness to investors.

TABLE 9-5
APPROVED MANUFACTURING PROJECTS
BY STATE, 1996-2000^a

<i>State</i>	<i>Number of Projects</i>	<i>Proposed Capital Investment (RM million)</i>
Johor	857	19,775.2
Kedah	233	12,214.6
Kelantan	44	543.1
Melaka	164	6,750.2
Negeri Sembilan	165	6,200.1
Pahang	116	10,405.7
Perak	259	6,283.4
Perlis	13	1,575.0
Pulau Pinang	519	16,592.6
Sabah	125	3,725.3
Sarawak	181	15,338.9
Selangor	1,051	23,479.5
Terengganu	79	13,225.1
Wilayah Persekutuan Kuala Lumpur	97	853.6
Wilayah Persekutuan Labuan	5	32.1
Total	3,908	136,994.4

Note: ^a For the year 2000, capital investment is defined to include financing for working capital requirement and pre-operational expenses.

¹ Comprises the States of Kelantan, Terengganu, Pahang and the district of Mersing in Johor.

9.13 Total outstanding loans to the manufacturing sector by the banking system increased at a rate of 6.3 per cent per annum from RM42.4 billion in 1995 to RM57.4 billion in 2000. Most of the loans were extended to the wood and wood products, iron and steel products, electrical and electronic products, non-metallic mineral products as well as textile and wearing apparel industries, as shown in Table 9-6. The domestic market-oriented industries received about 60 per cent share of the loans compared with 40 per cent to the export-oriented industries.

TABLE 9-6
LENDING OF COMMERCIAL BANKS TO THE MANUFACTURING
SECTOR BY INDUSTRY, 1995-2000
(RM million)

Industry	1995	%	2000	%	Average Annual Growth Rate, 1996-2000 (%)
Rubber Processing & Rubber Products	1,549.8	3.7	316.6	0.6	-27.2
Tin	83.1	0.2	25.8	0.0	-20.9
Palm Oil Processing	1,456.8	3.4	2,016.5	3.5	6.7
Food, Beverages & Tobacco	2,271.8	5.4	4,021.3	7.0	12.1
Textile & Wearing Apparel	2,803.9	6.6	4,258.6	7.4	8.7
Wood & Wood Products	4,342.1	10.2	5,996.5	10.5	6.7
Paper & Paper Products	1,276.1	3.0	1,690.5	2.9	5.8
Printing & Publishing	1,105.5	2.6	2,024.0	3.5	12.9
Industrial Chemicals	1,033.7	2.4	2,091.2	3.7	15.1
Petroleum Products	325.5	0.8	n.a.	n.a.	n.a.
Plastic Products	2,120.6	5.0	2,567.3	4.5	3.9
Building Materials	2,018.3	4.8	2,061.5	3.6	0.4
Iron & Steel Products	5,596.9	13.2	5,896.6	10.3	1.0
Metal Products	1,794.0	4.2	3,337.5	5.8	13.2
Machinery (Non-Electrical)	544.1	1.3	929.1	1.6	11.3
Electrical Machinery & Appliances	5,169.3	12.2	5,820.8	10.1	2.4
Transport Equipment	1,407.9	3.3	1,578.0	2.8	2.3
Non-Metallic Mineral Products	n.a.	n.a.	4,618.3	8.0	n.a.
Others	7,510.7	17.7	8,180.5	14.2	1.7
Total	42,410.1	100.0	57,430.6	100.0	6.3

n.a. Not available

Development of Small- and Medium-Scale Enterprises

9.14 The Seventh Plan accorded an important role to the small- and medium-scale enterprises (SMEs) in supporting national industrialization efforts through forging linkages across the manufacturing sector. Of an estimated 20,200 manufacturing establishments operating in Malaysia in 1996, more than 90 per cent were small- and medium-sized establishments. Despite their number, SMEs² contributed only 27.0 per cent to total manufacturing output and 26.2 per cent to total value added in the sector. SMEs employed 868,000 workers or 38.9 per cent of the total number of workers in the manufacturing sector. Most of the SMEs were concentrated in the food and food products, furniture and fixtures, chemical and chemical products and metal products subsectors.

9.15 To support the development of SMEs, the Government established the Small and Medium Industries Development Corporation (SMIDEC) in 1996 to provide effective leadership in planning and overall coordination. In particular, SMIDEC was tasked to promote the development of indigenous SMEs that were efficient and competitive as well as capable of producing high value-added and quality products and services for the global market. A study on the Small and Medium Industry Development Plan (SMIDP), 2001-2005 was undertaken in 1999 with a view to charting the future directions of SMEs. Specifically, the SMIDP study analyzed the strengths and weaknesses of the SMEs in terms of their capacity, capability and competitiveness in providing the essential support to the country's industrialization agenda and made recommendations on the strategies and measures for the full integration of the SME sector into the mainstream of manufacturing activities.

9.16 In an effort to further strengthen the SMEs, several programmes were implemented during the Plan period, covering a wide spectrum of SMEs' needs. These programmes included the Industrial Linkage Programme (ILP), Technology Development and Acquisition, Skills Development and Upgrading, Market Development, Infrastructure Development and Financial Support. The ILP, aimed at enhancing linkages and integration between SMEs and large companies, provided a captive market for SMEs through the supply of parts and components on a long-term basis. Since the introduction of this programme in 1997, a total of 128 SMEs benefited with a turnover of RM111.6 million. As a majority of the SMEs did not have the technological capability to improve production efficiency and

² The SMIDP defines SME as a company with an annual sales turnover of not exceeding RM25 million or full time employees of not exceeding 150.

product quality, the Government provided a matching grant of up to RM250,000 to SMEs to undertake product and process improvements. A total of 237 SMEs benefited from this programme during the Plan period. SMEs were also encouraged to acquire state-of-the-art technologies and processes under the Technology Acquisition Fund (TAF) where grants of up to 70 per cent were provided for the purchase of high-tech equipment and for technology licensing. In this regard, out of RM75.1 million grants approved under TAF, RM64 million or 85.2 per cent were extended to SMEs.

9.17 In addition to these programmes, SMEs were offered various financial packages such as the Industrial Technical Assistance Fund (ITAF), Y2K Grant, Financial Package for Small- and Medium-scale Industries (PAKSI), Modernization and Automation Scheme and the Quality Enhancement Scheme. Other available funds included the Fund for SMEs established in 1998 to assist existing SMEs to expand, diversify, export as well as utilize existing capacity, and the Rehabilitation Fund for Small- and Medium-scale Industries to assist SMEs with viable projects but had non-performing loans and temporary cash flow problems due to the economic slowdown.

9.18 To upgrade the knowledge and enhance the technical and managerial skills among SMEs, the Skills Upgrading Programme was introduced in 1997, which financed 50 per cent of the training fees incurred by SMEs. In addition, SMEs that contributed to the Human Resource Development Fund (HRDF) were eligible to claim for an additional 45 per cent of the training fees from the Fund. The scope of the Skills Upgrading Programme was expanded with the implementation of the Global Supplier Programme. This programme, which involved a strategic partnership among the SMEs, multinational corporations and training institutions, was aimed at strengthening the capability of SMEs as global suppliers.

9.19 To assist SMEs to penetrate export markets, two schemes, namely, the Business Planning and Development Scheme and the Market Development Scheme, were implemented. In addition, export incentives were also extended to SMEs such as the Export Credit Refinancing, Double Deduction for Promotion of Export and Export Credit Insurance. Since e-commerce was increasingly becoming a way of doing business, several electronic malls or portals were created as a means of encouraging SMEs to conduct trade electronically. One such portal was MyBiz, which attracted the participation of 376 SMEs by the end of 2000.

9.20 During the Plan period, the Government also provided support to Bumiputera SMEs in line with the objective of developing a viable and resilient Bumiputera

Commercial and Industrial Community (BCIC). There was an increased participation of Bumiputera SMEs in the Vendor Development Programme, which involved the participation of 256 vendors, 82 anchor companies and 18 financial institutions. To upgrade the capabilities of Bumiputera SMEs in managing their businesses, emphasis was placed on the provision of entrepreneurial skills. Towards this end, various types of entrepreneurial training programmes were provided, benefiting 58,888 Bumiputera entrepreneurs.

Industrial Technology and R&D

9.21 During the Seventh Plan period, the private sector continued to increase its contribution to the expansion of research activities. The National Survey of Research and Development indicated that the private sector spent a total of RM746.1 million in 1998 compared with RM400.1 million in 1996. Of this total, RM586.5 million or 78.6 per cent was spent in the manufacturing sector, mainly for the introduction of new equipment, systems or processes and their improvements. The electronic equipment and components as well as the transport equipment industries accounted for 29.1 per cent and 13.3 per cent of the R&D expenditure, respectively. While the R&D expenditure of foreign companies was focused on the electronic equipment industry, the R&D expenditure of local companies was distributed over a wide range of industries.

9.22 Only one-third of the companies carrying out R&D activities were small- and medium-sized firms, contributing 10.8 per cent to the total R&D expenditure. One of the factors hindering R&D was the lack of skilled personnel. In the Inter-Firm Linkages and Technology Development Study carried out in 1997, it was found that the average number of scientific, engineering and technical (SET) personnel per 100 employees for small local firms was 2.4 compared with 3.2 for the medium and 4.1 for the large local firms. For foreign firms, the average was 6.1 SET personnel per 100 employees.

9.23 Fiscal and financial incentives continued to be provided to stimulate R&D and technological innovation activities in the private sector. The fiscal incentives included full income tax exemption to companies granted pioneer status or an investment tax allowance of 100 per cent in respect of the qualifying capital expenditure incurred, double deductions for R&D expenditure, capital allowance, import duty exemption and industry building allowance. In terms of financial assistance, a total of 2,679 projects received matching grants amounting

to RM53.6 million provided under the ITAF 1 to 4, to support product development and design schemes as well as quality and productivity improvement schemes. The Industrial Research and Development Grant Scheme (IGS) was established with an initial allocation of RM100 million to promote market-oriented R&D and technology development projects involving the collaboration of the private sector, universities and research institutions. Since its launch in March 1997, a total of 58 projects amounting to RM138 million was approved.

9.24 To further accelerate and upgrade the development of indigenous technological capabilities, the Commercialization of Research and Development Fund (CRDF) and TAF were launched in September 1997. Both these funds, managed by the Malaysian Technology Development Corporation (MTDC), were allocated RM63 million and RM118 million, respectively. The focus of CRDF was the commercialization of R&D findings undertaken by local universities and research institutions as well as companies and individual researchers and inventors. By the end of 2000, a total of 38 projects amounting to RM32 million was approved under the CRDF. Among the successful projects were the Radiant Modular Kiln Drying System and a portable card acceptance device with biometrics capability. The TAF grant complemented the various technology incentive programmes by assisting in the acquisition of technology in strategic industries. In this regard, the grant facilitated the acquisition of foreign technologies through the purchase of high technology machinery and equipment, technology licensing and technical training. A total of 69 projects with a value of RM75.3 million was approved. The projects included the acquisition of equipment and machinery for the production of high precision carbide end mills and smart card modules.

9.25 Techno-infrastructure was also expanded to provide facilities for the private sector, especially for technology-intensive industries. Technology incubator centres were set up by MTDC and Technology Park Malaysia (TPM) to nurture and develop high technology start-up companies. MTDC technology incubation centres located in the vicinity of five universities, allowed the high-tech industries easy access to the universities' resources and facilities for R&D and technical expertise. By the end of the Plan period, a total of 53 companies was located in the MTDC incubator centres while another 79 technology-based start-up companies were in TPM. These companies were involved in activities related to biotechnology, multimedia and ICT, advanced electronics and software development. In addition, 20 companies producing high value-added cosmetic and toiletry products, benefited from the industrial incubator facilities provided by SIRIM Berhad.

9.26 Emphasis was also accorded to programmes providing technical and engineering support services to industries as well as promoting applied and developmental research and innovation in areas that contributed to industrial development. SIRIM Berhad provided services such as pilot plant design, R&D and engineering services for the automotive industry and support services for the printed circuit board. In particular, the Industrial and Engineering Design Centre was established to provide technical and engineering support services to the industry and the Automotive Components Centre was set up to provide a comprehensive package of services in the area of prototyping, testing of noise and other engineering services as well as R&D. The safety testing capacity and capability of SIRIM Berhad were also expanded to include cosmetics and toiletries, industrial and electrical appliances as well as communications equipment. MIMOS Berhad expanded the development of essential infrastructure to build indigenous capabilities in the electronics industry. In this regard, the Semiconductor Technology Programme was designed to develop skilled personnel with expertise in technology and product development in wafer fabrication and integrated circuit design. Under the programme, micro processors were developed for general purpose programmable controller and cryptography application. In the area of integrated circuit design, non-volatile memory chip cards were developed for smart card applications. In addition, several memory chip card designs were also developed for the telecommunications industry.

Other Initiatives to Support Industrial Development

9.27 During the Seventh Plan period, the Government provided a conducive environment to attract new investments in high-technology and knowledge-intensive industries as well as encouraged reinvestments through expansion and diversification of manufacturing projects and related services. The proactive approach of the Government in support of industries was demonstrated by the various measures implemented during the Plan period. These included the temporary waiver of the equity policy and export conditions for foreign and local manufacturers involved in new projects as well as expansion and diversification projects and double deduction on expenses incurred for advertising locally Malaysian brand names products. In addition, to promote the use of ICT, operating expenditure on ICT systems was made deductible for tax purposes from the year of assessment 2000.

9.28 Efforts were also undertaken to increase environment-friendly processes and systems in industries. To facilitate adjustments in this direction, the Government

provided tax incentives to encourage the procurement of pollution control equipment and for the setting-up of facilities for the storage, treatment and disposal of industrial wastes. Industries were also encouraged to implement good environmental management practices including cleaner production technologies and more efficient utilization of resources through recovery and recycling. As at the end of 2000, a total of 171 companies was awarded the ISO 14000, after adopting the prescribed environmental management system in their activities, products and standards.

III. PROSPECTS, 2001-2005

9.29 The Eighth Plan period will witness a new phase in the country's industrial development. The overriding objective will be to strengthen the resilience and growth of the manufacturing sector. In this regard, the Government will continue to provide support for the development of infrastructure facilities for industries and efforts will be made to increase investments in the sector by providing a conducive environment for business.

9.30 Industrial development during the Plan period will face the increasing challenges of globalization. There will be a greater movement of capital, skills and technology in the world. Changing production trends, such as outsourcing and global supply chain management, are altering the process of international production. This implies that there is a need to build up infrastructure capabilities in the nation, including e-commerce infrastructure, in order to attract knowledge-intensive industries to locate in Malaysia. Global benchmarking of local industries will also be important to keep abreast of the latest developments in the market and to increase innovation in the manufacturing sector.

Growth Prospects of the Manufacturing Sector

9.31 The manufacturing sector is targeted to grow by 8.9 per cent per annum during the Plan period, contributing 35.8 per cent to the share of GDP by 2005. The growth of the sector will be export-led, with export of manufactures projected to grow by 8.9 per cent per annum, accounting for 89 per cent of the nation's export earnings by 2005. While the electrical and electronic products industry will continue to be the major contributor to exports, the growth of new sources

of exports, especially resource-based industries, will be enhanced to increase the country's exports. Taking cognizance of the changes in global and regional developments, the policy thrusts during the Eighth Plan will be as follows:

- ☐ *positioning industries to take advantage of the opportunities arising from globalization;*
- ☐ *strengthening the manufacturing base by developing strong industrial clusters;*
- ☐ *sustaining the momentum of growth by strengthening manufacturing-related services;*
- ☐ *providing more focused incentives for high value-added industries;*
- ☐ *increasing the use of technology and developing strong domestic capability;*
- ☐ *enhancing the local production of capital and intermediate goods to reduce import intensity and foster industrial development;*
- ☐ *enhancing competitiveness through productivity improvements;*
- ☐ *developing new initiatives in export promotion;*
- ☐ *increasing the use of ICT; and*
- ☐ *developing resilient SMEs.*

Positioning Industries For Globalization

9.32 As the 17th largest exporting nation in the world, Malaysia will continue to face challenges in the light of developments under the World Trade Organization (WTO), ASEAN Free Trade Area (AFTA) and ASEAN Investment Area (AIA). Malaysia will enact several new acts and amend certain provisions of existing legislations to comply with WTO including intellectual property rights of the Trade-Related Intellectual Property Rights (TRIPS) Agreement. The Government will continue to disseminate information to the private sector on the latest developments in international trade and support private sector efforts to adjust to the demands of a competitive trading environment.

9.33 The removal of tariffs to realize AFTA is expected to further increase intra-ASEAN trade while the AIA will increase intra-ASEAN investment by improving the overall investment environment in ASEAN to attract foreign direct investment. The average tariff for Malaysia is expected to decline to 2.6 per cent by 2003, reflecting the openness of the economy. In this regard, the manufacturing sector will need to further strengthen its competitiveness and capacity as well as position itself to take advantage of the opportunities and challenges arising from global and regional developments in trade and investment. At the same time, the Government together with the private sector will proactively address issues arising from on-going negotiations in fora such as the WTO and ASEAN so that there are mutual benefits to all trading countries.

Strengthening the Industrial Clusters

9.34 Efforts will continue to be made to enhance the development of new sources of growth in order to diversify and broaden the manufacturing base. The strategic thrust will be to promote greater inter-industry and sectoral linkages in line with the industry cluster development approach of the Second Industrial Master Plan (IMP2). In order to promote the development of dynamic industrial clusters, the key factors such as a critical mass of entrepreneurial firms, networking capabilities, technology management, technology transition and skill formation will be addressed. The challenge is to generate cluster growth dynamics that mutually adjusts one factor to the other along a high growth path. Greater coordination is required at the state level to stimulate the growth dynamics of clusters and in promoting systemic links within individual regional clusters.

Electrical and Electronic Products Industry

9.35 During the Plan period, the growth prospects for the electrical and electronic products industry is anticipated to be favourable. The industry is targeted to grow at an average annual rate of 8.8 per cent. The electrical and electronic products subsector in the country is shifting into higher value-added activities through skills upgrading, product design and R&D. In the semiconductor product group, several companies will be upgrading and producing integrated circuits that require high technology. Similarly, in the consumer electronics group, more advanced products will be manufactured such as thin film transistor-liquid crystal display for television, personal computer monitors and handphones. To promote and support the development of the electrical and electronic products subsector, the Government will encourage companies to have more integrated operations

involving R&D, design, procurement, distribution and marketing as well as treasury and headquarters' functions. The Government will also encourage the development of a critical mass of innovative and entrepreneurial firms and strengthen their capabilities in skills training, innovation and technology.

Automotive Industry

9.36 Greater efforts will be required to support the development of a strong automotive industry cluster to facilitate the industrialization process. In order to achieve economies of scale for both vehicle and component manufacture, the export-oriented strategy will continue to be implemented. The efficiency and competitiveness of the automotive cluster will have to be improved to tap market opportunities in the regional and global markets. To support this, the key strategies will be to develop capabilities and production technologies, improve R&D and design work as well as strengthen the distribution network and marketing expertise. Locally produced components and parts will be upgraded through joint R&D activities and technical collaborations between component manufacturers and large firms. Efforts will also be undertaken to forge strategic alliances with global automotive and component manufacturers to achieve world-class standard and capabilities in the industry.

Aerospace Industry

9.37 The Government will continue to promote the development of the aerospace industry, which is a knowledge- and capital-intensive industry. While the industry is at its early stage of development, local capabilities are being developed, particularly in the repair, overhaul and maintenance activities of the aviation subsector. Local technology development capability in aerospace and composite components manufacturing will be further enhanced with the expansion of aircraft production by the Composite Technology Research Malaysia (CTRM) in the Aerospace Industrial Complex located in Batu Berendam, Melaka. Strategies to accelerate the growth of the aerospace industry cluster include developing Malaysia as a regional centre for repair, maintenance, overhaul, modification and conversion activities, promoting components and parts manufacturing through joint-ventures with the world's major aerospace companies and undertaking a comprehensive human resource development programme to supply the skilled manpower required by the industry. During the Eighth Plan period, more aerospace-related projects will be implemented. The growth of the aerospace industry will help spur the development of the machinery and equipment industry.

Strategic Resource-based Industries

9.38 Measures will continue to be taken to develop the resource-based industries such as the wood-based products, rubber products, palm oil-based products, cocoa-based products, food products, ceramics and chemical industries. To keep abreast of the latest developments in the global market, enterprises will have to restructure to remain competitive.

9.39 The *wood-based products* industry in Malaysia faces a number of challenges, the most critical being the need for an adequate supply of raw materials to sustain the growth of the industry. In this regard, more aggressive promotion of forest plantation projects including rubber forest plantation will be undertaken to address the need for a sustainable supply of timber in the long run. Other strategies to further develop the industry include to continue upgrading existing industries to develop downstream activities and promoting new investments in high value-added and differentiated products. Among the products with the potential to be developed further for the export market are panel products for interior décor, up-market goods such as household and home-office furniture, and builders' woodwork, which includes solid wood doors and windows. In order to maximize the recovery rate of wood and encourage further the utilization of wood waste, efforts will be taken to intensify R&D activities and develop new technologies. In addition, the manufacture of ornamental wood-based products will be encouraged. The Government will continue to encourage the consolidation and rationalization of industries to replace small, uneconomic and low-technology operations in order to compete effectively in the global market.

9.40 Besides the rubber wood industry, the *rubber products* industry is currently dominated by the latex goods subsector. In this regard, the development thrust will be to broaden the base of the industry through diversification into other subsectors, particularly the Industrial Rubber Good (IRG). The potential for export of products in the IRG subsector such as bridge bearings, engine mounts and suspension bushes is good. During the Plan period, the annual global demand for bridge bearings is estimated at USD26 million while the market for engine mounts and suspension bushes is estimated at USD1.7 billion and USD1.0 billion, respectively. In order to penetrate the export market, manufacturers must take steps not only to improve the quality through enhanced R&D and management system but also the establishment of consortia of manufacturers to produce and market the products abroad. Achieving ISO 9000 certification for quality control will demonstrate best manufacturing practices. This is particularly important for

the manufacturers of IRG where they are often required to provide warranty on the products. In the light of this, manufacturers will need to consider establishing a warranty scheme for these products.

9.41 In order to enhance the competitiveness of the *palm oil-based products* industry, efforts will be directed towards the development of new applications of palm oil both in the food and non-food subsectors. In the food subsector, there is good potential for products such as trans-free margarine, shortening and specialty products. In the non-food subsector, the Government will continue to encourage the manufacture of oleochemicals and their value-added derivatives, which have great export potential due to the growing world demand for natural-based oleochemical products. Market prospects are favourable for the production of specialty products, including fatty nitrogen derivatives and fatty acid esters. Major end users for specialty surfactants are manufacturers of personal care and cosmetics products as well as fabric softeners. In order to be competitive in these markets, Malaysian producers will need to build up R&D capacity, seek research alliances with major end users and adopt a flexible approach to product development that encourages customized production of new products. In addition, the Government will continue to emphasize downstream processing and diversification of the usage of palm oil so as to increase income through higher value-added activities. Towards this end, the proposal to set up methyl ester plants to increase the local use of palm oil and the use of oil palm biomass in making pulp and paper as well as raw materials for the wood-based industry, such as particle boards and medium density fibre boards, will be encouraged.

9.42 In view of the potential health attributes found in cocoa, further efforts will be directed towards improving the quality, variety and competitiveness of existing *cocoa-based products* such as chocolates, beverages and confectionery as well as developing and commercializing competitive new cocoa-based products such as cosmetics and pharmaceuticals. This will require the intensification of collaborative research between R&D institutions and the private sector. The Government will continue to encourage the private sector to venture into producing these new products including developing Malaysian brand names for cocoa-based products.

9.43. Recognizing the importance of developing an efficient and modern *food products industry*, the Government will formulate strategies and programmes to facilitate the development of the industry. Among the new incentives to enhance food production include granting full tax deduction on investments in wholly-

owned food manufacturing subsidiaries. The subsidiary itself will also be given full tax exemption on its statutory income for 10 years, commencing from the first year it is profitable. The private sector will have to improve its efficiency in the distribution of food products such as providing adequate cold room and refrigerated truck facilities and related services. To achieve the objectives of establishing Malaysia as a hub for *halal* food production, it will be important for food manufacturers to obtain quality and *halal* certification. The private sector will also need to intensify efforts to penetrate new and emerging markets by undertaking market promotion as well as improving packaging and labelling.

9.44 The IMP2 has identified the *ceramics industry* as having potential for development under the Materials Industry Group. Strategies to support the development of the ceramics industry include upgrading and modernizing existing industries to move into higher value-added products such as bone china and decorative ceramics. To enhance the competitiveness of the industry, greater emphasis will be given to R&D to improve quality and design as well as for the production of advanced ceramics. There is potential for the manufacture of advanced ceramic materials and products such as ceramic disc elements, ceramic components for electrical and industrial use as well as bits and tools for the textile, metal and engineering industries.

9.45 The *chemical industry*, which includes petroleum products, petrochemicals, inorganic chemicals, oleochemicals and industrial gases, is gaining importance as a growth industry for the country. The industry can take advantage of the country's feedstock position, its cost competitiveness and strategic location in ASEAN. In addition, the infrastructure is in place to support the future development of the industry. Industrial areas to cater for petrochemical industries include the Kertih-Gebeng corridor, Tanjung Langsat and Pulau Bunting-Yan. The chemical industry will be encouraged to move along the value chain by strengthening linkages with other industries using locally available raw materials.

9.46 The projected world *pharmaceuticals* market in 2002 is USD405.9 billion. In comparison, the local pharmaceutical industry is very small as the value of total output is about RM400 million in 2000. Local producers are mainly concentrated in producing generic drugs. To tap the vast potential of this industry, the Government is promoting the manufacture of active ingredients such as cephalosporin (an antibiotic group), cytokines (for cancer treatment) and artemisinin

(for treatment of malaria). Another area that will be promoted is the production of patented drugs. In this regard, multinational corporations will be encouraged to establish integrated manufacturing plants for patented pharmaceuticals with R&D facilities to promote contract manufacturing. There is also the potential to use tropical flora and microbes to produce active ingredients and to manufacture traditional herbal medicine for the local and export markets. Development strategies for the pharmaceutical industry include the consolidation of local manufacturers through strategic alliances and rationalization of products as well as strengthening and expanding R&D activities in disciplines such as medicinal chemistry, biotechnology and genetic engineering.

Strengthening the Manufacturing-Related Services

9.47 During the Eighth Plan period, the competitive edge of products will depend to a large extent on non-price factors such as quality, customization and delivery time. Accordingly, enterprises and industrial clusters will need to continuously upgrade their products and process technologies. In support of the industries, the manufacturing-related services such as ICT-network-virtual manufacturing, R&D, quality and standards certification, packaging and export services will need to provide efficient, cost effective and fast delivery services. Taking cognizance of the importance of strong supporting services, the Government will undertake a study to analyze and upgrade the capabilities of the existing engineering services sector such as machining, mould and die, metal stamping, metal fabrication, heat treatment and rapid tooling as well as identify new manufacturing and non-manufacturing support services required for the development of high-technology industries.

9.48 The establishment of the Rasa Machinery and Equipment Technology Centre (RAMET) in Selangor, will provide the support for the development of the foundry technology as well as tooling and machining technologies, which are required for the development of the machinery and equipment industry. RAMET will emphasize on machinery and systems design and prototyping as well as developing technologies such as precision heavy machining, machine structure fabrication and heat treatment. A Training Centre for Computerized Numerical Control Machines for Machine Tooling will also be set up to provide hands-on training for entrepreneurs to produce machine components and spare parts.

Providing More Focused Incentives for High Value-Added Industries

9.49 The Government will formulate policies and incentives to promote investments in high value-added industries. In this regard, the Government has further extended the waiver of the equity policy as well as the export condition that allow companies to sell up to 100 per cent of their products in the domestic market. Taking cognizance of the importance of high-tech and capital intensive investments to provide significant spin-offs to the economy, the Government will identify improvements to existing incentives as well as introduce more focused incentives to strengthen industrialization in the country. Domestic investments in these industries will be further encouraged. Efforts will also be undertaken to attract foreign direct investment through industry specific promotions and informing companies of investment opportunities in priority areas. Accordingly, the pre-packaged incentives for strategic industries will continue to be provided. In addition, existing companies will continue to be encouraged to expand and diversify into high value-added industries as well as move into related services, particularly design activities. Measures will continue to be taken to facilitate the establishment of industries by streamlining procedures at the Federal, state and local government levels.

Increasing the Use of Technology and Developing Strong Domestic Capability

9.50 Efforts will continue to focus on increasing the use of technology and developing a strong domestic capability in order to contribute to productivity-driven growth and industrial competitiveness. In this regard, firms are expected to intensify efforts in technology upgrading and developing indigenous technological capabilities in an environment of increasingly competitive markets and accelerating pace of scientific and technological change. This trend, together with the expanding range of technologies that firms must manage, will require R&D and technology development to be market-oriented.

9.51 To facilitate private sector involvement in R&D and technology development, the Government will continue to provide fiscal and financial incentives as well as appropriate infrastructure facilities. Emphasis will be given to co-financing and joint programmes of research between industry and public sector institutions. Towards this end, the allocation for the Industrial Research and Development Grant Scheme (IGS) will be increased to RM200 million. The Commercialization of Research and Development Fund (CRDF) and Technology Acquisition Fund

(TAF) will also be continued with an allocation of RM110 million and RM250 million, respectively.

9.52 In view of the high risks and costs associated with investments in R&D and development of strategic industries, a national approach will be increasingly adopted. Specific research institutions, singly or jointly with industry partners, will be provided with resources to develop targeted areas of industrial technology such as microelectronics, advanced materials, aerospace and multimedia. In this respect, the Intensification of Research in Priority Areas (IRPA) programme will identify and provide allocations for R&D in industries with a high R&D component that will sustain long-term technology development. For this purpose, IRPA will be allocated RM1 billion under the Eighth Plan. The offset programme will also be reviewed to facilitate domestic technology development through technology acquisition.

9.53 The industrial design capabilities of SIRIM Berhad will be further upgraded to provide integrated services involving industrial products and packaging, design and consultancy, model-making and prototyping services, and training for industries, particularly the SMEs. Emphasis will be given to consumer products such as electrical and electronic goods, processed food, cosmetics and furniture. Efforts will also be continued to enhance industrial efficiency and technological developments through the development of Malaysian Standards in line with international standards. It is anticipated that a total of 1,000 new standards will be developed and 400 existing standards reviewed. In addition, active participation in regional and international standards development activities will be continued in order to ensure that national needs are protected. Recognizing that Malaysia is a major producer and exporter of palm oil, initiatives will be taken to promote and lead in the development of standards for palm oil at the international level. To further improve standards and quality, the functions of the National Metrology Centre will be expanded with its relocation to Sepang, Selangor. The services will be extended to include legal metrology as well as scientific and industrial applications. In addition, as part of the efforts to strengthen industrial design capabilities, the Government will consider the establishment of a centre to design products that are suitable for the tropical region.

9.54 Facilities will be expanded to increase R&D in advanced materials manufacturing and microelectronics in line with the IMP2. In particular, the Advanced Materials Research Centre in Kulim Hi-Tech Park will provide facilities for research in areas such as photonics, composites and nano materials, which

will assist in the development of the automotive, electronics, telecommunications, aerospace and health industries. In addition, recognizing the importance of technology diffusion, efforts will be focused on strengthening support services, particularly to the SMEs, through improving and expanding technical extension services and training.

Enhancing Local Production of Capital and Intermediate Goods

9.55 Imports of capital and intermediate goods have followed the pace of industrialization. Imports of intermediate goods increased from RM126.3 billion in 1995 to RM230.6 billion in 2000. The pattern is one of increasing dependence on imports such that by 2000, imports of capital and intermediate goods accounted for 88.9 per cent of total imports. The Government will continue to emphasize on the policy to increase the production of capital and intermediate goods so as to provide a range of economic benefits such as improvements in the balance of payments and foreign reserves. In addition, it is expected to lead to a deepening of the technological, industrial, management and skills base as well as growth in value added in the manufacturing sector. In this regard, a study will be undertaken to identify policies and incentives to promote the local production of capital and intermediate goods. Among the subsectors to be reviewed are the machinery and equipment, electrical and electronics, food processing and transport equipment. A preliminary assessment indicates that the potential products for import substitution with import value exceeding RM100 million per year included cylinder block liners for engines, gear and gearing, packing and wrapping machinery, flat-rolled products of stainless steel, aluminium plates, sheets and strips as well as cathodes and sections of cathodes.

Developing New Initiatives in Export Promotion

9.56 During the Plan period, new approaches and initiatives will be implemented to promote exports. These include establishing regional display and distribution centres in selected overseas markets to be complemented by distribution facilities in collaboration with the private sector, promoting more inward buying delegations to Malaysia and organizing specialized international trade fairs in Malaysia to promote exports. Participation in specialized and general trade fairs abroad and organization of Malaysian Products Exhibition in new and emerging markets will be emphasized, with greater focus given to the promotion of Malaysian brand names with the view to differentiating Malaysian products and services in the market place. The new markets include countries in Central Asia, Middle East and South America. At the same time, ongoing efforts will continue to be

undertaken to retain and further enhance Malaysia's market share in the traditional markets as well as introduce new products to these markets. Training in the field of export marketing, procedures and documentation will also be intensified to enable more SMEs to export their products and services. Efforts will also be undertaken to further intensify ICT applications in export promotion, particularly using e-commerce as a tool to promote products and services. Towards this end, the Malaysia External Trade Development Corporation (MATRADE) will establish a trade information portal to enhance the content and delivery of services in trade promotion. The trade information portal will provide a comprehensive range of services such as bringing together potential partners offering facilities for virtual exhibitions and facilitate entry of the export community to e-commerce.

Enhancing Competitiveness Through Productivity Improvements

9.57 Productivity and quality enhancement is crucial in achieving greater efficiency in the production of goods and services. Active promotion of productivity will continue to be undertaken to increase awareness and understanding of the importance of productivity and quality. In this regard, programmes such as the productivity and quality (P&Q) awards and quality networks will be intensified at the industry level. P&Q training and systems development programmes will continue to be undertaken based on productivity strategic plans developed to promote productivity improvements. The Government will also encourage benchmarking by companies against best practices in the industry and globally, in order to instil the need for productivity improvements. Industries will be encouraged to adopt higher technology utilization and R&D, which are critical factors to enhance P&Q. Increasing ICT applications will also contribute to efficiency gains, particularly for development and access to information as well as speed of transactions.

Increasing the Use of Information and Communications Technology

9.58 Malaysian enterprises will urgently need to enhance their ICT-based competitive edge in order to take advantage of the opportunities of a borderless market. With the Government's objective of developing the knowledge-based economy, it will be vital for enterprises to enhance the use of ICT in every aspect of their business activities such as procurement, production, advertising and marketing. The manufacturing sector will need to improve productivity and competitiveness through increased manpower training focusing on ICT in order to meet the demands of the knowledge-based economy.

9.59 The Government will continue to enhance the implementation of the World-wide Manufacturing Web and Borderless Marketing to provide a conducive environment for value-added manufacturing using ICT. The advantage of the World-wide Manufacturing Web and Borderless Marketing is that they provide high-technology networking across boundaries, allowing multinational corporations and local companies to access integrated on-line business operations. Through these flagship applications, the Government is expanding the potential of manufacturing companies to use advanced ICT in manufacturing.

Developing Resilient SMEs

9.60 The adverse impact of the recent recession on the SMEs and the globalization of the world economy underscore the need for SMEs to become more resilient and competitive. Towards this end, the Government will continue to provide support in strengthening the SMEs as a means of encouraging domestic investment. The Small and Medium Industry Development Plan (SMIDP) will chart the future development of the SMEs to provide the critical linkage in the development of a broad-based, globally competitive industrial sector. It will enhance the transformation of SMEs from being labour intensive to that based on capital, knowledge and technology, including the ability to innovate, design and develop new products and processes. The SMIDP provides the development focus for each of the industrial clusters and an action plan to operationalize the strategies and targets set. In ensuring that the action plans will be effectively implemented, SMIDEC will be strengthened to serve as a single point of contact or a one-stop agency for the SMEs.

9.61 The implementation of the SMIDP will require the concerted efforts of the SMEs themselves with the Government providing the facilitative environment. In this respect, the Government will continue to provide financial assistance, infrastructure facilities and support services. The Government will undertake a review of these facilities with a view to consolidating and streamlining them for greater efficacy in delivering assistance to the SMEs.

9.62 The Government will continue with the provision of industrial sites at affordable prices to SMEs. During the Plan period, the Government will provide RM131.9 million as soft loans to State Economic Development Corporations to

develop SME Industrial Parks. Emphasis will also be given to developing the entrepreneurial skills of SMEs so as to build up their capabilities and competitiveness. In this regard, more aggressive promotional efforts will be undertaken to encourage SMEs to participate in training programmes in view of the low take-up rate of the training fund during the Seventh Plan period. In the effort to create greater access to markets for SMEs, the widespread adoption of e-commerce applications will be promoted.

9.63 During the Plan period, the Government will continue to promote and upgrade Bumiputera SMEs. Existing programmes such as the Vendor Development Programme will be expanded. Integrated assistance packages, which may include financial support, training components and other support services, will be designed to meet the varied and specific needs of Bumiputera SMEs.

9.64 More focused efforts will be undertaken to enhance the competitiveness of SMEs in rural industries, particularly the handicraft and food products industries. New investments by the private sector will be required to modernize the SMEs and improve the quality and design of products. The Government will provide support by giving feedback on market information, training, R&D on products and infrastructure assistance. Large companies will be encouraged to supply simple machine tools to the SMEs to undertake contract manufacturing of small parts and components, thereby augmenting incomes in the rural areas. For the handicraft industry, existing craft centres will be used as a platform to strengthen the development of the industry through concomitant efforts on product innovation, promotion and marketing. In addition, selected villages will be identified as craft centres for the mass production of handicrafts for the local market as well as for exports.

IV. ALLOCATION

9.65 The development allocation to support industrial development in the Eighth Plan is RM2.6 billion, as shown in *Table 9-7*. The allocation will be utilized to enhance the competitiveness of industries and complement the efforts of the private sector. The development thrusts will focus on technology development, expanding industrial infrastructure and skills upgrading. In addition, programmes will be implemented to strengthen SMEs.

TABLE 9-7

**DEVELOPMENT ALLOCATION FOR INDUSTRIAL DEVELOPMENT,
2001-2005
(RM million)**

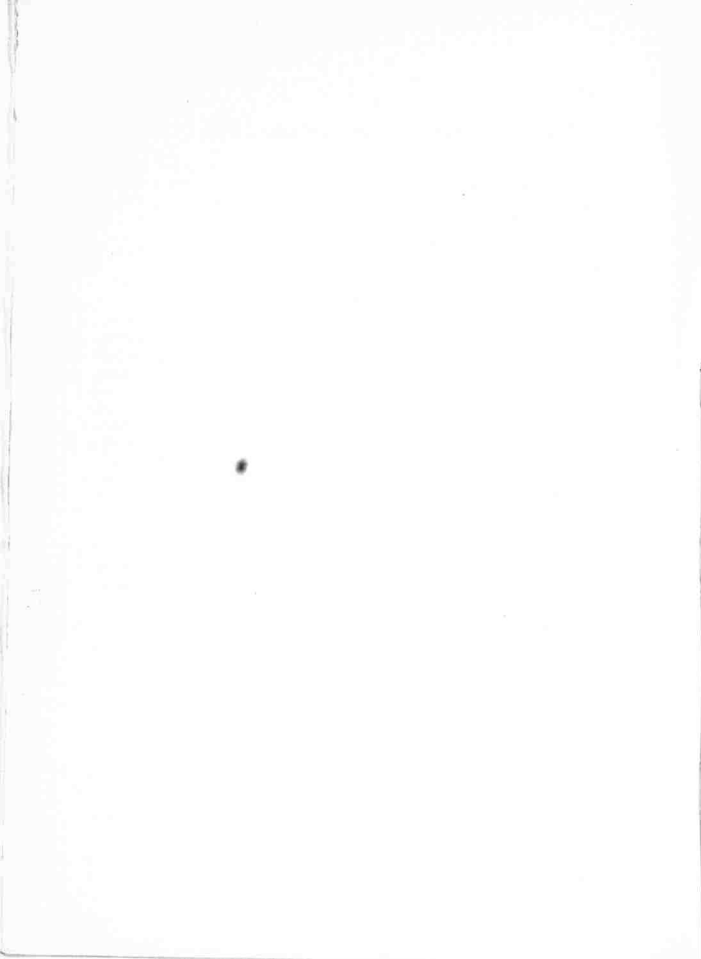
<i>Programme</i>	<i>7MP</i>		<i>8MP</i>
	<i>Allocation</i>	<i>Expenditure</i>	<i>Allocation</i>
Industrial Estates Development	591.7	534.7	248.0
Development of Industrial Infrastructure	126.7	88.3	95.0
SME Development	458.1	394.6	1,091.8
Domestic Investment Fund	319.0	288.2	670.0
Rural Industries	133.3	130.1	140.0
Training & Consultancy Services	120.8	109.3	241.0
Investment in Heavy Industries	331.5	310.0	24.2
Implementation of Action Plan for Industrial Technology Development	92.2	82.2	78.5
Wafer Fabrication Project Fund	11.5	10.0	10.0
Total	2,184.8	1,947.4	2,598.5

V. CONCLUSION

9.66 The enhancement of Malaysia's efforts to increasingly use knowledge-based processes and applications will necessitate the growth of high-technology industries. Enterprises will have to strengthen their operations and improve their capabilities in a trading environment that is becoming more liberalized and globalized. To sustain industrial development, the private sector will need to continuously enhance competitiveness and productivity in the manufacturing sector and related services. To support the efforts of the private sector, the Government will formulate industrial policies, strategies and programmes to promote the resilience and long-term competitiveness of the manufacturing sector. This will include further streamlining of administrative procedures and providing a conducive environment for investments.

Chapter 10

Infrastructure and Utilities



10

INFRASTRUCTURE AND UTILITIES

I. INTRODUCTION

10.01 Development of the infrastructure and utilities network covering transportation, communications, water supply and sewerage during the Seventh Plan period, was focused on capacity expansion through a more integrated and coordinated planning approach to ensure the availability of facilities to meet demand. As infrastructure projects require a long lead time, this supply-driven approach was adopted with active participation of the private sector. The financial crisis, which began in July 1997, affected the implementation of some major infrastructure projects, particularly those by the private sector. As a result, the Government provided financial assistance for the completion of these projects to ensure that the efficiency, productivity and competitiveness of other sectors in the economy were not affected. In addition, the implementation of critical and strategic Government-funded projects was accelerated to serve as catalysts for reviving and stimulating the economy.

10.02 For the Eighth Plan period, emphasis will be given to increasing the capacity and accessibility in less developed areas while in urban areas, the focus will be to enhance efficiency and improve public transport services. The provision of utilities such as communications, water and sewerage will be given priority to increase coverage and improve the quality of life. Participation by the private sector will continue to be encouraged with the Government assuming an increasingly important role in the supervision and setting of performance standards of infrastructure facilities and services to support the growth and competitiveness of other sectors.

II. PROGRESS, 1996-2000

10.03 The higher than expected demand for infrastructure and utilities at the beginning of the Seventh Plan period necessitated the adoption of fast track

implementation processes, application of new and adapted technologies, reduction of processing time as well as the accelerated privatization of projects. The financial crisis interrupted the pace of project implementation initially. However, the prompt recovery measures undertaken by Government enabled the implementation of critical and strategic infrastructure projects which, in turn, helped to revive and stimulate the economy.

Roads

10.04 During the Seventh Plan period, road development was guided by the need to expand capacity and upgrade existing roads. Total road network increased from 61,380 kilometres in 1995 to 65,880 kilometres in 2000. The road subsector accounted for nearly 59.8 per cent of the total allocation for the infrastructure sector with total expenditure of RM12.3 billion. In addition, the private sector also expended a total of RM7.9 billion for the development of privatized highways compared with RM15.2 billion during the Sixth Plan period. The slowdown in private investment in the road subsector, mainly due to the financial crisis, was mitigated by increased Government expenditure on road construction and improvement projects during the last two years of the Seventh Plan period.

10.05 In line with efforts to improve inter-urban linkages and provide better transport facilities, several new road construction projects were completed, as shown in *Table 10-1*. The completion of the Kuala Perlis-Changloong Highway provided a direct access from the North-South Expressway to Kuala Perlis, which has a ferry link to Langkawi Island. The completion of the Seremban-Port Dickson Highway provided a faster access to the tourist spots in Port Dickson. Concurrent to efforts to expand and provide new linkages, emphasis was also placed on improving road safety as well as ensuring pleasant and stress-free travel. In this respect, 153 accident-prone spots were improved and upgraded while eight rest and service areas were constructed along the federal roads.

10.06 Various roads were constructed or upgraded to alleviate traffic congestion on roads that lead to ports and growth centres as well as to support the industrial growth of the country. Among these roads were the upgrading of Road B15, South Klang Valley Expressway (SKVE) Section 1A and the access roads to the Port of Tanjung Pelepas and Kulim Hi-Tech Industrial Park. The completion of the upgrading of Road B15 and the SKVE Section 1A provided a vital link to Putrajaya and Cyberjaya. The completion of the access road to Kulim Hi-Tech Industrial Park provided the impetus for the growth of the park.

TABLE 10-1
**MAJOR ROAD PROJECTS IMPLEMENTED,
1995-2005**

<i>Project</i>	<i>Length (km)</i>	<i>Completion (Year)</i>
Completed Projects		
i. Government-Funded Projects		
Access Road to Kulim Hi-Tech Industrial Park	9	1996
Kota Tinggi Bypass	10	1997
Eastern Access to KLIA	17	1998
Berungis-Kota Belud Highway	38	1998
Middle Ring Road II (Phase I)	35	1998
Access Road to Belaga, Sarawak	126	1999
Kuala Perlis-Changloong Highway	36	2000
Access Road to Port of Tanjung Pelepas, Johore	8	2000
Sungai Dinding Bridge	10	2000
Upgrading of B15	10	2000
South Klang Valley Expressway Section 1A	11	2000
Access Road to Toxic Waste Plant in Bukit Nenas, Negeri Sembilan	17	2000
ii. Privatized Projects		
Butterworth-Kulim Highway	17	1996
Seremban-Port Dickson Highway	22	1997
North-South Expressway Central Link	48	1997
Shah Alam Expressway	35	1998
Second Link to Singapore	45	1998
Kuala Lumpur-Karak Highway	60	1998
Cheras-Kajang Highway	12	1998
Damansara-Puchong Highway	40	1998
Upgrading Sungai Besi Road	16	1999
Under Construction		
i. Government-Funded Projects		
Upgrading Beaufort-Sindumin Road	65	2001
Beaufort-Mempakul Road	64	2001
Lipat Kajang (Melaka) Interchange to North-South Expressway	2	2001
Sungai Rejang Bridge	7	2001
Brinchang-Lojing Road	22	2001
East-Coast Highway	169	2003
ii. Privatized Projects		
New North Klang Straits Bypass	18	2001
Western Kuala Lumpur Traffic Dispersal Scheme	26	2001
New Pantai Highway	20	2003
Kajang-Seremban Highway	48	2004
Butterworth Outer Ring Road	19	2004
Ipoh-Lumut Highway	70	2004
Kajang Traffic Dispersal Highway	37	2004

10.07 To stimulate economic growth while maintaining Government expenditure within prudential limits, the Government initiated the deferred payment scheme to implement road projects. Under this scheme, the private sector finances the project and payment is made at an agreed period after completion of works. Most of these projects involved the upgrading of existing roads which were delayed as a result of the economic crisis. A total of 20 projects was awarded under this scheme.

10.08 Under the rural roads programme, a total of 3,214 kilometres of new roads was constructed, thereby improving accessibility and enabling greater participation of the rural people in socio-economic development. This programme included the Kanibongan-Nangoh Road in Sabah and Triso-Melebu-Pusa Coastal Road in Sarawak. The quality of rural roads also improved with an increase of paved roads from 45,590 kilometres in 1995 to 48,600 kilometres in 2000.

10.09 The development of new roads resulted in the improvement of the various road development indicators, as shown in *Table 10-2*. Road Density, which measures road length over the total area, increased from 0.19 in 1995 to 0.20 in 2000, indicating a wider road coverage and greater accessibility. The Road Development Index which measures the level of road development taking into account both area and population size of the country, also improved marginally from 0.74 in 1995 to 0.75 in 2000.

TABLE 10-2
ROAD DEVELOPMENT INDICATORS, 1995-2005

Indicator	Level of Development		
	1995	2000	2005
Road Density ¹	0.19	0.20	0.21
Road Development Index ²	0.74	0.75	0.76
Road Service Level ³	2.96	2.98	3.02

Notes:

¹ Road Density measures road length over the total area.

² Road Development Index measures the level of road development taking into account both area and population size of the country.

³ Road Service Level measures total road length per 1,000 population.

10.10 Significant progress was achieved during the Seventh Plan period in the creation of a more integrated, efficient and reliable urban transport system, especially in Kuala Lumpur and the Klang Valley where traffic congestion reached critical levels. The other major urban centres such as Georgetown, Ipoh, Johor Bahru, Kuching and Seremban instituted various measures to improve traffic flow as well as public transport services and facilities.

10.11 In the Klang Valley, the nation's first Light Rail Transit System I (LRT STAR) began its commercial operations in December 1996, followed by the LRT System II (LRT PUTRA) in September 1998. By June 1999, the LRT System in the Klang Valley encompassed a total route length of 56 kilometres. Passenger ridership for the LRT STAR increased from an initial average of 46,853 passengers per day (ppd) in 1997 to an average of 77,803 ppd by the end of 2000. The LRT PUTRA also experienced a high growth rate with the number of passengers increasing from an average of 12,532 ppd in 1998 to 121,950 ppd by the end of 2000.

10.12 Other urban rail projects in the Klang Valley which achieved significant construction progress despite the initial financing setbacks included the KL Monorail and the Express Rail Link (ERL) to KL International Airport (KLIA) from Kuala Lumpur Sentral (KL Sentral). The KL Monorail, a privatized intra-city light rail network, stretching 8.6 kilometres, completed about 50 per cent of construction and system works. The construction of the ERL was 60 per cent complete by December 2000.

10.13 During the Plan period, a more systematic and concerted effort to address urban congestion through traffic demand management and the introduction of various measures was undertaken to encourage the greater use of public transportation. While various strategies were implemented in all major urban areas to alleviate local traffic congestion, Kuala Lumpur and the Klang Valley continued to be given priority in efforts to ensure an efficient and effective road network and public transportation service. According to a 1997 survey, travel speed on most of the major radial roads in Kuala Lumpur reduced to 10 kilometres per hour or less during the morning peak hours due to the high traffic volume.

10.14 The various measures undertaken to enhance the integration and effectiveness of the urban transport infrastructure included the upgrading and relocation of bus terminals as well as the creation of bus lanes, park-and-ride facilities, feeder bus services and promotional fares for the LRT. In addition,

major cities like Georgetown and Johor Bahru upgraded their public transport facilities and rationalized bus routes. Several urban transport studies were also completed for Georgetown, Kota Kinabalu and other urban centres, with recommendations on traffic demand management measures and long-term strategies to reduce traffic congestion.

10.15 Recognizing the need for an urban transport master plan for Kuala Lumpur, the Study on Integrated Urban Transportation Strategies for Environmental Improvement was completed in February 1999. The study recommended various policies, strategies and measures to alleviate urban congestion and enhance air quality in the Kuala Lumpur conurbation up to 2020. Several immediate measures were implemented including the restriction of on-street parking, differential parking charges, one-way streets, pedestrianization, road system improvements, bus lanes, contra-flow and restrictions on heavy vehicles entering the city centre during peak hours.

10.16 The overall construction of the KL Sentral, a major public transport terminal integrating both *Keretapi Tanah Melayu Berhad* (KTMB) inter-city and commuter services with the ERL, LRT PUTRA, Monorail, buses, taxis and pedestrian facilities, was completed in December 2000. The ERL and LRT PUTRA stations were completed in October 2000. This transport hub which also functions as a city air terminal, provides an important link to KLIA, Putrajaya and Cyberjaya.

10.17 Pedestrianization continued to be implemented in all major urban centres as part of the effort to upgrade the urban transport environment. The priority areas were linkages between public transport facilities and commercial zones. Landscaped and sheltered pedestrian bridges and walkways were built to provide a pleasant walk and encourage the use of public transport. A pedestrianization study was completed in October 1999 for the Central Planning Area (CPA) of Kuala Lumpur, bounded by Jalan Tun Razak and Jalan Mahameru. The Kuala Lumpur City Hall implemented various measures recommended by the study to further improve the pedestrian environment including the upgrading of footpaths, pedestrian bridges, signages, lighting and provision of street furniture in selected areas.

10.18 To further improve traffic flow and dispersal, traffic demand management measures and road infrastructure upgrading were undertaken in several major urban centres. These included the construction of free-flow interchanges and

ring roads, road expansion, conversion to one-way streets and reduction of on-street parking. Major road projects completed during the Plan period included the Jalan Tun Razak-Jalan Bukit Bintang underpass and the Jalan Tun Razak-Jalan Semarak interchange, Kuala Lumpur; flyovers in Panglima Bukit Gantang, Ipoh; Inner Ring Road, Johor Bahru; and Jalan Lintas, Kota Kinabalu.

10.19 The Damansara-Puchong Highway which was completed in early 1999, demonstrated the first application of advanced Intelligent Transport Systems (ITS) on an urban expressway. The ITS applications included queue detectors, high capacity data and video transmission network and surveillance equipment. To further enhance transportation efficiency, safety, comfort and environmental standards through the application of ITS, the Study of Integrated Transport Information Systems (ITIS) in the Klang Valley and Multimedia Super Corridor (MSC) was completed in October 1999.

Rail Transport

10.20 During the Seventh Plan period, the focus of the railway development programme was to enhance quality, efficiency, operational safety and service competitiveness for both passengers and freight. KTMB commuter services and inter-city passenger and freight operations were constantly upgraded through improvement of fleet operations, signalling and communications systems and revamping of maintenance and overhaul programmes. In addition, various programmes were implemented to enhance the quality of train services.

10.21 Several major projects were initiated towards the end of the Plan period to further develop rail infrastructure. The most significant of these was the inter-city electrified double track project stretching 180 kilometres from Rawang to Ipoh. Another major project implemented during the Plan period was the 32-kilometre rail link from Kempas to the Port of Tanjung Pelepas which commenced in July 1999. Other projects that were completed included the construction of a dedicated 14-kilometre rail link to the West Port of Port Klang and a rail link to the Segamat Inland Port in 1998. The three-kilometre rail link to the North Butterworth Container Terminal was completed in early 2000.

10.22 Fleet capacity of the commuter train service in the Klang Valley was expanded from 18 Electric Multiple Units (EMUs) in 1995 to 62 in 2000. In addition, new feeder stations were constructed and existing ones upgraded, including the construction of turnstiles and enclosed platform areas for the

implementation of the closed ticketing system. These measures led to improved frequency and reliability of services as well as revenue collection. Consequently, commuter ridership increased significantly from 11.1 million in 1996 to 19.0 million in 2000.

10.23 Other activities undertaken during the Plan period to enhance efficiency, safety and quality of inter-city rail services included the continued rehabilitation and strengthening of tracks and bridges on the main line, refurbishment of coaches and the upgrading of halts and stations. In addition, the Government entered into a Management Agreement with a private consortium for the management take-over of KTMB in August 1997. The consortium introduced new management tools and techniques as well as cost-saving measures to improve the efficiency, quality and viability of railway operations. It also undertook aggressive marketing of KTMB's services in a move towards greater commercialization. This contributed to increased inter-city passenger traffic from 1.25 billion passenger-kilometres in 1995 to 1.50 billion in 2000. In terms of productivity for passenger traffic, passenger-kilometres per worker increased by 20 per cent from 236,000 in 1995 to 283,000 in 2000.

10.24 Annual container traffic in terms of twenty-foot equivalent unit (TEUs) recorded an increase from 126,937 in 1995 to 223,718 in 2000. Total freight traffic which comprised mainly container cargo and cement decreased marginally from 5.25 million tonnes in 1995 to 4.98 million tonnes in 2000. The productivity of workers for freight traffic increased by 3.3 per cent from 214,000 tonne-kilometres per worker in 1995 to 221,000 tonne-kilometres per worker in 2000. Total revenue per worker improved by 68 per cent from RM110,000 in 1995 to RM185,000 in 2000.

10.25 The study on the Trans-Asian Railway link between Kunming, People's Republic of China and Singapore was completed in August 1999. The study, which was aimed at enhancing cross-border rail transportation, encompassed engineering and economic aspects, customs, immigration and quarantine facilitation as well as environmental considerations. Various options were examined for the implementation of the project.

Ports

10.26 During the Seventh Plan period, port development continued to focus on expanding capacity, upgrading and increasing equipment and facilities as well

as enhancing the efficiency of port and port-related services. In terms of new port capacities, an integrated planning approach with a view to promoting multimodalism and developing a comprehensive range of land-side facilities and services was adopted. The privatization of port activities was further accelerated to improve the operational and managerial efficiency of these services. In addition, measures were also undertaken to upgrade navigational safety and promote the expansion of domestic merchant fleet and ferry services to further increase the participation and utilization of Malaysian shipping lines in domestic and international trade as well as tourism.

10.27 In line with capacity expansion and upgrading of port and port-related facilities, several major projects were undertaken at Port Klang, Port of Tanjung Pelepas, Penang Port and Bintulu Port. In addition, related activities such as the construction of a petrochemical jetty at Kuantan Port and channel dredging at Kemaman Port, were completed. Dredging works for the basin of Kuantan Port, which commenced during the period, is expected to be completed by the end of 2001. With the completion of additional berths, other related facilities and equipment such as container yards, cargo storage and cranes, total port capacity increased by 14.6 per cent per annum from 174.1 million tonnes in 1995 to 344.1 million tonnes in 2000, as shown in *Table 10-3*.

10.28 During the Plan period, more than 90 per cent of Malaysia's international trade was conducted through seaports, which greatly supported the growth of sea-borne trade. The total tonnage of cargo handled increased by 7.7 per cent per annum from 152.3 million tonnes in 1995 to 220.8 million tonnes in 2000, mainly attributable to containerized and liquid bulk cargo, as shown in *Table 10-4*. In terms of containerized cargo, the volume increased by 16.5 per cent per annum from 37.8 million tonnes in 1995 to 81.3 million tonnes in 2000 or 2.1 million TEUs to 5.3 million TEUs, respectively. The number of passengers including tourists increased from 6.3 million passengers in 1995 to 6.7 million in 2000. The increase in both the containerized cargo and passengers is an encouraging trend, due largely to the increased investment in container trade as well as reflecting the success of various port and tourist-related promotional efforts.

10.29 The total number of ship calls at Malaysian ports increased by 5.0 per cent per annum from 70,098 in 1995 to 89,462 vessels in 2000, as shown in *Table 10-4*. Main line operators (MLOs) increasingly used super post-panamax

TABLE 10-3
NUMBER OF BERTHS AND CRANES, PORT CAPACITY AND THROUGHPUT AT PORTS, 1995-2005

Port	1995				2000				2005			
	No. of Berths	No. of Cranes ¹	Capacity (mil. tonnes)	Throughput/ ² Cargo Handled (mil. tonnes)	No. of Berths	No. of Cranes ¹	Capacity (mil. tonnes)	Throughput/ ² Cargo Handled (mil. tonnes)	No. of Berths	No. of Cranes ¹	Capacity (mil. tonnes)	Throughput/ ² Cargo Handled (mil. tonnes)
Klang	40	16	40.2	40.0	45	35	110.0	65.3	49	55	151.2	123.0
Pulau Pinang	16	9	23.2	16.7	16	10	22.0	20.5	18	14	29.9	29.5
Johor ³	14	6	15.6	16.5	20	46	83.6	29.0	29	84	203.3	88.1
Kuantan	11	2	8.7	4.2	12	5	9.0	6.0	17	8	15.0	8.6
Kemaman	4	3	7.9	2.6	7	3	14.1	2.2	7	3	14.1	3.3
Bintulu	7	-	31.9	18.6	11	6	36.5	24.9	12	6	48.7	37.7
Sabah ³	27	-	9.5	16.3	33	-	17.2	18.1	39	2	24.6	24.3
Sarawak ⁴	23	7	11.0	14.5	26	6	17.0	16.9	27	4	17.4	23.0
Others ⁵	31	8	26.1	22.9	43	7	34.7	37.9	46	9	37.7	45.5
Total	173	51	174.1	152.3	213	118	344.1	220.8	244	185	541.9	383.0

Notes:

¹ Includes gantry and multipurpose cranes.

² Figures for the year 2000 and 2005 include Port of Tanjung Pelepas.

³ Kota Kinabalu, Tawau, Lahad Datu and Sandakan.

⁴ Kuching, Miri and Rajang.

⁵ Includes Teluk Ewa, Kuala Perlis, Kuala Kedah, Tanjung Bruas, Tanjung Lempung, Lumut, Port Dickson and Labuan.

vessels of more than 80,000 deadweight tonnes (DWT) to call at West Port, Port Klang and Bintulu Port as well as the new Port of Tanjung Pelepas in Johor. The increases were attributed to new shipping lines commencing direct calls and additional services by existing lines.

10.30 Kuantan Port and Teluk Ewa Jetty in Langkawi were privatized in 1998 and 1999, respectively. Besides privatization, other efforts were also undertaken to improve the efficiency of port operations, marine and land-side services, as well as ship and cargo clearance. These efforts included foreign equity participation in the management of ports; the simplification of procedures and practices for providing pilotage and tug boat services; upgrading, computerization and automation for container operations; the identification of freight forwarders to be multimodal transport operators; and the merger of Klang Container Terminal Bhd., Klang Port Management Sdn. Bhd. and Kontena Nasional Bhd. to form a new holding company known as Northport Corporation. As a result of these efforts, Port Klang improved its rank among the container ports in the world from 21st in 1998 when it handled 1.8 million TEUs to 14th in 1999 when it handled a record of 2.6 million TEUs.

10.31 As part of the capacity expansion and development of riverine transportation, a number of port-related projects in Sabah and Sarawak were completed. These included the Tanjung Manis Port and the new deep-water port at Kampung Senari in Kuching, Sarawak as well as the expansion of the Lahad Datu Port in Sabah.

TABLE 10-4
NUMBER OF SHIP CALLS AND VOLUME OF CARGO HANDLED,
1995-2005

	1995	2000	2005	Average Annual Growth Rate (%)	
				7MP	8MP
No. of Ship Calls	70,098	89,462	121,210	5.0	6.3
Total Volume of Cargo Handled (million tonnes)	152.3	220.8	383.0	7.7	11.6
General	30.1	26.0	35.7	-2.9	6.6
Liquid Bulk	60.7	82.8	109.3	6.4	5.7
Dry Bulk	23.7	30.7	37.3	5.3	3.9
Container	37.8	81.3	200.7	16.5	19.8

10.32 Measures were also undertaken to provide adequate, efficient and properly maintained search and rescue, anti-pollution and navigational facilities and equipment to reduce the risk of pollution as well as to ensure the safety of navigation in Malaysian territorial waters. These included the purchase of additional enforcement vessels and navigational aids, the provision of quarters and training for the staff as well as the establishment of Traffic Separation Scheme which enhanced ship routing, improved traffic management and reduced oil spills in the Straits of Malacca.

10.33 Local participation in shipping activities including cargo and passenger operations expanded as reflected by the increase in the number of Malaysian vessels registered from 2,132 in 1995 to 3,200 ships in 2000, an increase of 8.5 per cent per annum. The majority of these ships were small vessels except for those ships registered under Malaysia International Shipping Corporation Berhad (MISC) and Global Maritime Ventures Berhad (GMVB). MISC's fleet increased from 62 ships in 1995 to 125 in 2000, while that of GMVB increased from three to 13 ships. Consequently, total shipping capacity increased from 3.6 million gross registered tonnage (GRT) in 1995 to 6.5 million GRT in 2000.

Airports

10.34 The thrust in airport development during the Plan period was to expand capacity and upgrade existing facilities as well as modernize and improve air traffic services and flight safety. For the Plan period, while passenger traffic was projected to grow at an average annual rate of 4.5 per cent, the actual growth rate was 3.5 per cent, from 27.3 million in 1995 to 32.9 million passengers in 2000, as shown in *Table 10-5*. However, the annual growth rate in cargo traffic for the period was higher than the projected 6.0 per cent, despite a contraction of 16.5 per cent in 1998. Total cargo handled increased from 482,030 tonnes in 1995 to 773,861 tonnes in 2000, reflecting a growth of 9.6 per cent per annum.

10.35 During the Plan period, Phase One of KLIA at Sepang was completed to cater for a capacity of 25 million passengers per annum (mppa). KLIA began commercial operations on 30 June 1998, just seven years after its conceptualization. In the first year of its operation, KLIA handled a total of 123,218 aircraft movements involving 12.7 million passengers and 350,248 tonnes of cargo. Efforts to develop KLIA as a competitive regional aviation hub were enhanced through the formation of a KLIA Hubbing Development Committee, comprising all major stakeholders and service providers in KLIA and relevant Government

TABLE 10-5
TRAFFIC HANDLED AT MALAYSIAN AIRPORTS, 1995-2005

Traffic	1995			2000				2005			
	Domestic	International	Total	Domestic	International	Total	Average Annual Growth Rate (%)	Domestic	International	Total	Average Annual Growth Rate (%)
Passengers ('000)	17,422	9,843	27,265	19,114	13,739	32,853	3.5	25,660	15,928	41,588	5.2
Cargo (tonnes)	128,702	353,328	482,030	114,598	659,263	773,861	9.6	238,816	890,336	1,129,152	7.3
Commercial Aircraft Movements (no.)	316,944	89,394	406,338	263,026	98,978	362,004	-2.1	337,435	110,983	448,418	4.4

agencies. The Committee has, among others, set service and performance standards based on world's best practices to achieve operational excellence at KLIA in terms of aircraft, passenger, baggage and cargo handling. In addition, the employees of KL International Airport Berhad (KLIAB), who gained invaluable project management skills in the construction of the airport, established a company to provide consultancy services both locally and overseas.

10.36 Other airport capacity expansion projects completed during the Plan period were the upgrading of the Langkawi Airport to cater for the latest wide-bodied B747-400 aircraft in June 1997, a new terminal building in the Labuan Airport in 1998 and a new cargo complex in the Penang International Airport in 1999. The terminal buildings in the Kuching International Airport and Sibul Airport in Sarawak as well as the Senai Airport in Johor were also upgraded. To enhance flight operations and safety as well as accommodate bigger aircraft, the Pulau Pangkor, Pulau Tioman and Mulu airstrips were upgraded, further boosting tourism to these resort areas. In addition, construction works commenced for new airports in Tawau and Limbang. Meanwhile, for the Kota Bharu Airport, works on a new terminal building, taxiway and parking apron also commenced, and is scheduled to be completed in the year 2002.

10.37 Malaysia Airlines (MAS), the national carrier, increased its flight operations from 104 to 114 destinations during the Plan period. The number of international destinations increased from 66 in 1995 to 81 in 2000, while its domestic destinations were reduced from 36 to 33. Out of the 81 international destinations, 63 were operated by MAS while the remainder were by other carriers on a code-sharing basis or joint services. Flights to Beirut, Vientiane, Yangon, Pusan and Male were launched in 1996 followed by Shanghai, Cairo and Zagreb in 1997. Flights to New York were introduced in 1998, while those to Manchester and Xiamen in 1999. MAS also increased its frequencies to Australia and many long-haul destinations in Europe. To service its destinations, MAS operated 87 passenger aircraft of which 53 were narrow-bodied and 34 wide-bodied. In addition, MAS also operated five dedicated freighter aircraft and handled 590,436 tonnes of cargo or 76.3 per cent of total air cargo in 2000.

10.38 Scheduled air services were also provided by Air Asia Sdn. Bhd., Pelangi Airways Sdn. Bhd. and Transmile Air Sdn. Bhd. to complement and supplement MAS services. These airlines provided air services to selected domestic and regional destinations, particularly tourist resorts such as Tioman and Pangkor as well as Medan in Indonesia.

10.43 To enable the MSC to provide the best environment for new advancements in the ICT industry, a 386 route-kilometre high speed broadband fibre optic cable was installed linking Kuala Lumpur City Centre, Putrajaya and Cyberjaya to KLIA. This backbone network has a capacity of 2.5 gigabits per second (Gbps), which is upgradable to 10 Gbps for transmission of high speed, broadband multimedia applications. This network utilizes advanced switching technology such as the Asynchronous Transfer Mode and is linked internationally through both fibre optic cables and satellite connections. The MSC is thus capable of supporting services such as Virtual Local Area Network for group computing over a wide area and multimedia workstations with interactive services including e-commerce, home shopping, video library retrieval and video-on-demand.

10.44 As a measure to reduce the digital divide, efforts were undertaken to ensure equitable access to communications and hence information throughout the country. Towards this end, the Communications and Multimedia Commission completed a study on Universal Service Provision (USP) in December 2000. The main objective of the study was to identify measures to extend communications services to high-cost areas and low income groups.

Water Supply

10.45 During the Seventh Plan, various water resources projects were implemented to meet the increasing domestic and industrial water demand. Efforts were undertaken to improve the management and distribution of water resources among various river basins including inter-state water transfer. The National Water Resources Council (NWRC) was formed in June 1998 as a coordinating and integrating body for the planning and management of water resources. The NWRC was entrusted to formulate, among others, a national water policy as well as establish guidelines on catchment management to ensure long-term sustainability.

10.46 As a long-term measure, the National Water Resources Study Phase 1, for Peninsular Malaysia was carried out to determine the availability of water resources and estimate the water requirements up to the year 2050. The Study, which was completed in 2000 made recommendations for the policy and management of water resources at both the Federal and state levels, and proposed a programme of investments to meet future water demands.

10.47 During the Plan period, a total of RM2.4 billion was expended on water supply projects including the completion of four new dams and the commencement of construction of the Chereh Dam in Pahang in 2000. The four were the Kelinchi and Gemenceh dams in Negeri Sembilan, the Telok Bahang dam in Pulau Pinang and the Babagon dam in Sabah, bringing the total number of dams in operation to 69, with a total capacity of 29.9 billion cubic metres. Of these, 35 were developed for water supply, 16 for multipurpose use while the remaining were for irrigation and hydropower. Efforts were also undertaken to enhance inter-basin water transfer such as from the Kelinchi Dam in the Muar River Basin to the Terip Dam in the Linggi River Basin in Negeri Sembilan. The engineering study and design for the inter-state water transfer from Pahang to Selangor involving the construction of the Kelau Dam and a 45-kilometre tunnel was also completed in 2000.

10.48 To meet the increasing demand for water, particularly in the urban areas, new treatment plants were built and the existing plants and distribution systems were upgraded. The completed projects included the Sungai Selangor Stage I Phase II, Langkawi Submarine Pipeline Project, Labuan Water Supply Project Phase III, Kulim Water Supply Phase II, Sabah Immediate Water Supply Works and Melaka Development Corridor Water Supply projects. In addition, three fast track projects were implemented in 1998 to overcome the water shortage in the Klang Valley due to the prolonged dry spell from March to August 1998. These were the construction of the Wangsa Maju Water Treatment Plant with a production capacity of 45 million litres per day (mld) and the transfer of raw water from the Klang Gates Dam as well as from the Sungai Gombak to the plant. At the same time, work on the Sungai Selangor Stage II Phase II was accelerated for earlier completion in 2000. By the end of the Plan period, the production capacity increased from 9,480 mld in 1995 to 11,860 mld in 2000. The national water supply coverage increased to 92 per cent in 2000, as shown in *Table 10-6*.

10.49 Measures were also taken to improve the efficiency of the existing water supply systems. These included the rehabilitation and upgrading of the treatment plants and the distribution systems to reduce the rate of non-revenue water (NRW). A total of 1,680 kilometres of asbestos cement pipes was replaced with steel and polyethylene pipes. In addition, leakage control and meter replacement programmes were also implemented to further reduce the NRW. A total of RM475 million was expended on the NRW programme covering 20 districts in various states. Consequently, the national NRW rate decreased from 40 per cent in 1995 to 36 per cent in 2000, as shown in *Table 10-6*.

TABLE 10-6

URBAN AND RURAL WATER SUPPLY COVERAGE AND NON-REVENUE WATER RATE, 1995-2005
(¹000 persons)

State	1995						2000						2005					
	Urban	%	Rural	%	Total	% NRW	Urban	%	Rural	%	Total	% NRW	Urban	%	Rural	%	Total	% NRW
Johor	1,130	99	1,207	96	2,337	97 36	1,278	99	1,394	98	2,672	98 26	1,446	99	1,593	99	3,039	99 23
Kedah	324	100	942	89	1,266	94 48	374	100	1,269	97	1,643	98 48	440	100	1,600	98	2,040	99 44
Kelantan	383	85	432	45	815	65 40	488	95	481	46	970	70 36	569	98	777	65	1,346	81 35
Melaka	213	99	332	97	545	98 35	228	100	358	99	586	99 30	242	100	380	99	622	99 24
Negeri Sembilan	469	98	312	95	782	96 42	519	100	346	99	865	99 38	567	100	378	100	945	100 32
Pahang	224	98	956	86	1,180	92 48	251	98	1,049	89	1,300	93 42	330	99	1,140	92	1,471	95 38
Perak	1,216	98	727	84	1,943	91 37	1,117	100	876	100	1,993	100 36	1,193	100	863	100	2,056	100 32
Perlis	55	99	137	89	191	94 38	62	100	154	90	216	95 36	70	100	188	92	258	96 31
Pulau Pinang	581	98	587	98	1,168	98 20	602	100	687	100	1,289	100 19	663	100	776	100	1,439	100 18
Sabah ¹	807	87	462	42	1,269	64 58	930	88	553	45	1,483	66 52	1,070	93	660	60	1,730	77 45
Sarawak ¹	613	93	533	80	1,146	86 36	692	100	644	88	1,336	94 34	783	100	844	89	1,627	95 28
Selangor ¹	3,216	100	1,411	92	4,627	96 40	3,608	100	1,348	97	4,956	99 36	5,190	100	1,422	100	6,612	100 29
Terengganu	438	90	292	77	730	83 38	470	98	400	89	870	94 35	509	100	434	92	944	96 30
Malaysia	9,669	96	8,330	82	17,999	89 40	10,619	98	9,559	87	20,179	92 36	13,072	99	11,055	91	24,129	95 31

Notes:

¹ Including Federal Territory of Labuan.² Including partially treated water in rural areas.³ Including Federal Territories of Kuala Lumpur and Putrajaya.

10.54 In order to improve and expand services within local authority areas, new sewerage capital works were undertaken. Priority was accorded to cities and towns where sewage pollution was a potential threat to public health and the tourism industry. Several sewerage work projects in Kuala Lumpur, Langkawi, Port Dickson, Seremban, Labuan and Ipoh were completed during the Plan period with a total capital expenditure of RM282.5 million. Many of the public sewerage systems handed over by the local authorities were refurbished to meet the design intent of the systems. A total of RM182.0 million was expended during the Plan period to refurbish 1,162 treatment plants.

10.55 During the Plan period, monitoring of sewerage contractors was done by the Sewerage Services Department through the issuance of licences. A total of 333 local sewerage contractors was registered with the Department and the standard of work and services were monitored through inspections during construction.

III. PROSPECTS, 2001-2005

10.56 The supporting role of infrastructure and utilities to facilitate the growth of other sectors, particularly in the distribution of goods and services is vital to ensure the attainment of the Eighth Plan's objective of growth with resilience. Efforts will continue to be undertaken to upgrade existing facilities and increase capacities, particularly in the less developed areas as well as to improve productivity and efficiency in urban areas. Greater accessibility, adequacy and quality of the supply of infrastructure and utilities will contribute to a better quality of life. The development thrust of the sector during the Eighth Plan period will thus be guided by the following strategies:

- ☐ *emphasizing long-term integrated planning and coordinated implementation of projects to ensure a more orderly, systematic and comprehensive development of infrastructure and utilities;*
- ☐ *providing a comprehensive range of infrastructure facilities and amenities to facilitate economic growth and open new corridors for development;*
- ☐ *promoting multimodalism to enhance the seamless integration of all modes of transport;*
- ☐ *encouraging the use of public transport as well as intelligent transport systems, particularly in urban areas to reduce congestion;*

- ❑ *increasing efficiency, productivity and reliability of service through continuous review and stricter enforcement of performance standards and technical specifications as well as the use of new and adapted technologies; and*
- ❑ *ensuring the availability of reliable infrastructure facilities and services at reasonable costs.*

Roads

10.57 Road development programme will be continued with emphasis on quality and safety. New roads construction will focus on opening up corridors for development as well as improving accessibility to rural areas. Construction of roads through privatization and deferred payment method will be continued on a selective basis, thereby sustaining road project implementation.

10.58 For the Eighth Plan period, a total of RM5.1 billion will be allocated for the development of new roads and RM8.9 billion for the improvement and upgrading of existing roads. The larger allocation for upgrading of existing roads is in line with the efforts to improve safety, driving comfort and reduce travel time, including the provision of motorcycle lanes in identified dangerous stretches. Major projects that will be implemented during the Eighth Plan period are as shown in *Table 10-7*.

10.59 Emphasis will be placed on roads leading to and within the less developed areas, in order to provide better access and improve road system to these areas. In this regard, new rural roads will be built to high geometric standards that will facilitate the movement of larger commercial and heavy vehicles to serve industries in these areas, thereby accelerating rural and regional development. Some of the major projects to be undertaken include the construction of Titi Karangan-Grik section of the Second East-West Highway, Sepulut to Kalabakan Road in Sabah and the highway from Kuching to the new Federal Administrative Centre in Rambungan in Sarawak. In addition to the Pan Borneo Highway linking Miri and Limbang and the Simpang Pulai-Lojing-Kuala Berang Road, the construction of the East Coast Expressway will be expedited through Government funding.

10.60 Various new projects are expected to be completed through privatization including the Senai-Desaru Highway, Kajang-Seremban Highway and the Western Kuala Lumpur Traffic Dispersal Scheme (SPRINT Highway). The completion of these highways will add about 100 kilometres of privatized highways to the total road network.

TABLE 10-7
MAJOR ROAD PROJECTS, 2001-2005

<i>Project</i>	<i>Length (km)</i>	<i>Completion (Year)</i>
Batang Rajang Bridge	1.5	2002
New Coastal Road Triso-Melebu-Pusa	51	2002
Urban Ring Road in Putrajaya	14	2002
Upgrading Road from Anak Bukit to Kepala Batas	5	2002
Kuala Kangsar-Grik Road	100	2003
Upgrading Bentong-Kuala Lipis Road	109	2003
Road From Kuching to New Federal Administrative Centre in Rambungan	26	2003
New Road From Kunak to Semporna	60	2003
Upgrading Federal Route 50 from Batu Pahat to Kluang	60	2003
Upgrading Route 98 from Temerloh to Jerantut	60	2003
East Coast Highway	169	2003
New Road From Kanibongan to Nangoh	160	2004
Upgrading Old Klang Road	4	2004
Upgrading Federal Road 65 from Lee Rubber to UIA	12	2004
Upgrading Federal Route 51 from Seremban to Kuala Pilah	35	2004
New Tenom-Beaufort Road	120	2005
Changloon-Padang Besar Highway	39	2005

Urban Transport

10.61 During the Eighth Plan period, the urban transport strategy will continue to focus on the development of an integrated, efficient and reliable urban transport environment in the Klang Valley as well as in other major urban centres. In this regard, strategies and measures will be required to alleviate traffic congestion as most urban centres continue to experience high population growth and socio-economic development. Emphasis will be on the need to have a more efficient, safe and comfortable public transport system to enable a modal shift from private car usage.

10.62 The rapid increase in car ownership and commercial development in major cities will continue to impose greater demand on road capacity. Greater and more sustained efforts are therefore required to enhance public transport

services, improve traffic demand management and upgrade the road network to enable quicker vehicular flow and dispersal to the ring roads. In this regard, local authorities need to upgrade their expertise in urban transportation planning and management. Measures such as adequate land use planning, provision of public transport facilities and strict enforcement with regard to indiscriminate parking and construction activities will be required to alleviate severe cases of traffic congestion.

10.63 The increasing number of motor vehicles in all major urban centres will require the implementation of public transport priority measures, car parking control, local area traffic improvement schemes, restrictions on heavy vehicles, greater pedestrianization and the application of ITS. Measures will be taken to enhance effective car parking control through limiting the duration of parking hours, reducing parking requirements for new projects and imposing higher parking charges in specific areas. Local area traffic improvement schemes include one-way circulation, contra-flows during peak hours and traffic calming measures.

10.64 ITS applications will continue to be an imperative tool in the strategy to alleviate traffic congestion and improve the urban transport system as well as reduce pollution. Some of the more effective ITS applications include vehicle information system, transport information kiosks, variable message signages and ultimately an integrated demand management system (IDMS). This will incorporate an urban traffic control system with linkages to vehicle tracking, data collection, safety, public transportation and parking guidance. In this regard, a Government appointed private consortium will undertake a plan to implement ITIS in the Klang Valley.

10.65 While LRT STAR, LRT PUTRA and KTM Commuter managed to secure a combined daily ridership of about 250,000 commuters on peak days, it is still lower than the forecasted figures, thus requiring more promotional efforts by the companies. The Government will also consider various options to ensure the financial viability of the projects and the provision of better services to the public. In addition, higher productivity and cost-saving measures will be pursued to enhance the financial sustainability of the urban transit systems. The intra-city monorail system, however, is viewed as more commercially viable by the concession company based on lower construction, systems, operating and maintenance costs. The lower costs are attributed to the deployment of Malaysia's first locally manufactured monorail vehicles. The monorail system is expected to provide a critical public transport link from KL Sentral to the central business district and several LRT stations. To further expand the urban rail network, the

Government will implement the locally manufactured monorail system which is similar to the KL Monorail, as the core transport mode in Putrajaya and Cyberjaya. The first phase of the project is scheduled for completion in 2003. Both Putrajaya and Cyberjaya will feature an integrated internal transport system which will interface with the ERL to Kuala Lumpur and KLIA and inter-city buses.

10.66 Further development will continue to focus on greater rationalization and optimization of the public transport sector especially in the Klang Valley. Emphasis will be on the promotion of multimodalism through the use of a common ticketing system, integrated route and facility networks, improved locations for bus and taxi stands, transit malls, efficient feeder buses and more car parks on the urban fringes close to LRT and bus stations. Buses will continue to be a major mode of transport in cities and will be further improved to provide an efficient, safe and comfortable service. For the Klang Valley, the Government will examine the reorganization and restructuring of the total urban transport operations with the objective of creating an efficient and financially sustainable system.

10.67 The opening of KL Sentral in early 2001 heralds a significant milestone for public transportation in the Klang Valley. As the main public transport hub linking Kuala Lumpur to KLIA, Putrajaya and Cyberjaya through the ERL, KL Sentral's pivotal role will be continuously monitored and enhanced. It is also expected to increase the ridership levels of the LRT PUTRA, KTMB inter-city and commuter train services and the monorail, as these different modes will converge at the KL Sentral. To ensure efficient operation of KL Sentral, its management will be privatized.

10.68 Pedestrianization projects in the major urban centres will continue to be encouraged to induce the public to walk short distances rather than use their cars. Landscaped and sheltered pedestrian walkways will continue to be implemented. Further improvement in lighting and provision of street furniture will also be undertaken to attract more commuters to public transportation.

10.69 Several major urban roads will be constructed during the Eighth Plan period. These include the road link from Kampung Pandan Roundabout to Sultan Ismail Road in Kuala Lumpur; Butterworth Outer Ring Road, Penang; Muar Bypass Road, Johor and several roads in Kota Kinabalu and Kuching. In addition, several other roads will be upgraded including Jalan Klang Lama, Kuala Lumpur; Kuantan Bypass Road, Pahang and the Karamunsing Interchange, Kota Kinabalu.

Rail Transport

10.70 During the Eighth Plan period, emphasis will continue to be given to enhance the efficiency and quality of rail services. In this regard, efforts will be undertaken to increase operational safety, reliability and greater professionalism of the railway workforce in order to realize the inherent competitiveness of rail transportation.

10.71 The selective doubling, strengthening and electrification of tracks, modernization of signalling and communication systems and investment in higher quality rolling stock augurs well for the future role of rail transportation. The current share of overall freight transportation by rail of less than 5 per cent offers vast potential for market expansion. Towards this end, the rail industry will embark on more effective marketing of its services.

10.72 With the completion of the rail link project to the West Port of Port Klang, North Butterworth Container Terminal and the scheduled completion of the rail connection from Kempas to Port of Tanjung Pelepas, Johor in 2002, efforts will be undertaken to promote the competitive cost advantage of freight transportation by rail. This will also contribute significantly to the development of these ports. Various supporting measures, including the upgrading of operations and maintenance standards, enhancing productivity levels and the optimal utilization of existing resources, will be undertaken to enhance rail transportation.

10.73 The implementation of the Rawang-Ipoh electrified double track project is scheduled for completion in 2004. This will serve as a crucial link in the Southern Thailand to Malaysia land-bridge project by providing efficient freight services on the Padang Besar-Ipoh-Rawang-KL-Port Klang route. In line with the need to increase track capacity, efficiency and quality of both passenger and freight services, the Government will consider the extension of the current Rawang-Ipoh electrified double track project to Padang Besar in the north and from Seremban to Johor Bahru in the south. Inter-city passenger services will be improved with the increased track capacity and the extension of commuter operations between Rawang and Tanjung Malim. In addition, the implementation of the Sentul-Batu Caves electrified double track project will extend commuter train services in the Klang Valley by another seven kilometres.

10.74 As part of its long-term strategy to promote freight multimodalism, KTMB will continue to gear itself towards general cargo containers as well as increase productivity and performance standards of its yard and terminal facilities.

In addition, more container depots and terminal facilities will be built jointly with the private sector to further increase freight business. In order to have an efficient, market-oriented and sustainable railway operation, a major restructuring of KTMB will be undertaken.

Ports

10.75 Port development will continue to focus on improving capacity, upgrading equipment and facilities as well as enhancing the efficiency and productivity of port and port-related services. In terms of capacity, an integrated approach to develop a comprehensive range of inland related support facilities and services will be adopted. Accessibility to ports, especially road and rail links will be upgraded. Simultaneously, multimodal transport operations that offer door-to-door services will be in place. In addition, various measures will be undertaken to further promote the expansion of Malaysian shipping lines including ferry services, preserve marine environment and upgrade navigational safety.

10.76 A single port authority will be established which, *inter alia*, will perform regulatory functions to ensure that port operators meet with the performance standards stipulated as well as comply with the terms and conditions of the licences issued. In addition, the authority will facilitate an orderly and integrated development of ports and port-related services based on their respective strengths, uniqueness and specialization, especially in terms of hinterland coverage, expertise and facilities to handle certain types of traffic as well as to take into consideration environmental aspects.

10.77 Various port projects, which commenced in the Seventh Plan, are expected to be completed by the end of the Eighth Plan period. These include the construction of additional container berths and storage facilities at West Port, Port Klang; reclamation of 25 hectares of land for expansion of North Butterworth Container Terminal; a dedicated container terminal and petrochemical jetty at Kuantan Port; an additional 360 metre berth at Port of Tanjung Pelepas; the third LNG Jetty at Bintulu Port and the construction of an additional port at Ranca-Ranca, Labuan. To enhance port capacity, supporting ancillary services such as distriparks, bunkering, banking, insurance, customs brokerage and shipping agencies will be further improved. An integrated landscaping and land utilization programme for ports and port-related activities will be developed to further increase capacity and utilization of related services. With regard to the promotion of tourism, cruise ship operations and the development of a host of marinas and other recreational activities surrounding port areas will be upgraded.

10.78 As part of capacity expansion and development of riverine transportation, a number of port-related projects in Sarawak and Sabah will be implemented. These include the dredging of the Kuala Baram and Sarawak river mouths to deepen the channel access to Miri and Kuching ports and the construction of a container terminal and oil jetty at Sapangar Bay in Sabah. Inland water transport as an alternative mode will be upgraded to cater for the increased demand from locals and tourists in the states of Sarawak and Sabah. Towards this end, projects will be undertaken to improve and upgrade passenger and cargo facilities such as the construction of passenger terminals and dredging for navigation. In addition, the construction of ferries with low-wash-type technology will be encouraged to minimize the impact of river bank erosion.

10.79 During the Plan period, more efforts will be undertaken to increase the usage of local ports. Besides Port Klang, Port of Tanjung Pelepas will also be developed as a hub and cargo transshipment centre. In this regard, the relaxation of the Cabotage Policy will be extended to Port of Tanjung Pelepas. Government agencies and terminal operators will concentrate on promotional activities to attract more exporters, importers and other members of the shipping community to use local ports. More cooperation with other international ports will be enhanced through joint ventures, sister port arrangements and forging of strategic alliances with foreign port operators and shipping companies. Other initiatives will include offering main line operators user-friendly services, competitive port tariffs, rebates, preference vessels and dedicated berth schemes.

10.80 Further efforts will be made to improve the efficiency and productivity of ports and ancillary services through continuous multi-skill training programmes, modernization, increased automation and computerization to upgrade management processes and procedures. To achieve computerized port status, the majority of Malaysian ports will take steps to invest in computerization and link with the electronic data interchange (EDI) system as well as computer integrated networks, thus facilitating ports to manage the entire logistics chain. E-commerce in the port business will also be undertaken. Modern port equipment such as super post-panamax cranes, rubber tyre-gantry cranes and other off and foreshore facilities embodying state-of-the-art technology and computerized application standards with major international ports will also be provided.

10.81 By the end of the Plan period, total port capacity is expected to increase at the rate of 9.5 per cent per annum from 344.1 million tonnes in 2000 to 541.9 million tonnes in 2005, as shown in *Table 10-3*. At the same time, the volume of cargo handled is estimated to increase from 220.8 million tonnes in 2000 to

383.0 million tonnes in 2005. In line with the rapid growth in world containerized cargo at 8.0 per cent per annum, containerized cargo is expected to continue with double digit growth at 19.8 per cent per annum. The number of ship calls is expected to increase by 6.3 per cent per annum from 89,462 vessels in 2000 to about 121,210 vessels in 2005, as shown in *Table 10-4*.

10.82 In the shipping subsector, greater emphasis will be given to further expand the local shipping companies including ferry services carrying cargo and passengers. Greater investment through leasing, joint venture, chartering and purchase of additional vessels will be made by the private sector. To enhance productivity and efficiency in shipping operations, the Government will encourage shipping operators to modernize their operations and form strategic alliances. In addition, local shipping companies, particularly those involved in the operations of off-shore logistics support services will be encouraged to utilize the Shipping Fund to expand their capacity.

10.83 During the Plan period, MISC will continue to be the main ship owner and operator and is expected to acquire two additional ships, thus increasing the total fleet to 127 ships and raising its capacity from 3.3 million GRT to 3.4 million GRT. Other shipping companies such as the GMVB, Nepline Bhd. and Halim Mazmin Bhd. are expected to increase their investments, especially roll-on roll-off vessels and oil tankers with tonnage ranging between 2,526 to 104,449 GRT. In terms of ferry services, Star Cruise will increase its fleet from three ferries to four in 2005. With the increased investment made by all the local shipping companies, the total number of vessels registered in Malaysia is expected to increase from 3,200 ships or 6.5 million GRT in 2000 to 3,800 ships or 8.8 million GRT in 2005.

10.84 To enable the Marine Department to assume a more effective role in ensuring the safety of navigation and Malaysian waters are free from pollution, efforts will continue to be made to improve both preventive and enforcement activities. These include the purchase of additional enforcement vessels and navigational aids, the promotion of the usage of Marine Electronic Highway as well as the introduction of Automatic Identification and Differential Global Positioning systems to identify and provide safe advice to vessels plying in the Straits of Malacca. In addition, training programmes will be conducted to meet the requirements of the International Convention on Standards of Training, Certification and Watch Keeping for Seafarers.

Airports

10.85 Airport development will continue to focus on efficiency, productivity and flight safety as well as increasing the capacity to cater for the rising demand for air transport. During the Plan period, passenger and cargo traffic is expected to grow at an average annual rate of 5.2 per cent and 7.3 per cent, respectively. Passenger traffic is expected to increase to 41.6 mppa in 2005, while air cargo is expected to increase to 1,129,150 tonnes, as shown in *Table 10-5*.

10.86 Efforts will continue to be taken to improve efficiency and performance standards of services in KLIA to make KLIA the regional aviation hub. In addition, the airport operator and the national air carrier will jointly promote KLIA and attract more foreign airlines to operate flights into and from KLIA, for both passenger and cargo services. Strategic alliances will be formed by both the airport operator and air carrier with other operators and airlines, to increase cooperation and connectivity.

10.87 The other airports will also be improved to provide efficient services and increase accessibility, particularly in the rural areas of Sabah and Sarawak. These airports will also act as feeder airports to complement the development of KLIA as an aviation hub. Construction of the new airports at Tawau, Bintulu, and Limbang will be completed during the Plan period. The airports at Alor Setar and Miri will also be upgraded to increase their capacity.

10.88 The Government will continue to negotiate Air Services Agreements to increase the number of airlines and flight frequencies into the country as well as additional landing rights for Malaysian carriers. In this regard, a liberal approach including the Open Sky Policy will be adopted in the granting of traffic rights to increase connectivity *albeit* with sufficient safeguards to ensure market access and competitiveness of the national carrier and other local operators.

10.89 The privatization of air traffic control services will be completed at the beginning of the Plan period. As a result, all aviation-related services will be managed by the private sector. A new regulatory body, the Civil Aviation Authority of Malaysia (CAAM) will be established to set performance standards and oversee airport operations and aviation services. In addition, the CAAM will certify aircraft and aircraft components manufactured in Malaysia. The CAAM will also ensure that all airport and aviation service providers maintain a balance between commercial interest and development needs of the industry.

10.90 Efforts will be taken by MAHB to improve productivity and efficiency at all airports. In addition, MAHB will seek to increase the contribution of non-aeronautical revenue including the development of the land bank of KLIA. In this regard, a hotel, theme park, golf course and an air museum are planned to promote KLIA as a tourist destination. Motor sports will be actively promoted to utilize the facilities at the Formula One Racing Circuit at KLIA. In addition, the construction of the National Exhibition and Convention Centre as part of the redevelopment of the Sultan Abdul Aziz Shah Airport in Subang will be completed during the Plan period.

Communications

10.91 The thrust of the communications subsector will be to increase capacity to provide greater accessibility to communications and multimedia services, particularly in the rural areas and at reasonable cost. Improvements in Voice over Internet Protocol (VoIP) technology will further reduce the cost of telephony services. The use of Asymmetric Digital Subscriber Line (ADSL) will enable high speed internet access through the existing copper lines in the local loop. In addition, rapid advances in mobile communications technologies such as the General Packet Radio Service and Third Generation (3G) mobile phones using Code Division Multiple Access (CDMA) technologies will enable the provision of new services including high speed Internet access and audio-video streaming. New transmission technologies such as Power Line Communication (PLC) Technology which transmits data over electricity lines will provide an alternative to the telephone line, thus reducing local access infrastructure cost while increasing connectivity.

10.92 The Communications and Multimedia Commission will oversee the implementation of the USP plan including setting targets and time-table for the roll-out of communications infrastructure, the standard of service and its delivery. The rural penetration rate is thus expected to increase to 17.5 telephones per 100 population in 2005 and the national penetration rate to 27.0. This will involve the installation of 423,800 new lines and 88,760 public telephones in the rural areas. A total of RM2.1 billion is expected to be invested to achieve the USP target, with the majority of funding by the private sector through contributions to the USP Fund. Cellular phone penetration is forecasted to be 38 per 100 population in 2005, spurred by its convenience, competitive pricing and computing capability.

10.93 The communications and multimedia industry will provide world-class services at competitive rates to meet the challenges of global competition. The Communications and Multimedia Act, 1998 will facilitate the introduction of new services using new technologies through a more liberal licensing regime that is technology-neutral and service-neutral. In this regard, most e-commerce activities such as web hosting, internet content, electronic transaction and private network services are exempt from licensing by the Commission. The Act also provides increasing self-regulation by the industry to enable operators to respond quickly to competitive pressures and focus on productivity and efficiency. The Government will develop key performance indicators to monitor performance and set broad guidelines such as fair competition to protect and promote consumer interest as well as ensure social objectives are met. The private sector will have to be innovative and creative to provide new and differentiated services, especially in niche markets where customization and specialization will command a premium.

Water Supply

10.94 The thrust of the subsector will focus on the need to efficiently manage the national water resources so that the nation will have an adequate supply of safe water. For this purpose, the proposed National Water Policy and the new National Water Resources Master Plan, which covers the planning horizon up to year 2050, will provide the strategies and guiding principles for the future development and conservation of national water resources. These principles will be based on, among others, integrated development, equitable regional allocation of water resources, environmental integrity, uniform water regulation and practices, economic value of water and uniform water tariff structure. In this respect, the proposed Water and Sanitation Commission will enforce compliance to meet environmental and water quality objectives through the regulatory mechanism. In addition, the Government will incorporate watershed planning as a decision-making tool involving land-use policies to reflect the economic value of water catchments, forest reserves and other protected areas, as well as to gazette water catchment areas, dam sites and riparian areas to preserve water supply for future use. Adequate funding and resources will be provided to carry out these programmes effectively. These will be coordinated by the National Water Resources Council through greater cooperation and coordination via federal-state Government and industry players' dialogues and partnerships.

10.95 Besides ensuring an efficient and reliable water supply system, priority will be given to minimize wastage and losses. During the Plan period, an effective and comprehensive demand management and conservation strategy will be

introduced. The NRW is thus expected to be reduced from 36 per cent in 2000 to 31 per cent in 2005. The public awareness campaign on the importance of conserving water will be intensified. Building by-laws will be amended to ensure that new houses and industrial premises are fitted with water conservation devices. Efforts will also be undertaken to improve the monitoring and surveillance of dams. These measures will include close monitoring of dam characteristics such as hydrological yield, storage volume, critical level and mode of release of water for better balancing of supply and demand, particularly during the dry season. In addition, the construction of more storage bunds will be carried out.

10.96 Demand for water for domestic and industrial use is expected to increase by 5.4 per cent per annum during the Plan period. The national water supply coverage is expected to increase to 95 per cent, with almost 100 per cent coverage of urban areas and 91 per cent of rural areas in 2005. Besides meeting the increasing demand in urban areas, the Government will continue to provide good quality drinking water to small rural communities. In this regard, the development of infrastructure facilities will continue to be undertaken to tap groundwater and treat water from rivers and streams to supplement piped water. Supply of water will be further improved in states that have low water coverage in rural areas. In addition, the utilization of downstream surface water for industrial and non-critical purposes will be implemented.

10.97 The implementation of water supply projects will be further accelerated, such as the construction of the Chereh Dam and the Greater Kuantan Water Supply and the Tanjung Malim Water Supply Scheme. The construction of two major source works, the Sungai Selangor Phase III project (SSP3) and the Pahang-Selangor Raw Water Transfer scheme, will commence during the Plan period to cater for the increase in water demand in the Klang Valley. Besides the Sungai Selangor Dam, the SSP3 includes Stage 1 of the Bukit Badong Water Treatment Plant with a capacity of 400 mld which is expected to be completed by 2002 and Stage 2 with a capacity of 400 mld by 2004. The Pahang-Selangor Raw Water Transfer project is designed to transfer a maximum capacity of 2,400 mld of raw water by means of pipelines and a tunnel from Pahang to Selangor as well as the Federal Territory of Kuala Lumpur and subsequently to Negeri Sembilan.

10.98 During the Plan period, the states of Melaka, Negeri Sembilan, Pahang, Perak and Sabah are expected to complete the privatization or corporatization of water supply authorities. Privatization of water supply authorities will be conducted in an integrated manner to include treatment works, distribution of water, billing and customer services. State water regulatory bodies will be set

up with sufficient powers for the enforcement of economic and safety regulations to ensure that the private companies adhere to the conditions in the privatization agreement. In enhancing the effectiveness of the state's regulatory mechanism, the Water and Sanitation Commission will be set up to advise state governments on matters relating to social obligations to be performed by the concessionaire as well as on legal aspects.

10.99 The use of ICT will be expanded with the establishment of a standardized national information system with a network of databases at the Federal and state levels. Apart from data on water availability and actual usage, the system will also include projections of demand for water. In addition, to enhance the management and operation of water distribution, the application of Geographical Information System (GIS), Supervisory Control & Data Acquisition System (SCADA), telemetry systems as well as customer information and billing systems will be expanded. These systems will, among others, alleviate the problem of NRW through the early detection of problem areas.

Sewerage

10.100 During the Eighth Plan period, the Government will embark on an extensive sewerage capital development programme with the implementation of 13 sewerage work projects. These include the upgrading of 10 sewerage treatment plants and sewer networks and the provision of three new central sludge facilities to ensure the delivery of better service. The completion of these projects will provide sewerage services to an additional 1.8 million population.

10.101 The implementation of the refurbishment works programme on about 2,500 treatment plants will produce better quality effluent and improve the environment. The implementation of this programme is in line with the recommendations of the sewerage study where the existing concessionaire will undertake the operation and maintenance works for the sewerage services including billing and collection of charges. The Government, on the other hand, will be responsible for the capital expenditure required to expand, upgrade and rehabilitate the sewerage system. This option will, among others, ensure that the sewerage services will continue to be provided to the public at affordable rates and ensure safe wastewater disposal.

10.102 The taking over of new sewerage plants from the developers will increase the coverage of the population served by the concessionaire to about 14.4 million people by the year 2005. The implementation of the sewerage catchment plan

will further reduce the number of localized treatment plants and optimize resources in the operation and maintenance of sewerage systems. However, individual sewerage systems will be implemented in locations such as hilly and isolated areas where connections to the centralized system are costly or have an adverse impact on the environment.

IV. ALLOCATION

10.103 The Government will continue to provide a substantial allocation for infrastructure and utilities development. As shown in *Table 10-8*, a total of RM27 billion will be allocated by the Government, with RM14.0 billion for

TABLE 10-8
DEVELOPMENT ALLOCATION FOR INFRASTRUCTURE AND UTILITIES,
2001-2005
(RM million)

Sector	7MP ¹		8MP
	Allocation	Expenditure	Allocation
Transport	20,913.1	20,484.2	21,222.1
Roads ¹	12,429.9	12,269.5	14,002.6
Urban Transport	404.2	404.0	705.6
Rail	5,450.3	5,450.3	4,081.0
Ports	1,157.4	1,089.2	1,500.0
Airports	1,471.3	1,271.2	932.9
Utilities	3,445.3	3,048.0	5,549.9
Water Supply	2,776.8	2,382.7	3,966.3
Sewerage	668.5	665.3	1,583.6
Communications	51.0	39.6	228.0
Communications & Posts	10.2	4.1	146.7
Meteorological Services	40.8	35.5	81.3
Total	24,409.4	23,571.8	27,000.0

Note: ¹ Excludes localized roads in regional development areas, some local authorities and agricultural roads.

roads, RM4.1 billion for rail and RM4.0 billion for water supply. Investments by the private sector amounting to RM3.5 billion on roads will complement the Government's allocation for this subsector. This substantial investment in infrastructure and utilities projects will further improve the transport network as well as the availability and reliability of public utilities.

V. CONCLUSION

10.104 The Eighth Plan will focus on increasing efficiency, productivity, quality and reliability of infrastructure facilities and services to enhance linkages and improve transportation to support the nation's competitiveness. The increasing urban congestion requires a modal shift towards mass public transport and greater application of ITS for better traffic management, transport efficiency, safety and comfort as well as reduce pollution. Greater use of ICT will also improve supply and demand management of water as well as support multimedia applications. Environmental considerations will be integrated into infrastructure project planning for greater safety and provision of a better quality of life.



Chapter 11

Energy

Malaysia Plan M
aysia Plan Mala
ia Plan Malaysia
Plan Malaysia P
an Malaysia Plan
Malaysia Plan M
aysia Plan Mala
ia Plan Malaysia
Plan Malaysia P
an Malaysia P
Malaysia
Malaysia
Malaysia P
Malaysia P



11

ENERGY

I. INTRODUCTION

11.01 During the Seventh Plan period, the focus of the energy sector was on the sustainable development of depletable resources and the diversification of energy sources. The policy to reduce dependence on oil resulted in the rapid development and usage of natural gas. For the electricity subsector, the main thrust was ensuring adequacy of generating capacity as well as expanding and upgrading the transmission and distribution infrastructure. The use of new and alternative energy sources was encouraged and measures were also undertaken to utilize energy in an efficient manner.

11.02 For the Eighth Plan period, concerted efforts will be undertaken to ensure the sustainable development of energy resources, both depletable and renewable, in meeting the energy demand of the economy. The energy sector will be further strengthened to support the development of Malaysia into a knowledge-based economy, thereby enhancing its resilience and competitiveness. Efforts will be intensified to ensure adequacy, quality and security of energy supply, encourage greater utilization of gas and renewable energy as well as provide adequate electricity generating capacity. In addition, the development of industries that produce energy-related products and services will be supported for both the domestic and export markets.

II. PROGRESS, 1996-2000

11.03 In line with the National Energy Policy, the energy sector developed new approaches and facilities to meet the diversified needs of the economy during the Seventh Plan period. Efforts were undertaken to ensure adequate and reliable supply of energy and at the same time increase efficiency and enhance productivity of the sector.

Energy Demand

11.04 *Commercial Energy.* Expansion in the manufacturing and transport sectors increased the final consumption of commercial energy, which grew at an average annual rate of 4.7 per cent, from 928.2 petajoules (PJ) in 1995 to 1,167.1 PJ in 2000, as shown in *Table 11-1*. This led to a marginal increase of the energy intensity of the economy from 5.6 gigajoules (GJ) in 1995 to 5.7 GJ in 2000. The per capita energy consumption increased at a lower rate of 2.5 per cent to 50.1 GJ in 2000, compared with 44.3 GJ in 1995.

11.05 In terms of energy mix, there was a shift in consumption from oil and petroleum products to alternative sources of energy especially natural gas, thus demonstrating the success of the National Depletion Policy and the Four-Fuel

TABLE 11-1
FINAL COMMERCIAL ENERGY DEMAND¹ BY SOURCE,
1995-2005

Source	1995		2000		2005		Average Annual Growth Rate (%)	
	PJ ²	%	PJ	%	PJ	%	7MP	8MP
Petroleum Products	676.0	72.8	804.3	68.9	1,139.1	67.0	3.5	7.2
Natural Gas ³	81.1	8.8	120.0	10.3	184.8	10.9	8.2	9.0
Electricity	141.3	15.2	205.0	17.6	320.0	18.8	7.7	9.3
Coal & Coke	29.8	3.2	37.8	3.2	55.9	3.3	4.9	8.1
Total	928.2	100.0	1,167.1	100.0	1,699.8	100.0	4.7	7.8
Per Capita Consumption (gigajoules)	44.3		50.1		66.4		2.5	5.8

Notes:

¹ Refers to the quantity of commercial energy delivered to final consumers but excludes gas, coal and fuel oil used in electricity generation.

² Joule is the unit of energy to establish the equivalent physical heat content of each energy form. One megajoule = 10⁶ joules, one gigajoule (GJ) = 10⁹ joules and one petajoule (PJ) = 10¹⁵ joules and one PJ = 0.0239 million tonnes of oil equivalent (mtoc). One toe = 7.6 barrels.

³ Includes natural gas used as fuel and feedstock consumed by the non-electricity sector.

Diversification Policy. In particular, the final consumption of gas, electricity as well as coal and coke grew at 8.2 per cent, 7.7 per cent and 4.9 per cent per annum, respectively. However, the country's overall energy mix was continuously reviewed to ensure the long-term reliability and security of energy supply. Concurrently, the possibility of developing other sources of energy, such as renewable energy, to supplement the conventional sources of energy was also considered.

11.06 The industrial sector was the largest energy consumer, utilizing 37.1 per cent of the total final commercial energy demand in 2000, followed by the transport sector at 36.2 per cent and the residential and commercial sector at 12.7 per cent, as shown in *Table 11-2*. Industries that contributed to the increase in energy consumption included rubber, wood, glass, cement and food processing. In the transport sector, the increase in private and commercial vehicles as well as the expansion in the national road network contributed to higher energy usage. In addition, developments in the railway system, particularly the light rail transit in the Klang Valley and the inter-city commuter train service, also increased electricity consumption.

TABLE 11-2
FINAL COMMERCIAL ENERGY DEMAND BY SECTOR,
1995-2005

Sector	1995		2000		2005		Average Annual Growth Rate (%)	
	PJ	%	PJ	%	PJ	%	7MP	8MP
Industrial ¹	337.5	36.4	432.9	37.1	650.0	38.2	5.1	8.5
Transport	327.8	35.3	422.8	36.2	642.5	37.8	5.2	8.7
Residential & Commercial	118.8	12.8	147.8	12.7	213.2	12.5	4.5	7.6
Non-Energy ²	125.4	13.5	142.8	12.2	165.2	9.7	2.6	3.0
Agriculture & Forestry	18.7	2.0	20.8	1.8	28.9	1.8	2.2	6.8
Total	928.2	100.0	1,167.1	100.0	1,699.8	100.0	4.7	7.8

Notes:

¹ Includes manufacturing, construction and mining.

² Includes natural gas, bitumen, asphalt, lubricants, industrial feedstock and grease.

Energy Supply

11.07 The total supply of energy during the Plan period increased by an average of 5.3 per cent per annum, from 1,293.7 PJ in 1995 to 1,674 PJ in 2000, as shown in *Table 11-3*. The main sources of energy supply were crude oil and petroleum products at 53.1 per cent of total energy supply in 2000, followed by natural gas at 37.1 per cent, coal and coke at 5.4 per cent and hydro at 4.4 per cent. During the Plan period, the share of crude oil and petroleum products declined, while that of natural gas increased, thus indicating the success in reducing further the overall dependence on a single source of energy and developing alternative sources of supply.

TABLE 11-3

PRIMARY COMMERCIAL ENERGY SUPPLY¹ BY SOURCE, 1995-2005

Source	1995		2000		2005		Average Annual Growth Rate (%)	
	PJ	%	PJ	%	PJ	%	7MP	8MP
Crude Oil & Petroleum Products	702.2	54.3	888.4	53.1	1,205.2	50.8	4.8	6.3
Natural Gas ²	459.5	35.5	622.2	37.1	948.4	39.9	6.3	8.8
Hydro	64.5	5.0	73.0	4.4	81.6	3.4	2.5	2.3
Coal & Coke	67.5	5.2	90.4	5.4	139.6	5.9	6.0	9.1
Total	1,293.7	100.0	1,674.0	100.0	2,374.8	100.0	5.3	7.2

Notes:

¹ Refers to the supply of commercial energy that has not undergone a transformation process to produce energy. Non-commercial energy such as biomass and solar have been excluded.

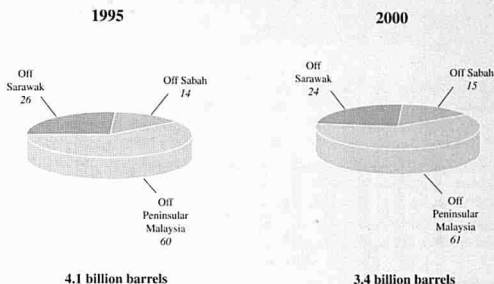
² Excludes flared gas, reinjected gas and exports of liquefied natural gas.

Crude Oil

11.08 *Reserves, Exploration and Production.* Malaysia's reserves of crude oil declined by 17 per cent, from 4.1 billion barrels to 3.4 billion barrels during the Plan period, as shown in *Chart 11-1*. The decline was mainly due to sustained production and the maturity of existing fields. Although new fields were discovered, they were smaller in size with less deposits. In view of the need to increase reserves, *Petroleum Nasional Berhad* (PETRONAS) ventured into upstream activities abroad by securing several exploration acreages in Algeria, Angola, Chad, Gabon, Indonesia, Iran, Libya, Myanmar, Pakistan, Sudan, Syria, Tunisia, Turkmenistan and Vietnam.

CHART 11-1

CRUDE OIL RESERVES, 1995 AND 2000
(%)

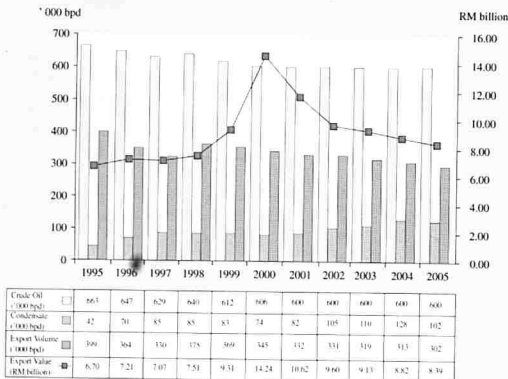


11.09 Average production of domestic crude oil declined from 663,000 barrels per day (bpd) in 1995 to 606,000 bpd in 2000, as shown in *Chart 11-2*. During the Plan period, the production averaged 627,000 bpd, of which 63 per cent was from Peninsular Malaysia, 23.2 per cent from Sarawak and 13.8 per cent from Sabah. The production of condensate, however, increased from 42,000 bpd in 1995 to 74,000 bpd in 2000.

11.10 *Utilization.* Domestic crude oil was largely exported due to its premium quality. The export of crude oil decreased from 399,000 bpd in 1995 to 345,000 bpd in 2000, as shown in *Chart 11-2*. However, with the increase in world oil prices, the export value of crude oil increased by an average annual rate of 16.3 per cent from RM6.7 billion in 1995 to RM14.2 billion in 2000. With the commissioning of the refinery in Melaka in 1997, Malaysia has six refineries with a total capacity of 520,000 bpd for domestic consumption and export. These refineries supplied more than 80 per cent of the total domestic demand for

CHART 11-2

**CRUDE OIL AND CONDENSATE¹ PRODUCTION,
EXPORT VOLUME AND VALUE, 1995-2005**



Note: ¹ A crude oil component derived from natural gas streams, comprising pentane and heavier hydrocarbons

petroleum products, thus reducing the import of petroleum products such as diesel, fuel-oil and bitumen and increasing the export of certain products such as kerosene, liquified petroleum gas (LPG) and aviation-fuel.

11.11 Price. The price of crude oil stabilized in 1996 within the range of US\$18 to US\$22 per barrel. However, prices weakened in 1998 due to decline in demand and an increase in supply, to reach a historic low of US\$10 per barrel.

Subsequently, the significant production curtailment by members of the Organization of Petroleum Exporting Countries (OPEC) lifted oil prices. At the same time, the earlier than expected recovery from the Asian economic crisis, reversed the trend and by June 2000, crude oil prices rose above US\$30 per barrel. Consequently, the average price of Malaysian crude oil increased to US\$29.58 in 2000 as compared with US\$18.34 per barrel in 1995.

Natural Gas

11.12 *Reserves, Exploration and Production.* Natural gas reserves declined marginally from 84.7 trillion cubic feet (tcf) in 1995 to 84.2 tcf in 2000 but remained four times the size of oil reserves, as shown in *Chart 11-3*. Most of the total reserves in 2000 were found off Peninsular Malaysia and Sarawak. This figure, however, does not include the 8.6 tcf of gas reserves discovered in the Malaysia-Thailand Joint Development Area in 1998. Gas production increased to 4,951 million standard cubic feet per day (mmscfd) in 2000 from 3,551 mmscfd in 1995, as shown in *Table 11-4*. The 39.4 per cent increase was mainly due to the higher consumption by the electricity and industrial sectors.

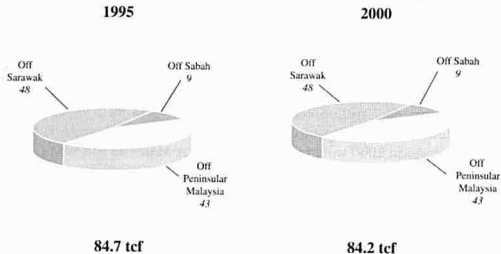
11.13 *Utilization.* The power sector continued to be the main consumer of gas accounting for 80.7 per cent of total gas utilization in 2000. The expansion in gas utilization was contributed, *inter alia*, by the increased application of the combined cycle gas turbine (CCGT) technology in Peninsular Malaysia.

11.14 The non-power sector accounted for 19.3 per cent of total gas consumption in Peninsular Malaysia in 2000, out of which 45 per cent was by the petrochemical industry. Gas from the Peninsular Gas Utilization (PGU) is being supplied to small industrial, commercial and residential consumers through the Natural Gas Distribution System. An average volume of 65 mmscfd of gas was supplied to consumers in the Klang Valley, Pasir Gudang, Kluang, Gebeng and Kemaman. In the residential sector, piped gas was connected to 22,000 homes.

11.15 With the implementation of the natural gas for vehicles (NGV) programme, a total of 18 public NGV refueling stations and two private NGV outlets were built, while 3,700 vehicles were converted to operate on natural gas. In 1998, PETRONAS was given the approval to import in stages 1,000 monogas taxis, of which 300 were in operation.

CHART 11-3

NATURAL GAS RESERVES, 1995 AND 2000
(%)



11.16 The use of gas was further diversified during the Plan period with the introduction of the gas district cooling (GDC) system. The GDC, which utilizes gas to produce chilled water for air-conditioning and waste heat for power generation, helps to lower the peak load demand and reduces investment for peaking capacity. Three GDC plants at the Kuala Lumpur City Centre (KLCC), Kuala Lumpur International Airport (KLIA) and Putrajaya started operation during the Plan period.

11.17 Export of liquefied natural gas (LNG) increased from 9.9 million tonnes in 1995 to 15.5 million tonnes in 2000. Japan remained the largest market at 72.4 per cent of total LNG export, followed by Taiwan at 14.5 per cent and South Korea at 13.1 per cent. Malaysia's export earnings from LNG in 2000 were RM11.3 billion, a three-fold increase compared with RM3.1 billion in 1995. In terms of its contribution to the country's total export earnings, the LNG share increased from 1.7 per cent in 1995 to 2.9 per cent in 2000.

TABLE 11-4

NATURAL GAS PRODUCTION¹, 1995-2005
(mmscfd)

<i>Exploration Area</i>	<i>1995</i>	<i>2000</i>	<i>2005</i>
Off Peninsula	1,440	2,100	2,800
Off Sabah	230	220	354
Off Sarawak	1,881	2,631	3,888
Malaysia	3,551	4,951	7,042

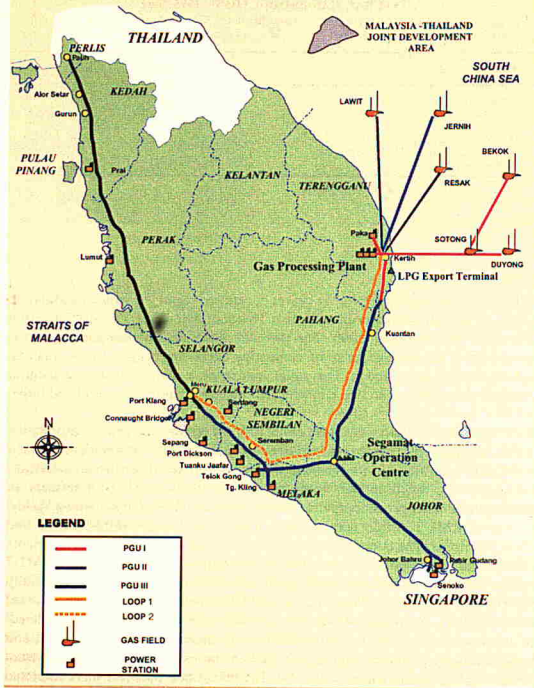
Note: ¹ Total gas produced at wellhead.

11.18 Price. The gas price for the power generation sector in Peninsular Malaysia was fixed at RM6.40 per million British Thermal Unit (mmBTU) for the period May 1997 to December 2000. For the non-power sector, the gas price was derived from the average price of competing fuels and pegged to the medium fuel oil (MFO) price index. For small industrial, commercial and residential customers using less than two mmscfd, the price was based on a regulated tariff.

11.19 Investment. During the Plan period, RM35.4 billion was spent for exploration and development of petroleum activities, of which RM12.9 billion was expended by PETRONAS, through its subsidiaries. For oil-related downstream activities, a total of RM5.3 billion was spent on the construction of an oil refinery in Melaka and a multi-product pipeline stretching from Melaka to the Klang Valley. A total of RM8.0 billion was invested mainly for the gas infrastructure and related facilities. The commissioning of the fifth and sixth gas processing plants and the third dew point control unit in 1999, with an investment of RM2.7 billion, increased total gas processing capacity to 2,000 mmscfd, with a standby capacity of 750 mmscfd. Phase III of the PGU pipeline project, which covered 450 kilometres, involving an investment of RM3.5 billion, was also completed. To enhance the security of supply, PETRONAS undertook the PGU Loop 1 and 2 projects with pipelines running parallel to the existing PGU I and II from Kerteh to Meru, as shown in *Chart 11-4*. The PGU Loop 1 project was completed

CHART 11-4

GAS SUPPLY NETWORK, 2001-2005



in 1999 with an expenditure of RM680 million. In addition to the PGU system, a 379-kilometre gas reticulation network, with an investment of RM164 million, was constructed in Peninsular Malaysia to provide a constant supply of gas to industrial, commercial and residential consumers. In addition, RM946 million was incurred in the construction of the three GDC plants at the KLCC, KLIA and Putrajaya.

11.20 The gas sector underwent structural changes from being primarily a source of fuel to becoming an important input for the production of value-added manufactured products for domestic as well as the export markets. A total of RM14.7 billion was invested by the petrochemical companies, including PETRONAS, for the production of aromatics, ethylene and its derivatives in Kerteh and Pasir Gudang, propylene and its derivatives in Gebeng as well as ammonia and urea in Gurun.

Coal

11.21 The use of coal as an energy source in electricity generation was aimed at ensuring system security and reliability. Total coal reserves, which are mainly in Sabah and Sarawak, increased from 974 million tonnes in 1995 to 1,050 million tonnes in 2000. However, the development of local coal resources was not aggressively pursued because most of the deposits were located in the interior areas, which lack infrastructure, and therefore uneconomical to be fully exploited. Coal production increased from 114,100 tonnes in 1995 to 310,000 tonnes in 2000, which was utilized by the Sarawak Electricity Supply Corporation's (SESCo) power station at Sejingkat, with a capacity of 100 megawatts (MW). The total coal requirement of this plant was 300,000 tonnes per annum. Another coal-fired power plant completed was the Phase III, *Tenaga Nasional Berhad's* (TNB) *Sultan Salahuddin Abdul Aziz Shah* power station in Kapar, with an additional capacity of 1,000 MW. The new plant started its trial run towards the end of the Plan period by utilizing imported coal.

Electricity

11.22 The electricity supply industry experienced major changes during the Plan period, particularly the restructuring of the three major utilities, namely TNB, Sabah Electricity Sdn. Bhd. (SESB) and SESCO, which took place consequential to the privatization programme. These included further streamlining

of TNB's operations, divestment of its thermal plants as well as the privatization of *Lembaga Letrik Sabah* (LLS), which was subsequently known as Sabah Electricity Sdn. Bhd. With the operation of the Independent Power Producers (IPPs), the major utilities were relieved of the need to provide capital investments for new power plants to meet the nation's increasing electricity demand.

11.23 *Generation.* TNB's share of total generation in Peninsular Malaysia was maintained at 63 per cent with the remainder contributed by the IPPs. The IPPs contributed 40 per cent in Sabah and 36 per cent in Sarawak. However, towards the end of the Plan period, the share of TNB's total generation was reduced by 2,750 MW as a result of the divestment of its thermal plants in Tanjung Kling and Kapar. A total of 3,849 MW of new capacities was installed by the three main utilities as well as the IPPs, as shown in *Table 11-5*. This comprised a total of 3,233 MW for Peninsular Malaysia, 298 MW for Sabah and 318 MW for Sarawak.

11.24 Peak demand increased from 7,212 MW in 1995 to 10,673 MW in 2000, averaging 8.2 per cent per annum, as shown in *Table 11-6*. However, peak demand in Peninsular Malaysia was affected by the economic crisis and registered a lower average growth of 8.1 per cent per annum. Following the recovery, demand grew by 10.1 per cent, peaking at 9,712 MW in 2000 compared with 8,819 MW in 1999. With an overall reserve margin of 32.2 per cent, the supply of electricity was adequate to meet the demand of the economy.

11.25 Following the economic recovery, demand for power is expected to increase resulting in the need for additional capacity from the year 2008 onwards. To meet this demand, the Government revived the Bakun Hydroelectric Project and entrusted Sarawak Hidro Sdn. Bhd., a company under the Minister of Finance Incorporated, to be the project implementing agency. By the end of the Plan period, the construction of the project's river diversion tunnels was 95 per cent completed.

11.26 *Generation Mix.* The increased utilization of CCGTs, particularly by the IPPs, and the continued conversion of TNB thermal plants to gas, contributed to the increasing number of gas-fuelled power plants in Peninsular Malaysia. As a result, the share of gas as a generating fuel increased from 67.8 per cent in 1995 to 78.7 per cent in 2000, as shown in *Table 11-7*. This was in line with the policy to promote the utilization of a more environment-friendly fuel. The preference for gas technology was also due to its higher thermal conversion rate. In Sarawak, gas also remained the biggest component in the generation mix

TABLE 11-5

NEW GENERATION CAPACITY, 1996-2005

<i>Plant</i>	<i>Commercial Operation Date</i>	<i>Installed Capacity (MW)</i>	<i>Fuel</i>
IPP Lumut	1996	1,303	Gas
IPP Kuala Langat	1996	720	Gas
IPP Telok Gong	1996	440	Gas
IPP Port Dickson	1996	440	Gas
IPP Tawau	1996	36	Diesel
IPP Kota Kinabalu	1998	120	Gas
IPP Sandakan	1998	60	Diesel
IPP Batu Sapi, Sandakan	1998	32	Diesel
IPP Melawa	1999	50	Gas
IPP Tg. Kling	1999	330	Gas
IPP Sejingkat	2000	100	Coal
IPP Bintulu	2000	218	Gas
Sub-total		3,849	
TNB Kapar (Phase III)	2001	1000	Coal
TNB Gelugor (conversion)	2002	110	Gas
IPP Sepang			
• open cycle	2002	460	Gas
• conversion	2003	250	Gas
IPP Lumut Block 3			
• open cycle	2002	430	Gas
• conversion	2003	210	Gas
IPP Telok Gong (new)			
• open cycle	2002	430	Gas
• conversion	2003	290	Gas
TNB Pasir Gudang	2002	220	Gas
IPP Prai	2003	350	Gas
TNB Port Dickson	2003	1,500	Gas
TNB Manjung	2003	700	Coal
	2004	1,400	Coal
IPP K. Sanglang	2004	650	Gas
IPP Sabah	2004	100	Gas
IPP Pulau Bunting	2005	700	Coal
Sub-total		8,800	
TOTAL		12,649	

TABLE 11-6

**INSTALLED CAPACITY, PEAK DEMAND
AND RESERVE MARGIN, 1995-2005**

<i>Year</i>	<i>Generation By System¹</i>	<i>Accumulated Installed Capacity (MW)</i>	<i>Peak Demand² (MW)</i>	<i>Reserve Margin⁴ (%)</i>
1995	TNB	9,655	6,572	46.9
	LLS ²	590	298	98.0
	SESCO	590	342	72.5
	Total	10,835	7,212	50.2
2000	TNB	12,479	9,712	28.5
	SESB	785	410	91.5
	SESCO	846	551	53.5
	Total	14,110	10,673	32.2
2005	TNB	20,819	15,380	35.4
	SESB	880	615	43.1
	SESCO	1,046	839	24.7
	Total	22,745	16,834	35.1

*Notes:*¹ System refers to utilities and the respective IPPs.² LLS was privatized and became SESB in 1998.³ Peak demand is the maximum power demand registered by the system in a stated period of time.⁴ Reserve margin equals accumulated capacity minus peak demand divided by peak demand multiplied by 100.

contributing 58.8 per cent. As a result of the commissioning of the Sejingkat power plant, coal for the first time contributed 17.1 per cent of the total mix while the share of hydro and oil stood at 13.2 per cent and 10.9 per cent, respectively. In Sabah, oil contributed 50.2 per cent of the generation mix in 2000, followed by gas at 32.8 per cent and hydro at 17 per cent.

11.27 Transmission. During the Plan period, the National Load Dispatch Centre commissioned the supervisory control and data acquisition (SCADA) system, energy management system and automatic generation control. This further improved the load frequency control during normal and emergency operations. The transmission network was further strengthened with the completion of the first phase of the 500 kilovolt (kV) transmission project covering seven substations

FUEL MIX IN ELECTRICITY GENERATION, 1995-2005
(%)

	Year	Oil	Coal	Gas	Hydro	Others	Total (gigawatt-hour)
MALAYSIA	1995	11.0	9.7	67.8	11.3	0.2	41,813
	2000	5.3	7.9	78.7	8.0	0.1	69,371
	2005	3.0	30.3	61.0	5.4	0.3	102,340
TNB	1995	9.2	10.7	70.3	9.6	0.2	38,091
	2000	3.3	7.8	81.4	7.4	0.1	63,684
	2005	1.3	32.6	61.0	5.0	0.1	93,649
LLS/SESB	1995	47.1	-	25.7	27.2	-	1,763
	2000	50.2	-	32.8	17.0	-	2,348
	2005	41.3	-	47.3	11.4	-	3,525
SESCo	1995	13.0	-	57.3	29.7	-	1,959
	2000	10.9	17.1	58.8	13.2	-	3,339
	2005	7.6	10.6	67.4	9.0	5.4	5,166

11.28 The transmission network was expanded in both Sabah and Sarawak, in an effort to enhance electricity coverage and integration within the respective states. In Sabah, two 132 kV circuits were added to the West Coast transmission grid, covering a distance of 40 cct-km from Penampang to Inanam and Melawa. In Sarawak, a total of 261 cct-km of the 275 kV and 132 kV transmission lines was added to the network.

11.29 TNB and the Electricity Generating Authority of Thailand (EGAT) further upgraded the link between the two countries with the implementation of the high voltage direct current transmission project, from Gurun in Kedah to Khlong

TABLE 11-8

TRANSMISSION NETWORK CAPACITY, 1995-2005
(circuit-kilometres)

<i>Year</i>	<i>Utility</i>	<i>500 kV</i>	<i>275 kV</i>	<i>132 kV</i>	<i>66 kV</i>
1995	TNB	-	4,322	8,046	756
	LLS	-	-	479	112
	SESCo	-	569	63	-
	Total	-	4,891	8,588	868
2000	TNB	885 ¹	5,917	8,606	366
	SESB	-	-	519	116
	SESCo	-	765	128	-
	Total	885	6,682	9,253	482
2005	TNB	1,300	8,500	9,500	-
	SESB	-	1,414	867	116
	SESCo	-	765	128	-
	Total	1,300	10,679	10,495	116

Note: ¹ The lines were energized at 275 kV.

Ngae in Thailand. This line has a power transfer capability of 300 MW and is upgradeable to 600 MW. The project paved the way for the initial establishment of the ASEAN Power Grid.

11.30 Distribution. The distribution network in Peninsular Malaysia was expanded and reinforced, increasing the network capacity from 54,050 cct-km in 1995 to 182,133 cct-km in 2000, as shown in *Table 11-9*. Similar expansion and reinforcement works were also undertaken in Sabah and Sarawak, where a total of 3,045 cct-km and 2,464 cct-km were added to the distribution network, respectively. Efforts were focused to reduce the number and duration of supply interruptions to consumers. Under the reduction of disruption programme by TNB, various measures to reduce interruption incidences included analyzing data of breakdown incidences, identifying disruption causes and conducting detailed technical studies.

11.31 In Sabah, the distribution network was further strengthened with the completion of several new substations and distribution lines, which among others, included the 33/11kV substations in Papar and Sandakan. 33kV overhead distribution

TABLE 11-9

DISTRIBUTION NETWORK CAPACITY, 1995-2005
(circuit-kilometres)

<i>Year</i>	<i>Utility</i>	<i>33 kV</i>	<i>22 kV</i>	<i>11 kV</i>	<i>Total</i>
1995	TNB	4,662	3,710	45,678	54,050
	LLS	105	334	3,110	3,549
	SESCO	1,350	-	3,939	5,289
	Total	6,117	4,044	52,727	62,888
2000	TNB	6,656	3,577	171,900	182,133
	SESB	206	441	5,947	6,594
	SESCO	1,995	-	5,758	7,753
	Total	8,857	4,018	183,605	196,480
2005	TNB	14,300	-	342,600	356,900
	SESB	362	100	8,921	9,383
	SESCO	2,158	-	6,212	8,370
	Total	16,820	100	357,733	374,653

system in Labuan and Tawau as well as 33kV cable interconnection between Labuan and Bangat. In Sarawak, similar efforts were carried out, which included 33/11kV substations in Medan Jaya, Kidjun, Tudan and Tanjung Manis as well as 11kV feeders to Kuala Baram Industrial Estate and Tanjung Manis Timber Processing Zone. Other projects implemented were the laying of the 30 cct-km underground cable in the Samajaya Industrial Estate in Kuching, the upgrading of the 33kV overhead lines from Pulau Keladi to Kanowit and the installation of the 25.5 cct-km of 33kV overhead line to the Kebuluh Agriculture Centre in Bekenu.

11.32 Rural Electrification. A total of RM463.6 million was expended in the implementation of the rural electrification programme, which benefited an additional 101,530 rural households in Malaysia during the Plan period. Of this, 30,040 and 53,630 rural households were in Sabah and Sarawak, respectively. In addition, the Electricity Supply Industry Trust Account, funded by the industry, was established in 1997. Through its rural electrification programme, a total of 8,200 households in Peninsular Malaysia was also provided with electricity. By the end of the Plan period, rural electricity coverage in Malaysia was 93 per cent, as shown in *Table 11-10*.

TABLE 11-10

RURAL ELECTRIFICATION COVERAGE¹ BY REGION, 1995-2005
(%)

<i>Region</i>	<i>1995</i>	<i>2000</i>	<i>2005</i>
Peninsular Malaysia	99	100	100
Sabah	72	79	85
Sarawak	67	80	90
Malaysia	92	93	95

Note: ¹ Rural households served as a percentage of total rural households.

11.33 Investment. A total of RM41.1 billion was invested in the electricity supply industry during the Plan period. This investment was demand-driven with more than one half of it accounted for by generation activity, as shown in *Table 11-11*. Investment in generation was generally made by the IPPs, which spent RM17.6 billion compared with RM5.9 billion by the utilities, resulting in a substantial reduction in capital investment requirements by the utilities. The investments by the IPPs were mostly sourced locally. In order to secure and

TABLE 11-11

**INVESTMENTS BY UTILITIES AND IPPs IN ELECTRICITY
SUPPLY INDUSTRY, 1995-2000**
(RM million)

<i>Activity</i>	<i>TNB</i>	<i>SESB</i>	<i>SESCO</i>	<i>IPPs</i>	<i>Total</i>	<i>%</i>
Generation	5,489.3	331.6	116.5	17,576.2	23,513.6	57.2
Transmission	7,600.0	648.6	22.2	-	8,270.8	20.1
Distribution	8,566.0	241.7	517.5	-	9,325.2	22.7
Total	21,655.3	1,221.9	656.2	17,576.2	41,109.6	100.0
%	52.7	2.9	1.6	42.8	100.0	

strengthen the grid system, a total of RM17.6 billion was spent on upgrading and constructing transmission lines as well as improving the distribution network.

11.34 Productivity and Efficiency. Improvements in productivity and efficiency were recorded in all the three utilities during the Plan period, as shown in Table 11-12. In Peninsular Malaysia, units sold per employee increased from 1.65 gigawatt-hour (GWh) in 1995 to 2.49 GWh in 2000 and similarly for Sabah and Sarawak, from 0.63 GWh to 0.90 GWh and from 0.85 GWh to 1.34 GWh, respectively. Improvements in the transmission and distribution systems also contributed to a significant reduction in interruption incidences from 275,380 in 1995 to 43,846 in 2000 in Peninsular Malaysia. In Sabah, the incidences declined from 26,258 to 11,871, however those in Sarawak increased slightly from 2,084 to 2,991. Nevertheless, the System Average Interruption Duration Index (SAIDI) of the three utilities improved. For TNB, the SAIDI improved from 769 minutes per customer per year in 1995 to 319 minutes per customer per year in 2000, while that of SESB from 3,150 to 2,520 and SESCO from 481 to 314.

TABLE 11-12
**PERFORMANCE INDICATORS OF THE ELECTRICITY
SUPPLY SYSTEMS¹, 1995 AND 2000**

Indicator	1995			2000		
	TNB	LLS	SESCO	TNB	SESB	SESCO
System Losses ² (%)	12.7	19.4	19.4	14.9	15.0	15.0
Unit Sold per Employee ³ (GWh)	1.65	0.63	0.85	2.49	0.90	1.34
Interruption Incidences (number)	275,380	26,258	2,084	43,846	11,871	2,991
SAIDI (minutes/customer/year)	769	3,150 ⁴	480.7	319	2,520	314.3

Notes:

¹ Comprising utilities only.

² Refers to generation, transmission and distribution losses and own use.

³ Refers to total electrical energy units sold divided by total number of employees.

⁴ Refers to 1997/1998 Financial Year.

11.35 *Price.* Electricity tariffs amongst the utilities were determined by supply cost and returns to the industry. Average electricity tariff for domestic consumers in Peninsular Malaysia increased by 17.3 per cent from 20.03 sen per kilowatthour (kWh) in 1995 to 23.5 sen/kWh during the Plan period. Sabah maintained its tariff at 24.4 sen/kWh while that in Sarawak was reduced to 27.1 sen/kWh from 28.5 sen/kWh.

Renewable Energy

11.36 Sustainable development of energy resources was undertaken during the Plan period. A holistic approach was adopted in promoting the utilization of renewable resources such as biomass, biogas, municipal waste, solar and mini-hydro. In this regard, a project on the Development of a Strategy for Renewable Energy as the Fifth Fuel was undertaken to assess the renewable energy (RE) potential in the country and consider the legal, regulatory and financial framework in order to encourage the utilization of renewable resources.

11.37 Other efforts undertaken to promote the use of RE included the establishment of the RE data base at *Pusat Tenaga Malaysia, Universiti Sains Malaysia* established the Centre for Education and Training in Renewable Energy and Energy Efficiency (CETREEE) to increase public awareness of the positive attributes of RE and energy efficiency (EE) measures. CETREEE conducted training and dissemination activities, which included the designing of RE and EE modules for teaching in schools and universities.

Energy Efficiency

11.38 In line with Malaysia's commitment to moderate the increasing energy intensity trend and avoid wasteful energy usage, EE measures were undertaken during the Plan period. These measures included energy audits in selected industries and commercial complexes as well as the utilization of more energy efficient processes and technologies. A project on the Development of an Energy Efficiency Strategy was carried out to evaluate the legal, regulatory and financial framework with the aim of promoting the efficient utilization of energy. In addition, an industrial energy efficiency improvement programme was implemented to encourage EE measures in eight manufacturing subsectors, namely wood, pulp and paper, iron and steel, cement, rubber, glass, ceramic and food. Other initiatives included

increasing public awareness on EE measures, the potential of energy savings and positive attributes of alternative fuels as well as increasing public access to information on energy efficient technologies.

Regulatory Framework

11.39 To ensure the orderly development of the electricity supply industry, the Electricity Supply Act 1990 was extended to cover Sabah following the privatization of LLS in 1998, while that of Sarawak continued to be regulated by the Sarawak Electricity Ordinance 1992. These legislations provided for the issuance of licences for power generation, transmission and distribution; establishment of performance standards and obligations of the licensees; promotion of competition in the generation and supply of electricity; protection of consumer interest; and safety of electrical installation and equipment.

11.40 The Gas Supply Act 1993, which was enforced during the Plan period, provided for, *inter alia*, the issuance of licences for gas supply activities, regulation of the quality and volume of gas supplied through the pipelines and the promotion of safety and efficiency. This legislation was applicable to the transmission of gas after the city gate station and the supply of gas to residential, commercial and industrial consumers through pipelines, storage tanks or cylinders.

Vendor Development

11.41 During the Plan period, Bumiputera participation in the electricity supply industry was further enhanced through TNB's Entrepreneur Development Programme, which included assistance in the manufacture of selected products used by the industry, extension of advisory services to contractors and dialogues with the relevant Bumiputera trade associations. By the end of the Plan period, there were 42 Bumiputera vendors involved in the manufacturing of transmission towers, transformers, switchgears, feeder pillars, cable slabs and cable accessories, street lighting and accessories as well as meters. The Vendor Development Programme established by PETRONAS benefited 43 Bumiputera vendors engaged in manufacturing and technical service in the oil and gas industry, which mainly comprised the manufacture of heat exchanges, steel gratings, spiral wound gaskets, cable slabs, plastic lubricant containers and wire rope slings as well as the provision of services such as plant/tank maintenance and helicopter charter flights.

Research and Development

11.42 Research and development (R&D) by the utilities focused on the electricity supply industry, such as product innovation, quality assurance and testing services as well as developing leading-edge technologies. Efforts undertaken included a demonstration project of a 3-kW grid-connected solar photovoltaic system, introduction of an integrated computerized monitoring system for gas turbines at the Paka Power station, development of a database programme for power plant components, implementation of a techno-economic study to upgrade the 120 MW steam turbine at the Tuanku Jaafar Power Station and research on coal ash utilization. In the petroleum industry, R&D included hydrocarbon exploration, exploitation and product development, innovations of processes and products as well as development of fuel cell performance and microbial biotechnology.

III. PROSPECTS, 2001-2005

11.43 Sustainable development of the energy sector will continue to be the main thrust of the Eighth Plan, aimed at contributing towards enhancing the nation's competitiveness and resilience. In this regard, the focus of the sector will be on ensuring adequate, secure, quality and cost-effective supply of energy, promoting its efficient utilization and minimizing the negative impact on the environment. The provision of quality supply of electricity will be crucial as the economy becomes more technology and ICT-driven as well as to cater to the manufacturing sector's shift to high-technology. Towards this end, the strategies of the energy sector for the Plan period are as follows:

- ☐ *ensuring adequacy and security of fuel supply as well as promoting the utilization of gas and renewable energy;*
- ☐ *ensuring adequacy of electricity supply as well as improving productivity and efficiency;*
- ☐ *developing the energy-related industries and services as well as increasing local content;*
- ☐ *promoting Malaysia as a regional centre for energy-related engineering services; and*
- ☐ *encouraging efficient utilization of energy, particularly in the industrial and commercial sectors.*

Energy Demand

11.44 *Commercial Energy.* During the Plan period, the overall demand for energy is expected to increase at 7.8 per cent per annum to 1,699.8 PJ in 2005, as shown in *Table 11-1*. The energy intensity of the economy is anticipated to increase marginally from 5.7 GJ in 2000 to 5.9 GJ in 2005. The expected improvement in the quality of life of the population will also result in an increase in energy usage. In this respect, per capita consumption of energy is expected to increase by 5.8 per cent per annum from 50.1 GJ in 2000 to 66.4 GJ in 2005.

11.45 In line with the increased planned capacity in the power sector, the demand for natural gas as well as coal and coke, is expected to grow at 9.0 per cent and 8.1 per cent per annum, respectively. Electricity demand is projected to grow at 9.3 per cent per annum, thereby increasing its share of the total energy demand to 18.8 per cent in 2005. Per capita electricity consumption will also increase at the rate of 7.3 per cent per annum to 3,472.5 kWh in 2005.

11.46 The demand for petroleum products is projected to grow at 7.2 per cent per annum, mainly from the transport and manufacturing sectors. However, in line with the National Depletion Policy and the fuel diversification policy, the share of petroleum products to the total commercial energy demand is expected to decline to 67 per cent in 2005.

11.47 The industrial and transport sectors will continue to be the major energy consumers in line with their anticipated growth during the Eighth Plan period. For the industrial sector, energy demand is expected to grow at 8.5 per cent per annum, accounting for 38.2 per cent of the total energy demand in 2005, as shown in *Table 11-2*. Energy demand by the transport sector is projected to increase at 8.7 per cent per annum and its share of the total energy demand is expected to match that of the industrial sector in 2005. Rapid growth for energy demand by this sector will be due, *inter alia*, to the increasing requirement for transportation and distribution services by the manufacturing and construction sectors. In addition, the growth of West Port of Port Klang as a regional cargo centre, Port of Tanjung Pelepas as a transshipment hub and the KLIA as an aviation hub, will also result in an increase in demand for energy. At the same time, the development of the transportation infrastructure, such as the Express Rail Link from KL Sentral to KLIA and the Rawang-Ipoh double-tracking railway project, will also lead to an increase in energy usage. The usage of energy for the residential and commercial sector is also expected to increase by 7.6 per cent per annum during the Plan period.

Energy Supply

11.48 The security and reliability of energy supply will be ensured through an optimal energy mix predominantly based on domestic resources. To meet the energy requirements of the country, the total supply of energy is expected to reach 2,374.8 PJ in 2005, as shown in *Table 11-3*. The contribution of crude oil and petroleum products is anticipated to decline to 50.8 per cent, while that of natural gas and coal is expected to increase to 39.9 per cent and 5.9 per cent, respectively, by 2005. At the same time, efforts will be intensified to encourage the utilization of renewable resources for the generation of energy. In this respect, the fuel diversification policy, which comprises oil, gas, hydro and coal, will be extended to include RE as the fifth fuel.

Crude Oil

11.49 *Exploration and Production.* The nation's crude oil reserves is anticipated to last at least another 10 years. To sustain the reserves, efforts that will be undertaken include developing potential small fields and enhancing the production of matured fields. In addition, exploration in deep-water areas will be continued, especially in Sabah and Sarawak. This will enable the average production level to be maintained at 600,000 bpd during the Plan period. To attract investments in exploration activities, more favourable terms of the production sharing contracts will be considered. Other efforts to sustain oil production will include the acquisition of state-of-the-art technology in exploration and production as well as intensification of research in oil recovery and reduction of cost. To further enhance the recovery rate, efforts will be directed towards improving productivity and efficiency. Domestic production will be supplemented by the supply of crude oil from PETRONAS' ventures in Africa, Middle East and Asia.

Natural Gas

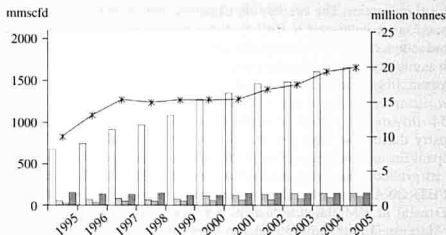
11.50 *Exploration and Production.* To sustain the long-term supply of gas, efforts will be intensified to develop domestic resources and secure supply from PETRONAS' foreign ventures. Gas from the Joint Development Area, managed by the Malaysia-Thailand Joint Authority, is expected to come onstream in 2002, with an initial production of 290 mmcsfd, which will increase to 550 mmcsfd by the end of the Plan period. The Trans Thailand-Malaysia pipeline project from Songkhla to Changlun, with a capacity of 300-600 mmcsfd, is expected to be

completed during the Plan period and this will further enhance the nation's security of gas supply. In addition, gas will also be obtained from West Natuna and South Sumatera while the possibility of importing LNG from PETRONAS' overseas ventures will be explored.

11.51 *Utilization.* By the end of the Plan period, 1687 mmcsfd of gas is expected to be used for electricity generation, as shown in *Chart 11-5*. The completion of the two new GDC plants at *Universiti Teknologi PETRONAS* in Perak and Tanjung Langsat Industrial Area in Johor will further diversify gas utilization. In addition, two GDCs will be constructed at *Universiti Malaysia Sarawak* and

CHART 11-5

GAS UTILIZATION, 1995-2005



Notes:

¹ in mmcsfd

² in million tonnes

Putrajaya. The efficient utilization of gas will be implemented through centralized utility facilities (CUF) that supply electricity, steam, de-mineralized water, oxygen and nitrogen to the petrochemical plants. The completion of the two CUF plants in Gebeng and Kerteh, is expected to enhance the competitiveness of the nation's petrochemical industry.

11.52 To facilitate the greater utilization of NGV, an additional 31 NGV outlets will be constructed and 7,500 vehicles converted to run on dual fuels. In addition, vehicles fitted with the NGV system will be manufactured locally by the end of the Plan period. Promotional programmes to increase public awareness on the benefits of using NGV will be intensified.

11.53 In line with the implementation of the Second Industrial Master Plan (IMP2), the synergy between the gas and petrochemical industries will be further strengthened with the completion of the integrated petrochemical complexes in Gebeng, Kerteh and Tanjung Langsat. The integrated petrochemical complexes will produce feedstock for the petrochemical industry and derivatives required by local industries. The availability of petrochemical derivatives is also expected to serve as a catalyst for further downstream investment, particularly in the manufacture of industrial and consumer products, which are mainly imported, such as engineering-plastics, thermo-plastics, paints, coatings, adhesives, detergents, polyester fiber resins, textiles and cosmetics.

11.54 *Investment.* A total of RM61.5 billion will be invested by the petroleum industry during the Plan period. Of this, RM41.5 billion or 67.5 per cent will be spent for exploration, development and production activities by PETRONAS and its production sharing contractors. Another RM8.1 billion will be expended by PETRONAS to further develop infrastructure and facilities to attract foreign investment in gas-related industries. Of this, RM7.4 billion will be utilized for the Malaysia Liquefied Natural Gas 3 project in Sarawak and the balance of RM700 million for the completion of the 240 kilometres of the PGU Loop 2 pipelines from Segamat to Meru, which is also parallel to a section of the PGU II. PETRONAS will spend another RM2.0 billion to construct support facilities for the efficient operations of the integrated petrochemical complexes, such as centralized tankage facilities, Kuantan-Kerteh railway link, Dungun water supply, Kerteh marine facilities and Kuantan bulk chemical storage and piperack facilities.

11.55 To achieve self-sufficiency in selected petrochemical products, a total of RM6.9 billion will be invested by PETRONAS and other local companies, mainly on a joint-venture basis with leading multinationals. Gebeng and Kerteh

will be the centres for gas-based petrochemical industries producing propylene and ethylene-based feedstocks and derivatives, while Tanjung Langsat will be the centre for naphtha-based petrochemical industries. In addition, investments for the production of petrochemical products will also be made in other locations, such as Pasir Gudang, Melaka, Prai and Shah Alam.

Coal

11.56 To meet the objective of the fuel diversification policy, three coal-fired power plants at Kapar, Manjung and Lukut will be commissioned during the Plan period. These plants will utilize 11.2 million tonnes of coal per annum. Clean-coal technology which will include among others, electrostatic precipitators and flue gas de-sulphurization for emission control, will be utilized in these new plants to ensure environmental standards are met.

Electricity

11.57 Demand for electricity is expected to remain robust during the Plan period, spurred by strong growth in most sectors of the economy. Concerted efforts will be focused towards ensuring the availability of sufficient, secure and reliable supply of electricity. The IPPs will increasingly assume a larger share in generation, while the utilities continue to focus on improving transmission and distribution networks. The industry will continue to undertake measures to further improve its productivity and efficiency.

11.58 *Generation.* An additional 8,800 MW of generation capacity will be commissioned during the Plan period, most of which will be installed by the IPPs in Peninsular Malaysia, as shown in *Table 11-5*. These include the gas-fired plants of 1,500 MW in Port Dickson, 640 MW in Lumut, 720 MW in Telok Gong, 220 MW in Pasir Gudang and 710 MW in Sepang. Although the three coal-fired plants in Peninsular Malaysia have a total capacity of 5,100 MW, only 3,800 MW is expected to be commissioned during the Plan period.

11.59 The implementation of the 2,400 MW Bakun Hydroelectric Project will continue during the Plan period. The electricity generated will be mainly utilized to meet the long-term power requirements of Sarawak and Sabah. The completion of this project will not only facilitate the integration of the electricity supply systems of Sabah and Sarawak but also within Sabah. In addition, the project provides the option of exporting electricity to neighbouring countries and this will assist in the establishment of the ASEAN Power Grid connecting Malaysia with Brunei, Indonesia and the Philippines.

11.60 *Transmission.* The transmission systems in Peninsular Malaysia, Sabah and Sarawak will be further strengthened to enhance reliability and efficiency. During the Plan period, a 500 kV transmission project will be completed, which will link the Manjung power station to Ayer Tawar. In Sabah, 275 kV transmission lines of the west coast grid extension project from Kota Kinabalu to Kudat involving a distance of 400 cct-km will be completed and work will commence on the east-west inter-connection from Kota Kinabalu to Sandakan covering a distance of 600 cct-km. In Sarawak, work relating to the upgrading of the transmission system is also expected to commence with the revival of the Bakun Hydroelectric Project.

11.61 *Distribution.* The distribution network in Peninsular Malaysia will be expanded by almost two-fold to 356,900 cct-km, as shown in *Table 11-9*. In addition, 133 new main intake substations and 185 main distribution substations will be constructed and commissioned for the primary purpose of injecting additional capacity to meet the projected demand growth as well as enhancing network security, power quality and voltage conversion for specific distribution systems. The SESCO system will also be upgraded to a total capacity of 8,370 cct-km with the addition of 617 cct-km to the distribution network and 33 kV substations to improve coverage, reliability and customer services. Similarly, with the implementation of the east-west inter-connection and the west coast grid extension projects, Sabah's distribution network will also be upgraded and expanded by an additional 2,789 cct-km.

11.62 *Rural electrification.* Rural electrification programmes, especially in Sabah and Sarawak, will be enhanced during the Plan period. These involve grid extension and the provision of stand-alone system generators comprising solar photovoltaic, mini-hydro and hybrid systems. A total of RM856.6 million will be allocated by the Federal Government for rural electrification programmes, which are expected to benefit 103,126 rural households. In Peninsular Malaysia and Sabah, rural electrification programmes will also be partly financed through their respective electricity supply industry trust funds. Electricity coverage for Sabah is expected to increase to 85 per cent, while that of Sarawak will reach 90 per cent by the end of the Plan period, as shown in *Table 11-10*. In Peninsular Malaysia where universal coverage has been achieved, improvements will continue to be made to extend the duration of supply in remote areas.

11.63 *Industry Restructuring.* The restructuring of the electricity supply industry will be continued during the Plan period. However, a gradual approach will be adopted in introducing a market mechanism in order to attract investments as

well as ensure an adequate and reliable supply of electricity. This will involve the establishment of an appropriate infrastructure and regulatory framework. An independent entity will be incorporated to initially assist the Government in system planning for the industry. In addition, an Energy Commission with the responsibility covering both the technical and economic regulation of the industry will be established to replace the Department of Electricity and Gas Supply.

Renewable Energy

11.64 Utilization of RE as the fifth fuel will be intensified during the Plan period to supplement the supply from conventional energy sources. RE resources that will be promoted in terms of priority, are biomass, biogas, municipal waste, solar and mini-hydro. Of these, biomass resources, such as oil palm and wood residues as well as rice husks, will be used on a wider basis for the purpose of heat and electricity generation.

11.65 Biomass-based co-generation system for the production of electricity and usable energy will be encouraged. In this respect, the generation of energy mainly for in-house consumption will be promoted. The supply of excess energy generated by the biomass-based generating system to the local community and to the grid will be considered, depending on its technical and commercial viability.

11.66 In promoting greater utilization of RE resources, initiatives that will be considered include demonstration projects and commercialization of research findings as well as extension of financial and fiscal incentives for RE-related activities. Under the Budget 2001, biomass-based generating companies that apply for incentives by 31 December 2002 will be granted exemption of income tax on 70 per cent of the statutory income for five years or a tax allowance of 60 per cent of qualifying capital expenditure incurred within five years. The allowance can be utilized to set off up to 70 per cent of the statutory income. In addition, import duty and sales tax exemption on machinery and equipment that are not produced locally will also be granted. Co-operation between government agencies and private institutions in the development of RE resources will also be promoted.

Energy Efficiency

11.67 During the Plan period, the implementation of EE programmes will focus on the industrial and commercial sectors being the major consumers of energy. Measures to promote the efficient utilization of energy include the enforcement of the Energy Efficiency Regulation, extension of financial and fiscal incentives and demonstration projects. In this respect, the establishment of new integrated complexes and townships that are managed on an energy-efficient manner will be encouraged. The implementation of demand-side management will be intensified during the Plan period, which includes retrofitting and district cooling programmes, changing the energy usage pattern and appliance labelling.

Development of Energy-related Industries and Services

11.68 In developing energy-related industries and services, various initiatives will be considered including the assessment of the capabilities of local companies, prioritization of potential areas that local companies could participate and provision of organizational support. Operation and maintenance, contract management, refurbishment, testing laboratories and services, manufacture of auxiliary equipments as well as RE technologies related to bio-mass, will be further developed as strategic niches. Besides increasing the participation of local companies, these efforts will also contribute towards enhancing manpower development for the energy sector. This will be in line with the promotion of the export of energy-related products and services by Malaysian entities and Malaysia as a regional centre for energy-related engineering services.

Research and Development

11.69 R&D programmes are important to encourage the usage of alternative sources of energy as well as promote efficient and safe utilization of energy resources. In this regard, methyl ester from palm oil, also known as palm diesel, has been identified as a viable potential fuel for the transport sector. Research efforts show that no modification of engines is required and fuel consumption of palm diesel by engines is comparable to petroleum diesel. In addition, palm diesel is technically superior to petroleum diesel in terms of ignition and engine performance as well as lower emission of hydrocarbon and toxic gases. Other alternative sources of energy that will be considered include fuel cell, hybrid cell and hydrogen fuel. *Pusat Tenaga Malaysia* will continue its role in co-ordinating and managing energy-related R&D programmes.

11.70 In the power sector, TNB through its subsidiary, TNB Research Sdn. Bhd., will continue to focus its R&D activities on the improvement of quality of supply; reliability, efficiency and optimization of equipment, plant and system; and environmental protection. In facing challenges such as operating in smaller and deeper water areas, aging facilities and declining production, innovative and creative technological solutions to enhance profitability and competitiveness are essential. R&D efforts in the petroleum sector will, therefore, focus in areas such as recovery improvement; process reliability and efficiency; production enhancement; materials and product development and improvement; and plant optimization and rationalization.

TABLE 11-13

**DEVELOPMENT ALLOCATION/INVESTMENTS AND EXPENDITURE FOR
ENERGY SECTOR PROGRAMMES, 1995-2005**
(RM million)

Programme	7MP Expenditure			8MP Allocation		
	Federal Government	NFPEs ¹	Total	Federal Government	NFPEs	Total
Electricity Sector	2,543.6	23,563.6	26,107.2	2,601.6	22,565.1	25,166.7
Generation (hydro and thermal)	1,389.9	5,937.4	7,327.3	986.5	6,943.7	7,930.2
Transmission	437.6	8,270.8	8,708.4	494.7	6,275.4	6,770.1
Distribution	246.2	9,325.2	9,571.4	239.3	9,346.0	9,585.3
Rural Electricity	463.6	-	463.6	856.6	-	856.6
Others	6.3	30.2	36.5	24.5	-	24.5
Oil & Gas Sector	-	30,400.0	30,400.0	-	27,638.0	27,638.0
Upstream	-	12,900.0	12,900.0	-	12,800.0	12,800.0
Downstream	-	11,000.0	11,000.0	-	10,600.0	10,600.0
Manufacturing	-	5,300.0	5,300.0	-	2,200.0	2,200.0
Others	-	1,200.0	1,200.0	-	2,038.0	2,038.0
Total	2,543.6	53,963.6	56,507.2	2,601.6	50,203.1	52,804.7

Note: ¹ Refers to TNB, SESCo, LLS/SESB and PETRONAS.

IV. ALLOCATION

11.71 The expenditures by the Federal Government and investments by the Non-Financial Public Enterprises (NFPEs) for the Seventh Plan totalled RM56.5 billion, as shown in *Table 11-13*. The expenditure of the electricity as well as the oil and gas sectors amounted to about RM26.1 billion and RM30.4 billion, respectively. For the Eighth Plan period, the Federal Government will provide an allocation of RM2.6 billion for the development of energy programmes, while the investment expenditure by the NFPEs will total RM50.2 billion.

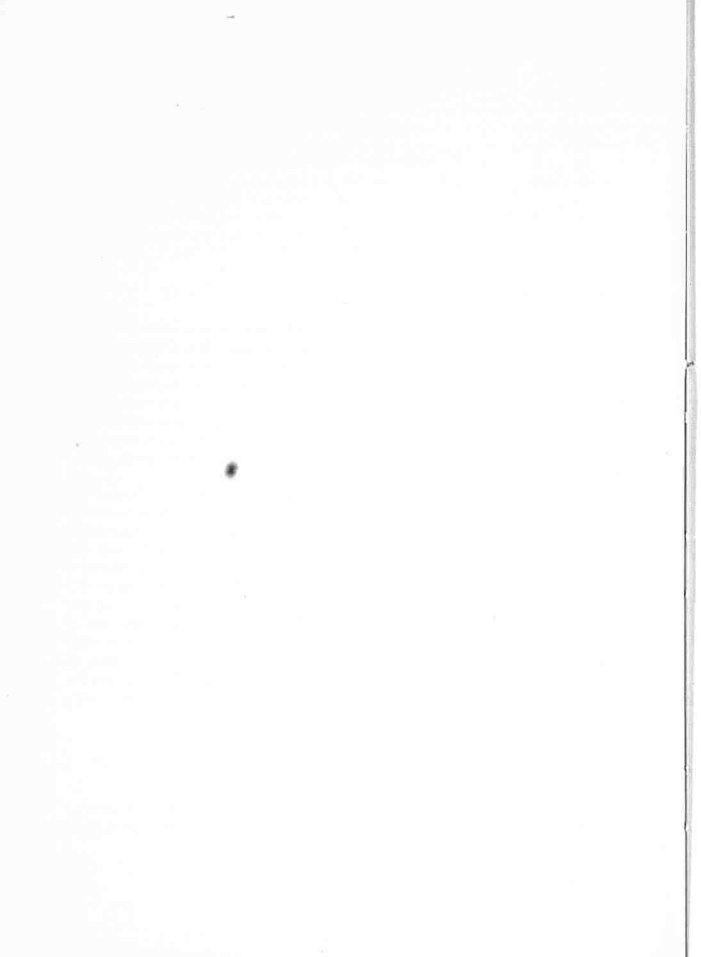
V. CONCLUSION

11.72 Productivity and efficiency improvements will remain the focus of the energy sector so as to enhance the nation's competitiveness and resilience. In line with the objective of developing Malaysia into a knowledge-based economy, greater efforts will be directed towards meeting the consumers' requirement in terms of reliable, secure, quality and cost-effective supply of energy. Sustainable development of the energy sector will include the efficient utilization of energy and the promotion of RE as a new alternative source of fuel. Local capabilities in the energy-related industries and services will be further developed to strengthen participation in the energy industry in both the domestic and overseas markets.

Chapter 12

Science and Technology

Malaysia Plan M
aysia Plan Mala
ia Plan Malays
Plan Malaysia P
an Malaysia Pib
Malaysia Plan M
aysia Plan Mala
sia Plan Malays
Plan Malaysia P
an Malay



12

SCIENCE AND TECHNOLOGY

I. INTRODUCTION

12.01 During the Seventh Plan period, despite the economic slowdown, high priority was accorded to the promotion of science and technology (S&T), research and development (R&D) as well as technological innovation as an essential part of the Government's overall strategy of sustainable development. The core strategies of R&D, in particular, were focused on promoting value-added research activities that contributed to increasing competitiveness, strengthening linkages and enhancing productivity. The private sector, on its part, continued to contribute to the expansion of research activities and innovations, especially in the manufacturing sector.

12.02 Recognizing that scientific advances and technological changes are becoming increasingly important in developing a knowledge-based economy, emphasis will be given to support S&T development that promotes productivity-driven growth and provides for competitive advantage. This will entail the mastering of technology and knowledge and harnessing them for widespread application in all sectors of the economy. In this regard, the Government will facilitate and enhance further the collaboration of the public and private sectors in R&D activities so as to contribute to the development of a comprehensive national innovation system. Measures will be undertaken to restructure existing R&D institutions to undertake more market-oriented activities, promote technology applications in industry as well as expand and strengthen S&T manpower. At the same time, the creation of new institutions to expand the R&D base, particularly in new and emerging areas, will also be considered.

II. PROGRESS, 1996-2000

12.03 The S&T policy essentially supported the national development strategy of sustainable economic growth, accelerating industrial development and building

the foundation for the attainment of a scientific and technologically advanced society by the year 2020. The policy thrust was, in principle, based on the synergistic collaboration between the public and private sectors as well as with the scientific and technological community. The strategies and programmes evolved were aimed at widening and improving the S&T base and ensuring the development of competitive goods and services as well as building up the R&D and innovation capability of the nation. In particular, a number of measures were undertaken to improve the effectiveness of public sector and corporate R&D. These measures included providing incentives and funding, expanding human resource development and increasing protection for intellectual property rights. In addition, R&D agencies and universities undertook institutional and structural reforms to expand research facilities and improve the quality of S&T manpower.

Review of S&T Policy

12.04 Notwithstanding the progress made, it was recognized that the S&T policy needed to be continually reviewed and updated. Towards this end, in the later part of the Seventh Plan, a review of the S&T policy was initiated. Its major objective was to prepare a framework as well as operational strategies to meet the demands of a rapidly changing global economy which is innovation- and technology-driven. The on-going review provided the basis for the reassessment of the current S&T system as well as the formulation of an action plan to accelerate the development of Malaysia's capacity and capability in S&T knowledge and skills within the context of increasing the information and knowledge content in all economic activities.

12.05 Among the strategies recommended were the need to intensify knowledge generation and acquisition as well as building S&T capacity and capabilities for the future through the development of enabling and platform technologies and intensifying knowledge content in all economic activities. There was also a need to enhance competitiveness in industry, particularly through building indigenous technological capability in new enabling technologies. As science and technology increasingly became infused into the industrial development of the country, it was recommended that the S&T inter-governmental cooperation and coordination mechanism be strengthened to ensure coordination between S&T policies and other economic development policies. Other recommendations included the promotion of a stronger S&T and innovative culture, establishment of international linkages to gain access to advanced S&T information, and the development of an effective performance measurement and monitoring mechanism.

National R&D Expenditure

12.06 The biennial surveys on R&D expenditure conducted by the Government, recorded a more than double increase in the amount spent on R&D from RM549.1 million in 1996 to RM1.1 billion in 1998. As an indication of Malaysia's R&D efforts, the proportion of R&D expenditure to the Gross Domestic Product (GDP) increased from 0.2 per cent to 0.4 per cent over the corresponding period. While this might be considered low, it was encouraging to note that the number of responding organizations with R&D activities increased from 196 to 273, accounted mainly by the private sector.

12.07 In terms of types of research, continued emphasis was given to applied research and developmental research, which together accounted for about 90 per cent of the R&D expenditure. Basic research accounted for the balance of the R&D expenditure. There was, however, a decline in the proportion spent on developmental research from 49.4 per cent in 1996 to 37.2 per cent in 1998, indicating the cautious attitude of the private sector in the light of the economic slowdown.

12.08 From an economic perspective, overall R&D efforts were concentrated in manufacturing, information and communications technology (ICT) services, plant production and primary products, followed by energy resources. For the public sector, there was a shift in focus of R&D activities from agricultural sciences towards ICT. Meanwhile, the private sector, continued to focus on the manufacturing industries, particularly in electronic equipment and components, transport equipment as well as petroleum products and refining.

12.09 In spite of the economic slowdown, R&D expenditure by the private sector increased from RM400.1 million in 1996 to RM746.1 million in 1998. The surveys indicated that the R&D expenditure of local companies were distributed over a wide range of industries while the foreign companies focused on high-technology related industries such as the electronic equipment and components as well as computer-related services. However, there was still a heavy reliance on foreign R&D capability as reflected by the substantial number of R&D activities sourced from abroad. Factors that hindered R&D initiatives included, among others, the lack of skilled R&D personnel, limited financial resources and lack of infrastructure for R&D.

12.10 The growth in the private sector R&D expenditure reflected the positive response to incentives provided by the Government. Incentive schemes included

double deduction expenditure incurred for R&D, pioneer status for companies involved in R&D and investment tax allowance (ITA) of up to 100 per cent of qualifying expenditure. However, the uptake of the incentives was mainly for double deduction expenditure incurred for R&D. The number of projects approved increased from 247 in 1995 to 387 in 1998 with a corresponding value of RM42.2 million and RM51.4 million, respectively. In 1999, there was a substantial increase in the number of approvals totalling 531 projects valued at RM279.2 million. During the Plan period, a total of 50 companies was granted pioneer status or ITA for in-house R&D activities as well as R&D for other companies. The capital expenditure of these companies amounted to RM844 million and were mainly in the electrical and electronics products and transport equipment industries.

Public Sector Expenditure on R&D Programme

12.11 The Government continued to place emphasis on R&D as reflected by the increase in the total budgetary allocation for the public sector involvement in R&D. During the Seventh Plan period, a sum of RM935 million was allocated for the R&D programme compared with RM629 million in the Sixth Plan. Of this, RM755 million was allocated for direct public sector involvement in R&D through the Intensification of Research in Priority Areas (IRPA) programme. For the development of biotechnology, a sum of RM35 million was allocated for the partnership programme with the Massachusetts Institute of Technology (MIT). The balance was provided for the funding of three new schemes to enhance private sector R&D. These schemes included the Industrial Research and Development Grant Scheme (IGS), MSC Research and Development Grant Scheme (MGS) and the Demonstrator Applications Grant Scheme (DAGS).

12.12 The management of the *IRPA* mechanism, at the institutional and implementation levels, was revamped to ensure that scarce research funds were channelled to more applied and industry-relevant projects. Research agencies and universities competitively bid for funds to ensure that the best proposals were selected while reducing overlaps and duplication of research activities. The number of research priority areas were expanded from five to 11 in order to support the development of enabling technologies in line with the requirements of the Second Industrial Master Plan (IMP2) and the advancement of ICT as a key sector of the economy. To ensure better coordination in R&D activities and optimum utilization of research resources, the budgetary allocation was centralized at the Ministry of Science, Technology and Environment (MOSTE).

12.13 Under the IRPA programme, a total of 3,705 projects valued at RM698.3 million was approved, as shown in *Table 12-1*. In addition to competitive bidding, a targeted approach for technology development was undertaken for the advancement of strategic technologies such as biotechnology and photonics. In general, the pattern continued to be similar to that in the previous Plans, mainly due to the high R&D capacity in agriculture compared with capacity in manufacturing, ICT and services.

12.14 An assessment of the benefits and effectiveness of the research funded under IRPA indicated that the extent of commercialization of R&D findings remained low across all sectors. There were few takers of potential technologies and products as the private sector wanted to minimize their risks on untried and untested technologies and products in the market. In addition, linkages with industry through joint or collaborative R&D were still negligible, thus reflecting the need to coordinate closely with the private sector to generate more market-oriented R&D projects.

TABLE 12-1

**IRPA PROGRAMME APPROVALS BY AREA OF RESEARCH,
1996-2000**

Area	Projects Approved		Value	
	Number	%	RM million	%
Agro-Industry	1,255	33.9	178.67	25.6
Construction	95	2.5	23.76	3.4
Energy	134	3.6	37.27	5.3
Environment	164	4.4	46.97	6.7
Information and Communications Technology	110	3.0	34.95	5.0
Manufacturing	321	8.7	71.77	10.3
Medical	548	14.8	96.99	13.9
Material and Geoscience	37	1.0	14.97	2.1
Science Engineering	725	19.5	114.50	16.4
Services	66	1.8	14.97	2.1
Socio-Economic	212	5.7	16.08	2.3
Biotechnology	32	0.9	28.84	4.1
Photonics	6	0.2	18.54	2.7
Total	3,705	100.0	698.28	100.0

12.15 Recognizing the importance of *biotechnology* as the new emerging technology, a national biotechnology programme was formulated to develop and strengthen domestic R&D capacity and capability. Under the R&D component, seven areas of biotechnology were identified, namely, plant, animal, medical, industrial/ environmental, food, biopharmacy and molecular biology. To implement research work, biotechnology cooperative centres (BCCs) were established for each biotechnology area. The BCCs facilitated collaborative research in 12 identified projects through a network of researchers from the public sector and industries. In addition, four developmental research projects were undertaken to facilitate the development of products and processes for commercialization.

12.16 To accelerate the development of domestic R&D capability and capacity in biotechnology, partnership programmes were initiated to facilitate the transfer of technology through collaborative projects with international organizations. The Malaysia-MIT Biotechnology Partnership Programme (MMBPP) was launched in 1999 to build the foundation for the development of a sustainable biotechnology industry. The MMBPP capitalized on the platform technologies available in MIT and Malaysian expertise in tropical agroforestry and plant biology to develop high value-added palm oil products and herbal-based natural products.

12.17 In order to encourage private sector R&D, the *Industrial Research and Development Grant Scheme* (IGS) was established in March 1997 with an initial allocation of RM100 million. Its key feature was the fostering of collaboration among private sector companies, universities and research institutes applying for the grant assistance. By the end of the Seventh Plan period, a total of 58 projects valued at RM138 million was approved. These projects included adapting existing technologies and the creation of new products and processes. A total of four projects was completed and commercial trial runs indicated that these projects could be upgraded for market production.

12.18 As part of the efforts to promote R&D in the Multimedia Super Corridor (MSC) in order to create innovative multimedia products, processes and services, the *MSC Research and Development Grant Scheme* (MGS) was launched in April 1998 with an initial allocation of RM100 million. MSC-status companies with at least 51 per cent Malaysian ownership were eligible to apply for the grant which provided funding for one-half of the project cost relating to research over a two-year period. Since its launch, a total of 19 projects with a value of RM38 million was approved. The projects involved the development of software for electronic payment, computer telephony integration, fingerprint identification

product and new tools for the production of a newer generation of semiconductor equipment.

12.19 The *Demonstrator Applications Grant Scheme* (DAGS) was established in April 1998 as part of the efforts to promote widespread usage of ICT among Malaysians. The initial allocation was RM50 million and it provided an opportunity for Malaysians to create software and contents that were indigenous in design, local in content, and customized to the needs of the local community. By the end of the Plan period, a total of 37 projects valued at RM48 million was approved.

Industrial-based Technologies and Emerging Industries

12.20 Recognizing the importance of efficient technology management in building domestic technological capability to enhance industrial competitiveness, the National Technology Mapping Programme (NTMP) was initiated to identify long-term technology development targets. The NTMP was to support the IMP2 in developing sustainable and high value-added industries. Under Phase I of the NTMP, action plans were prepared outlining the core competencies and critical technologies required in the value chain of the telecommunications and pharmaceuticals industries.

12.21 To enhance indigenous capability in the electronics industry, efforts were taken to expand and upgrade the semiconductor technology programme which involved R&D and training in wafer fabrication and integrated circuit design. Phase I of the programme, implemented by MIMOS Berhad, became operational in May 1997 with a monthly production of 600 six-inch wafers using 1.0 micron Complementary Metal Oxide Silicon (CMOS) technology.

12.22 As part of the efforts to develop the aerospace industry and space technology, the microsatellite programme was formulated to provide the catalyst in developing domestic capability and manpower in satellite technology. The programme involved the design, construction and launching of a microsatellite for research in remote sensing and orbital positioning. A microsatellite named TiungSAT1 was designed and built in collaboration with the University of Surrey, United Kingdom under a technical programme which provided technology transfer to a team of Malaysian engineers and scientists. With the launching of TiungSAT1 in September 2000, it will facilitate R&D in space technology such as development of sensors and on-board computer systems as well as cosmic-ray energy deposition experiment. In terms of applications, the remote sensing capability of TiungSAT1

provided satellite imageries for meteorology, disaster management and pollution monitoring.

Technology Inflows

12.23 While the primary concern was to build and develop a stronger indigenous base, the transfer of technology from abroad continued to be important. The inflow of technology as indicated by the number of contractual agreements approved by the Government during the Seventh Plan period, is shown in *Tables 12-2 and 12-3*. However, this indicator is reflective of only those agreements required under the Industrial Coordination Act (ICA) 1975 or the Promotion of Investment Act (PIA) 1986 or when specifically required under any Foreign Investment Committee (FIC) rulings.

12.24 The composition of technology imports by industry reflected the expanding investments in high value-added and technology-intensive industries. The highest number of technology transfer agreements was in the electrical and electronics product industry, followed by the transport equipment industry and chemicals and chemical products industry. Recognizing the need for technology imports to accelerate industrial growth, the Government simplified the approval process by granting automatic approval to technology agreements that involved a royalty payment of 3.0 per cent or less of net annual sales.

12.25 During the Seventh Plan period, the deficit in the payments on royalties and fees continued to widen, indicating the relative importance of sourcing technology from overseas. Payments for technology acquisition from abroad registered a growth of 11.7 per cent per annum during the Seventh Plan period, from RM932 million in 1995 to RM1.6 billion in 2000. These were royalties and fees mainly for the procurement of franchises, use of international brand names and payment of licences for the utilization of new and improved technologies. The various payments were reflected as outflows in the services account of the balance of payments.

Standardization and Quality Assurance

12.26 In line with the national strategy to sustain and enhance the competitiveness of exports, efforts were continued to further improve industrial efficiency and productivity through national standards development, testing, measurements and international standardization. During the Seventh Plan period, a total of 680 Malaysian Standards consistent with international standards, was developed compared with 528 during the Sixth Plan. To accelerate the pace of standards

TABLE 12-2

TECHNOLOGY INFLOWS BY INDUSTRY GROUP, 1995 - 2000
(number)

Industry	1995	1996	1997	1998	1999	2000	7MP		6MP	
							Number	%	Number	%
Food Manufacturing	2	0	5	1	4	2	12	2.1	23	3.3
Electrical & Electronic Products	32	54	28	50	43	48	223	39.4	221	31.7
Paper, Printing & Publishing	4	1	0	1	0	1	3	0.5	14	2.0
Beverages & Tobacco	1	0	1	1	6	5	13	2.3	11	1.6
Textiles & Textile Products	3	0	2	0	2	2	6	1.1	18	2.6
Furniture & Fixtures	0	0	0	0	1	0	1	0.2	10	1.4
Chemical & Chemical Products	22	12	2	21	18	25	78	13.8	89	12.8
Petroleum Refineries & Products	2	1	0	7	6	3	17	3.0	22	3.2
Rubber Products	3	9	2	2	6	2	21	3.7	30	4.3
Plastic Products	7	7	0	0	6	12	25	4.4	32	4.6
Non-Metallic Mineral Products	2	3	3	1	2	5	14	2.5	33	4.7
Basic Metal Products	0	0	1	4	3	5	13	2.3	18	2.6
Fabricated Metal Products	4	6	4	2	5	5	22	3.9	38	5.5
Machinery Manufacturing	4	6	12	7	5	1	31	5.5	19	2.7
Transport Equipment	9	15	23	10	15	15	78	13.8	99	14.2
Miscellaneous	7	2	3	0	4	0	9	1.6	20	2.9
Total	102	116	86	107	126	131	566	100.0	697	100.0

TABLE 12-3

TECHNOLOGY INFLOWS BY TYPE OF AGREEMENT, 1995-2000
(number)

<i>Type of Agreement</i>	1995	1996	1997	1998	1999	2000	7MP		6MP	
							Number	%	Number	%
Joint-Venture	4	6	0	1	2	0	9	1.6	31	4.4
Technical Assistance	44	58	58	56	80	78	330	58.3	349	50.1
Licences & Patents	23	31	6	27	20	28	112	19.8	138	19.8
Knowhow	5	3	5	5	4	4	21	3.7	69	9.9
Trade Mark	3	9	5	11	15	15	55	9.7	41	5.9
Management	4	1	2	1	0	0	4	0.7	12	1.7
Turnkey & Engineering	1	0	0	0	0	0	0	0	9	1.3
Services	6	2	4	2	2	6	16	2.8	27	3.9
Sales, Marketing/Distribution	2	0	0	0	0	0	0	0.0	1	0.1
Supply & Purchase	0	0	1	1	0	0	2	0.4	0	0.0
Others	10	6	5	3	3	0	17	3.0	20	2.9
Total	102	116	86	107	126	131	566	100.0	697	100.0

development, two industry associations were appointed as standards writing organizations in the timber as well as the electrical and electronics industries. Testing facilities and services were expanded to ensure compliance to national and international standards. In addition, SIRIM Berhad established the Metals Performance Technology Centre to provide failure analysis and non-destructive testing services for the oil and gas, petrochemical, power generation and automotive industries.

12.27 Realizing the importance of implementing internationally accepted quality management for recognition in the international market, there was an increasing trend in the number of local companies adopting the ISO 9000 series of standards. During the Seventh Plan period, a total of 1,389 companies was successfully certified for ISO 9000 series of standards compared with 717 in the Sixth Plan period. In order to ensure international credibility of certification and laboratory accreditation, the Government took part in regional and international standardization activities. In this regard, Malaysia participated actively in the various ISO Technical Committees and was a member of the ISO Council for the term 1999-2000. In addition, the accreditation system was recognized by the International Accreditation Forum and facilitated the acceptance of certification of quality management in 24 countries.

S&T Manpower

12.28 An analysis of the output of graduates for the period 1991-2000 indicated that there was a doubling in absolute terms, of science and technical graduates in the Seventh Plan period compared with the Sixth Plan, as shown in *Table 12-4*. For the science students, there was a shift of emphasis from the pure sciences to more applied science-oriented disciplines such as engineering and computer technology. As a proportion of total output, technical graduates indicated a significant increase from 13 per cent to 16.2 per cent.

12.29 Notwithstanding the increasing trend in the output of science and technical graduates, the pool of researchers need to be expanded further. The biennial surveys on R&D expenditure showed that the number of research personnel involved in R&D activities increased by 31.3 per cent from 9,136 in 1996 to 12,127 in 1998. This gives a ratio of 5.1 and 7.0 researchers per 10,000 labour force, respectively. While the ratio improved, it was considered low compared with the countries in the Organization of Economic Cooperation and Development (OECD).

TABLE 12-4
OUTPUT OF DEGREE COURSES¹, 1991-2000

Course	6MP		7MP		8MP ²	
	Number	%	Number	%	Number	%
Arts & Humanities including Economics, Business & Law	49,018	62.0	87,882	58.4	161,102	48.4
Science including Medicine, Agricultural Science, Pure Sciences & Others	19,642	25.0	38,273	25.4	100,967	30.4
Technical, Engineering, Architecture, Surveying & Others	10,508	13.0	24,343	16.2	70,650	21.2
Total	79,168	100.0	150,498	100.0	332,719	100.0

Notes:

¹ Output for First Degree, Masters, Ph.D and post-degree Diploma

² Estimates

12.30 As part of the efforts to expand the S&T human resource base, the Government implemented the S&T human resource development programme. In this regard, a fund of RM300 million was set up to provide scholarships for post-graduate and post-doctoral studies as well as fellowships for graduate research. A total of 1,791 scholarships was given out to public sector researchers and officers for training in priority areas such as advanced materials and manufacturing, ICT, microelectronics, energy and environment. In addition, the National Science Fellowship scheme awarded 298 scholarships to graduates in science, engineering and technology to pursue post-graduate studies by research in the identified priority areas.

12.31 To accelerate the rate of technology transfer and upgrade indigenous R&D capabilities, the Government initiated a programme to bring back Malaysian scientists and engineers working overseas as well as allow local research institutions and universities to employ foreign R&D personnel, where necessary. A total of 23 Malaysian and 70 foreign scientists was brought in to work in the various research institutions and universities. These scientists were mainly involved in medical research, engineering as well as semiconductor and laser technology.

Commercialization of Research and Technology

12.32 While public sector R&D activities contributed to technical improvements, the progress on the commercialization of such output was limited. This was largely due to problems related to the lack of industry-relevant R&D projects and finance to fund the various stages of commercialization from the laboratory to the market place. A survey of 5,232 projects implemented by the public research institutions and universities during the Sixth and Seventh Plans revealed that 14.1 per cent of these projects were identified as potential candidates for commercialization while only 5.1 per cent was commercialized. However, a recent assessment of R&D undertaken in the primary commodity subsector indicated that the percentage of commercialization of R&D in industrial agricultural commodities was 8.9 per cent. In this regard, the palm oil sector contributed the highest commercialization rate of 12.1 per cent.

12.33 In 1997, the Commercialization of Research and Development Fund (CRDF) was launched with an allocation of RM100 million. The focus of the Fund was on the commercialization of R&D findings undertaken by local universities and research institutions as well as companies and individual researchers and inventors. During the Seventh Plan, 38 projects with a value of RM32 million were approved. Out of this, 12 projects had completed the commercialization process and their products were available in the market.

S&T Awareness and Promotion

12.34 Activities aimed at promoting greater interest, awareness and understanding of S&T were organized at various levels throughout the Seventh Plan period. These activities which involved scientists, journalists, students and members of the public included scientific conferences and exhibitions, S&T excellence awards, educational visits and workshops. In particular, national science essays and poetry competitions, use of computer software competitions as well as science and environment camps were organized at the school level. The National Science Centre, in addition to its theme-based interactive exhibits and events, organized the Students Adoption Programme in order to popularize and promote S&T, especially among the school children. These efforts in stimulating interests in science and technology were complemented by the activities of PETROSAINS, an interactive science discovery centre, established by *Petroleum Nasional Berhad* (PETRONAS).

12.35 The biennial National S&T Awareness Surveys of 1996 and 1998 showed that Malaysians continued to recognize the role and benefits of S&T in the growth and development of the economy. The surveys also indicated that Malaysians adopted a long-term outlook in scientific research and were aware of the need for research to be an on-going process. In terms of interest in S&T, it was observed that in general, the youths represented by the 15 to 20 age group registered the highest level of interest followed by the adults and children. It was also encouraging to note that children had a higher interest than the adults in aerospace exploration and application of computer technology. While there was an expressed interest by the younger generation in S&T, there was a need for more effective strategies to sustain this interest and promote S&T-related occupations as a career choice.

III. PROSPECTS, 2001-2005

12.36 The global economy is undergoing rapid development into a knowledge-based economy where technology, skills and innovation will be the determinants to enhance competitiveness and efficiency. Taking cognizance of this, the Government will continue to accord high priority on innovation-driven and technology-led development. With the economy projected to grow at 7.5 per cent per annum, the contribution of Total Factor Productivity (TFP) is expected to be 37.2 per cent of the growth target. Improvements in skills and management, expansion of R&D spending as well as greater use of technology and ICT in all sectors of the economy are expected to make significant increases in TFP.

The Thrust for S&T Development

12.37 The thrust for S&T development under the Eighth Plan will be to meet the objectives of productivity-driven growth and competitiveness of the economy. The Plan period will witness the increasing use of information and knowledge to generate economic growth. Considering that S&T-based development is expected to contribute more than one-third of the economic growth target, greater emphasis will be placed on optimizing the application of new and improved technology. This will be complemented by increasing indigenous innovation capability and accelerating the strategic development of industrial technology. The focus will be to provide an enabling environment for technology development through:

- ❑ *adopting an integrated national approach in the use of R&D resources in order to ensure more effective and efficient implementation of research and innovation projects;*

- ❑ *accelerating the rate of commercialization of R&D findings;*
- ❑ *enhancing further private sector involvement and commitments in R&D activities;*
- ❑ *increasing the supply of scientific and technological manpower;*
- ❑ *acquiring new and imported technologies through, among others, acquisition of equity in foreign companies and forging strategic alliances;*
- ❑ *promoting development of indigenous S&T capabilities in strategic and key technologies; and*
- ❑ *improving and expanding technical extension services and training to strengthen the technological capability of the small- and medium-scale enterprises (SMEs).*

Adopting an Integrated National Approach in the Use of R&D Resources

12.38 The country will support R&D and technology that will promote growth, enhance industrial efficiency, productivity and competitiveness, generate home-grown technology with own brands of goods and services and improve the quality of life. Within this context, public sector funding of R&D will focus more on the potentials for commercialization of research findings. For the Eighth Plan, a sum of RM1.6 billion will be allocated for R&D and commercialization of technology compared with RM1 billion during the Seventh Plan.

12.39 To ensure that research projects will contribute more to the needs of the country, the Intensification of Research in Priority Areas (IRPA) funding mechanism will be realigned and finetuned to place more emphasis on the development of innovations and further improve the commercial relevance of R&D projects. Priority setting will be increasingly used in project identification and implementation. In this regard, 35 per cent of the IRPA budget will be allocated to prioritized research in manufacturing, plant production and primary products, ICT, health as well as education and training. The focus will be on development of home-grown products, processes and related services for commercialization. Another 35 per cent will be for strategic research areas to enhance future competitiveness in emerging areas such as optical technology, specialty fine chemicals technology, design and software technology as well as nanotechnology and precision engineering.

The development of such national R&D projects will involve multi-disciplinary and multi-institutional research teams, including participation from the private sector as well as sharing of facilities and equipment. To ensure the effective implementation of the R&D projects, the monitoring and evaluation capacity will be strengthened.

12.40 Apart from the prioritized national projects, the on-going competitive bidding process by R&D institutions will be continued. This is to ensure that resources for research are utilized more efficiently and generate maximum socio-economic benefits. The R&D resources under IRPA will also provide for selected prototyping and pilot-scale testing. This will facilitate and accelerate the process of commercialization of research findings in the areas of agriculture and food security, natural resources and environment as well as manufacturing and services.

12.41 In addition, government research departments, research institutions and universities will proceed with their mission-oriented R&D. This includes basic R&D for knowledge advancement and build-up of fundamental strengths required by research agencies and universities to handle core technologies such as biotechnology, advanced materials and microelectronics. In particular, an allocation of RM100 million will be provided to universities to undertake basic research.

Accelerating the Rate of Commercialization of R&D Findings

12.42 Measures will also be undertaken to increase the rate of commercialization of R&D findings. In this regard, the business units at the research institutions and universities will be reorganized and strengthened to facilitate identification and implementation of market-oriented R&D projects through interaction among researchers and the private sector. To generate more R&D projects that can be commercialized, research institutions and universities will be encouraged to place more emphasis on research related to product and process development for the industries. In this regard, the incentive scheme in the commercialization of R&D findings will be reviewed. The existing grant schemes for private sector R&D such as the Industrial Research and Development Grant Scheme (IGS), MSC Research and Development Grant Scheme (MGS) and Demonstrator Applications Grant Scheme (DAGS) will be reviewed to strengthen the commercialization potential of the projects. To facilitate commercialization of the R&D findings and technology, a sum of RM610 million will be allocated. In addition, fiscal incentives will be provided to encourage venture capital funds to invest in start-ups involved in indigenous technology.

Further Enhancing Private Sector Participation in R&D Activities

12.43 Technology development and R&D by the private sector will continue to be supported by the Government through incentives and financial assistance. In this regard, existing fiscal incentives will be reviewed to promote greater

private sector participation in R&D activities. The various financial grant schemes for private sector R&D will also be expanded. In addition, industry associations will be encouraged to set up research facilities and, for this purpose, financial assistance will be considered.

12.44 The allocation for IGS will be increased to RM200 million in the Eighth Plan. Consideration will also be given towards designing a more comprehensive package for implementation, including major components such as research, prototyping and product development for commercialization. The allocations for MGS and DAGS will also be increased to RM200 million and RM100 million, respectively.

Increasing the Supply of S&T Manpower

12.45 To further develop innovative capability, the Government will increase its investment in scientific and technological education as well as in the development of technical and research manpower. In this regard, enrolment in the S&T degree programmes in local tertiary institutions will be increased towards achieving the 60:40 ratio of science to arts students. Emphasis will also be placed on continual updating of the S&T curricula and skills development to incorporate appropriate application-based scientific and technological knowledge.

12.46 Measures will also be stepped up to increase the pool of S&T and research personnel. The S&T human resource development programme, which provides scholarships for post-graduate and post-doctoral studies as well as fellowships for graduate research, will be reviewed to ensure a more balanced emphasis on both S&T education as well as practical R&D. The programme for attracting Malaysian scientists and engineers residing overseas will be enhanced with a revised incentive package which includes granting of permanent resident status to the immediate family, tax exemption on income remitted to Malaysia within a period of two years and tax exemption on all personal effects brought into Malaysia. In addition, measures will be taken to appoint Malaysian experts in S&T related areas who are working overseas to undertake short-term assignments in Malaysia such as teaching and lecturing, consultancies and research in specialized areas. A mechanism will also be instituted to ensure a more systematic identification of skills and expertise required to build up the indigenous capability in strategic and key S&T areas.

12.47 To further enhance the research culture within institutions of higher learning, collaboration with the private sector will be further strengthened. It is vital to develop more systematic linkages with industries in undertaking market-oriented research. Closer collaboration can lead to research breakthroughs with commercial value. In this regard, corporations will be encouraged to work with

researchers on attachment as part of the hands-on research training. This will form part of the Government's efforts in linking universities and entrepreneurs willing to invest in research endeavours.

Acquiring New and Imported Technologies

12.48 A major thrust will be the acquisition of strategic and key technologies and applications from abroad. This will assist in expediting the build-up of domestic capabilities in new technologies and innovative ideas. For this purpose, existing venture capital funds will be strengthened and new ones established. A venture capital fund to invest in selected international technology companies abroad such as those in the Silicon Valley will be established. To assist in the build-up of domestic R&D capabilities, a technology transfer programme will be formulated which includes placement of Malaysian technical personnel in acquired technology-based companies, direct involvement in product conceptualization and development as well as relocation of foreign-based manufacturing and R&D facilities in Malaysia. Other forms of technology acquisition include joint-ventures, outright purchase and strategic alliances.

12.49 To complement on-going efforts in technology acquisition, opportunities will be created to gain access to new technologies through institutions such as MIMOS Berhad. This will include, among others, participation in foreign venture funds specializing in technologies related to ICT and the life sciences. This strategy will enable the country to identify and create new business enterprises, jointly or singly, in new business technology.

12.50 In the effort to further facilitate the acquisition of technology in strategic industries, the allocation for the Technology Acquisition Fund (TAF) will be increased to RM250 million. The Fund will be made available for the purchase of high-tech equipment and machinery, technology licensing as well as acquisition of patent rights, prototypes and designs to enhance the transfer of technology to local companies.

Promoting Development of Indigenous S&T Capabilities in Strategic and Key Technologies

12.51 While imported technology will continue to be important in critical areas, increasing emphasis will be placed on raising the level of domestic innovation capability. The focus will be on increasing the core competencies in the application

of critical technologies in economic sectors. In this regard, the role of existing research institutions will be reviewed, particularly in view of the rapid changes in technology.

12.52 In order to support the implementation of technology-based industrial strategies under IMP2, Phase II of the National Technology Mapping Programme (NTMP-II) will be undertaken. The goal will be to increase the domestic capability in undertaking the activities required in the value chain of, among others, wood-based products in the resource-based industry, food products in the agro-based and food products industry, and the machinery and equipment industry. NTMP-II will also include international and domestic benchmarking by reviewing existing technology level and future directions, especially in terms of skills and investments required.

12.53 In order to promote and support the development of the electrical and electronics products industry, the indigenous R&D capability will be further enhanced with the expansion and upgrading of the MIMOS Berhad wafer fabrication facility to sub-micron technology and design capability. This will provide the base for the development of new products with high market potential, especially in digital signal processing and flash memory. The web-based design lab of Phase 2 is expected to facilitate web-based collaborative design through sharing of design skills and business opportunities among domestic producers in the electronics industry.

12.54 Global trends indicate that innovation in biotechnology is one of the key technologies for the 21st century. Modern biotechnology brought about by developments in genomics and molecular biology will provide the catalyst for the production of novel products for commercial application in areas such as medicine, fuel production, farming and food preparation. Recognizing this development, Malaysia will need to build up its R&D base to harness the use of biotechnology in order to create value from the nation's megabiodiversity of natural resources. In addition, this will provide a spin-off for the establishment of related high value-added industries such as pharmaceuticals, nutraceuticals and agro-biotechnology.

12.55 To intensify biotechnology R&D, the national biotechnology programme will continue to emphasize on prioritized and experimental research. In this regard, a sum of RM100 million will be allocated for research in the fields of agro-biotechnology, health care, and environmental and energy management. Initiatives will be taken to identify and formulate research programmes in genomics and molecular biology, pharmaceutical and nutraceutical biotechnology as well

as agro-biotechnology. A national biotechnology policy will be formulated for a more comprehensive and coordinated approach for the advancement of biotechnology as a strategic technology in the development of the economy. In addition, consideration will be given to establishing a Bio-Valley to provide for more integrated development of the biotechnology industry. The Bio-Valley is expected to create a conducive environment for the introduction and synergistic expansion of biotechnology industries along the various stages of the value chain.

12.56 For the next phase of development in ICT and multimedia, it is envisaged that the application of lightwave communications technology or photonics will revolutionize the communications system. Recognizing this, efforts will be taken to build on the IRPA research on photonics initiated during the Seventh Plan. The research project aimed at developing an all-optical network based on Wavelength Division Multiplexing-Fibre To The Home (WDM-FTTH) will help to spur numerous spinoffs to the SMEs in the manufacture of photonic components such as optical devices and switches. This will facilitate Malaysia to acquire an important technology in the area of lightwave communications which is the backbone for broadband multimedia platform.

12.57 The increasing capability of low-power microelectronics has enabled the development of highly capable Near Equatorial Low Earth Orbit (NeqO) satellites for remote sensing and communications. These satellites are more compact and economical than the conventional polar orbit satellites. Although there are many remote sensing satellites in operation, there are none in the equatorial orbit plane. Recognizing the opportunity for developing a niche market in the design, building and launching of the NeqO satellites, a detailed study will be undertaken. The study will also look into the potential commercial linkages with industries and services.

12.58 To facilitate a coordinated approach in the development of space and satellite technology, a national space agency will be established with the integration of the Malaysian Centre for Remote Sensing (MACRES) and Space Science Studies Division (BAKSA) of MOSTE. The new agency will be responsible, among others, for the formulation and implementation of the National Space Policy and the National Space Programme. Focus will be given to strengthening the country's capability in the development of space technology applications as well as building up space infrastructure through the development and launching of satellites.

Strengthening the Technological Capability of the SMEs

12.59 In the context of the rapidly growing technology sector, SMEs will gain from new businesses arising from spin-offs, outsourcing and joint-ventures. There will be opportunities in providing specialized services, manufacturing of parts and components as well as creating multimedia contents. Agencies such as SIRIM Berhad, MIMOS Berhad and Technology Park Malaysia (TPM) as well as universities will accelerate their technical assistance programme to strengthen the technological capability of the SMEs. The incubator facilities at various institutions will assist in the development of a new breed of technology-based SMEs for listing on the Malaysian Exchange of Securities Dealing and Automated Quotation (MESDAQ).

IV. ALLOCATION

12.60 The Federal Government development allocation and expenditure for the period 1996-2000 and allocation for the period 2001-2005, are as shown in Table 12-5. The Government will increase the funding for R&D and

TABLE 12-5
**DEVELOPMENT ALLOCATION FOR
SCIENCE AND TECHNOLOGY, 1996-2005**
(RM million)

Programme	7MP		8MP
	Allocation	Expenditure	Allocation
Intensification of Research in Priority Areas (IRPA)	755.0	718.1	1,000.0
Malaysia-MIT Biotechnology Partnership Programme	35.0	33.3	-
Technology Development for SMIs	58.0	41.2	30.0
Technology Acquisition Fund (TAF)	118.0	118.0	250.0
Commercialization of Technology	208.0	203.9	610.0
Industrial Research and Development Grant Scheme (IGS)	50.0	45.9	200.0
MSC Research and Development Grant Scheme (MGS)	65.0	65.0	200.0
Demonstrator Applications Grant Scheme (DAGS)	30.0	30.0	100.0
Commercialization of Research and Development Fund (CRDF)	63.0	63.0	110.0
S&T Infrastructure and Development	2,413.3	1,496.7	2,818.9
Total	3,587.3	2,611.2	4,708.9

commercialization of technology to RM1.6 billion, while RM2.8 billion will be provided for related infrastructure facilities and services. To promote S&T awareness, an allocation of RM14.7 million will be provided.

V. CONCLUSION

12.61 During the Seventh Plan, the implementation of the various programmes contributed towards broadening and improving the S&T base. During the Eighth Plan, the Government will continue to intensify efforts towards innovation- and technology-led development to meet the requirements of a knowledge-based economy. To complement the efforts of the Government, the private sector will need to keep pace with the technology advancements in the global environment as well as expand their capacity in R&D.

Chapter 13

Information and Communications Technology



13

INFORMATION AND COMMUNICATIONS TECHNOLOGY

I. INTRODUCTION

13.01 The necessary infrastructure and environment for the development of information and communications technology (ICT) was in place during the Seventh Plan period to enable Malaysia to move rapidly into the Information Age. The National IT Agenda (NITA), formulated in 1996, provided the framework for the orderly development of the country into an information and knowledge-based society by 2020. As ICT presented the best opportunities to increase productivity and improve competitiveness, several programmes and projects were implemented to encourage a wider diffusion of ICT in the economy. A key initiative was the Multimedia Super Corridor (MSC), which was designated as a world test-bed for ICT development. In addition, a set of world-leading cyberlaws was enacted to provide an enabling environment for the development of ICT. The main cyberlaw was the Communications and Multimedia Act 1998, aimed at promoting deregulation, streamlining licensing procedures and categories as well as facilitating market liberalization.

13.02 During the Eighth Malaysia Plan, more concerted efforts will be undertaken to position Malaysia as a competitive knowledge-based economy, with ICT facilitating the development. In this regard, the ICT infrastructure will be expanded, particularly to rural areas to bridge the digital divide and enable all citizens to have equitable access to knowledge and information. As the knowledge-based economy requires new skills, competencies and broadband connections for advanced multimedia applications, emphasis will be given to human resource development and network infrastructure to enable Malaysians to benefit fully from rapid technological developments.

II. PROGRESS, 1996-2000

13.03 The ability to create, distribute and exploit knowledge and information is often regarded as the single most important factor underlying economic growth and improvements in the quality of life. Recognizing that ICT is an important enabling tool towards achieving this objective, the Government undertook various initiatives during the Seventh Plan to facilitate the greater adoption and diffusion of ICT to improve capacities in every field of business, industry and life in general. These included the provision of incentives for computerization and automation, creation of venture capital funds, enhancement of education and training programmes, and the provision of an enabling legal environment to facilitate the development of ICT.

Utilization of ICT

13.04 The Seventh Plan period saw a rapid growth in ICT utilization. Investments in ICT expanded at a rate of 9.2 per cent per annum from RM3.8 billion in 1995 to RM5.9 billion in 2000. This was largely due to the increasing awareness of Malaysians to the importance of production, diffusion and utilization of knowledge and information for improving competitiveness and overall economic performance. The provision of special incentives such as the abolition of sales tax on computers and components, and the granting of accelerated capital allowance for expenses on computers and other ICT equipment also assisted in increasing the usage of ICT.

13.05 The manufacturing sector recorded the highest investments in ICT amounting to almost RM1.2 billion or 20 per cent of total ICT expenditure in 2000, as shown in *Table 13-1*. This was followed by the banking and finance sector with 14 per cent and distribution with 11 per cent. The Government sector also invested substantially in ICT with investments totalling RM532 million in 2000, representing 9.0 per cent of total ICT expenditure. The home sector recorded the highest rate of growth of 44.1 per cent per annum in ICT expenditure during the Plan period.

13.06 In a study undertaken in 1998 to address several broad policy concerns in the manufacturing sector, it was revealed that the use of ICT was most prevalent for administration, payroll and finance functions. This was followed by ICT for communications, control and logistics, and production process. About

28 per cent of local firms used ICT for administration and finance compared with 7.0 per cent using ICT for control and production. Production-related ICT such as industrial robots and flexible manufacturing systems were more common among large companies and foreign firms. The study also found that the diffusion and increasing use of ICT had a positive impact on firm-level productivity and productivity growth.

13.07 There was also an extensive utilization of ICT in the energy sector. The use of ICT in petroleum development, both in the upstream, particularly in hydrocarbon exploration and development as well as in downstream activities resulted in cost minimization. In the electricity subsector, the applications of ICT contributed to the improvement in system security and reliability as well as in customer services. The completion by *Tenaga Nasional Berhad* of Phase I of the digitalized and computerized system and automation of the National Load Despatch Centre and the Regional Control Centres led to a substantial reduction in interruptions

TABLE 13-1
ICT EXPENDITURE BY SECTOR, 1995-2000
(RM million)

Sector	1995	%	2000	%	1996-2000	%	Average Annual Growth Rate (%), 1996-2000
Banking & Finance	1,026	27.2	827	14.0	3,723	15.0	-4.2
Manufacturing	494	13.1	1,182	20.0	4,041	16.3	19.0
Government	380	10.1	532	9.0	2,062	8.3	6.9
Telecommunications	-	-	473	8.0	2,323	9.3	-
Distribution	304	8.1	650	11.0	2,586	10.4	16.4
Oil & Gas	380	10.1	296	5.0	1,623	6.5	-4.8
Utilities	266	7.0	236	4.0	1,253	5.0	-2.3
Professional ICT & Other Services	125	3.3	236	4.0	236	1.0	13.5
Healthcare	-	-	59	1.0	59	0.2	-
Education & Research	114	3.0	236	4.0	1,008	4.0	15.6
Transportation	114	3.0	177	3.0	1,147	4.6	9.1
Home	76	2.0	473	8.0	2,004	8.0	44.1
Plantation & Mining	76	2.0	-	-	100	0.4	-
Others	418	11.1	532	9.0	2,736	11.0	4.9
Total	3,773	100.0	5,909	100.0	24,901	100.0	9.2

Source: Computer Industry Association of Malaysia (PIKOM)

incidences and transmission losses. The utilization of state-of-the-art technologies in both the petroleum and electricity subsectors contributed to productivity improvements in the energy sector.

13.08 The extent of ICT usage was also measured in terms of personal computers (PC) and Internet penetration rates. The number of PCs installed rose dramatically from 610,000 in 1995 to 2.2 million in 2000, as shown in *Table 13-2*. The number of PCs per 1,000 population also rose from 29.5 in 1995 to 95.7 in 2000. The Plan period also saw an increasing usage of the Internet by households and companies. The number of Internet subscribers increased from 13,000 in 1995 to about 1.2 million in 2000, a phenomenal rate of growth of 145.2 per cent per annum. In terms of state distribution, *Table 13-3* shows that Wilayah Persekutuan Kuala Lumpur had the highest number of Internet subscribers per 1,000 population at 103.9, followed by Selangor with 84.9 in 2000. The States of Sabah and Kelantan had the lowest number of Internet subscribers per 1,000 population, at 10.3 and 12.5 respectively. TMNet, Maxisnet and JARING were the Internet Service Providers (ISP) in the country. Despite the phenomenal growth, the penetration rates were still low at 9.0 per cent of the population for PCs and 7.0 per cent for the Internet.

13.09 Several programmes and projects were implemented by the Government as part of the efforts to increase ICT usage among the population. The *Gerakan Desa Wawasan* was launched in 1996 to increase the awareness of the rural population to participate actively in bringing about change and development to their areas. Under this programme, the Village Development and Security Committees were given computer facilities not only to assist in the management and administration of the villages but as an initial step to introduce ICT at the village level. By the end of 2000, a total of 995 villages benefited from this programme. The *Internet Desa* programme was launched in March 2000 at two pilot locations, namely, Sg. Ayer Tawar, Selangor and Kanowit, Sarawak. The programme involved the provision of ICT infrastructure at post offices and the launching of web sites that provided information on government services, local events and activities as well as free electronic mail (e-mail) and Internet facilities. Initial evaluation revealed that there were 55 to 70 users per week, many of whom were students. By the end of the Plan period, 12 such centres were implemented throughout the country. Another project that was implemented to promote ICT awareness and usage was the E-Bario project initiated by the *Universiti Malaysia Sarawak* (Unimas). Under this project, computers and Internet access were provided to schools to become community centres for learning.

TABLE 13-2

SELECTED ICT INDICATORS, 1995 AND 2000

Indicator	1995	2000
Newspaper Circulation Per 1,000 Population	162	159 ¹
Telex Subscribers	6,578	3,105 ²
Personal Computers (units installed)	610,000	2,200,000
Personal Computers Per 1,000 Population	29.5	95.7
Telephone Lines Per 1,000 Population	161.07	204.76 ²
Telephone Subscribers	3,332,447	4,650,410 ²
Mobile Phones	700,000	2,265,000 ²
Number of Internet Subscribers	13,064 ³	1,157,384
Number of Internet Users	30,000	4,000,000

Sources: Ministry of Energy, Communications and Multimedia, PIKOM, World Development Report, 1999/2000 and World Competitiveness Yearbook, 2000

Notes:

¹ Refers to 1998.

² Refers to 1999.

³ JARING only.

13.10 As part of the effort to encourage greater utilization of ICT, contributors to the Employees Provident Fund were allowed to withdraw their savings for the purchase of computers. Since the introduction of this scheme in October 1999, a total of 245,460 applications was received, of which 199,293 were approved involving a total sum of RM665.3 million. In addition, the Government, with the cooperation of the industry, organized the PC Ownership Campaign starting year 2000 with the aim of 'one home, one PC'. During this campaign, PC fairs were held offering PCs at cheaper prices to the public.

National IT Agenda

13.11 The National IT Agenda, aimed at transforming the nation into a knowledge-based society in line with Vision 2020, focused on human development and leveraging on the public-private sectors partnership. The framework was based on the balanced development of three key elements, namely, people, infostructure and applications.

TABLE 13-3

INTERNET SUBSCRIBERS BY STATE, 2000

<i>State</i>	<i>Total Subscribers</i>	<i>%</i>	<i>Subscribers Per 1,000 Population</i>
Johor	77,747	8.8	30.3
Kedah	28,494	3.2	18.1
Kelantan	16,101	1.8	12.5
Melaka	17,234	2.0	28.6
Negeri Sembilan	22,373	2.6	27.0
Pahang	21,682	2.5	18.0
Perak	55,345	6.3	27.3
Perlis	3,710	0.4	18.7
Pulau Pinang	63,648	7.3	51.9
Sabah	40,692	4.6	16.6
Sarawak	43,219	5.0	21.5
Selangor	335,262	38.2	84.9
Terengganu	15,041	1.7	17.1
Wilayah Persekutuan Kuala Lumpur	134,870	15.4	103.9
Wilayah Persekutuan Labuan	1,355	0.2	19.2
Malaysia	876,773¹	100.0	39.5

Source: Ministry of Energy, Communications and Multimedia

Note: ¹ Excluding Maxisnet.

13.12 In order to achieve the goals of NITA, the National IT Council (NITC) launched the Strategic Thrusts Agenda with the primary objective of effectively facilitating the migration of Malaysians and institutions into the emerging networked global environment. Five strategic thrust areas were identified, namely, E-Economy, E-Public Services, E-Community, E-Learning and E-Sovereignty. Under the E-Economy strategic thrust area, all sectors of the economy were envisioned to create value and wealth through the successful participation in the emerging knowledge-driven global economy. With E-Public Services, focus was given to the provision of people-oriented customer-focused services electronically. To facilitate the interaction and communication among communities to improve the quality of life, E-Community was formulated while E-Learning was to focus on cultivating a lifelong learning culture. Meanwhile, E-Sovereignty focused on building a resilient national identity in the face of challenges to the nation. The

NITC also established the Strategic Thrusts Implementation Committee (STIC) to operationalize the Strategic Thrusts Agenda. Since its establishment, STIC managed to galvanize the public and private sectors to implement 30 projects. Examples of such projects included the E-Community Resource Exchange, National Grid of Learning, ICT Community Chest and SJ2005.

13.13 In an attempt to develop an information and knowledge-based society, the NITC held Information Society (InfoSoc) conference and exposition events annually, aimed at providing a framework and platform for dialogues and exchange of national and international experiences on ICT as well as to raise the awareness of the Malaysian public about Information Age developments. In this endeavour, the Government in collaboration with Global Knowledge Partnership, also hosted the Second Global Knowledge Conference (GKII) in March 2000 in Kuala Lumpur to deliberate on issues pertaining to developing a knowledge-based society through ICT developments.

13.14 To facilitate the realization of NITA, the Demonstrator Applications Grant Scheme (DAGS) was established in April 1998. DAGS aimed at promoting the use of ICT and multimedia for socio-economic development through developing communities enabled by electronic networks. During the Plan period, 37 community-based projects were implemented involving an expenditure of RM48 million. E-Thalassaemia, NutriWeb, CyberCare and *Masjid* as a Neighbourhood Centre were examples of DAGS projects.

Development of the Multimedia Super Corridor

13.15 Realizing the need to drive the economy towards higher productivity through information technology and high value-added economic activities, the MSC was established in 1996 to provide a comprehensive world-class ICT-enabled working and living environment to catalyze the development of a knowledge-based economy. As a global test-bed for innovative solutions, the enabling environment and incentives provided sought to attract leading global webshapers to use MSC as a hub as well as help spawn both local and foreign small- and medium-sized enterprises (SMEs). The interaction of foreign and local companies would create new value through the introduction of globally competitive, cutting-edge products and services and by increasing productivity in the economy. The MSC aimed at catalyzing a highly competitive cluster of Malaysian ICT companies nurtured to become world-class over time. To attract such investments, the Multimedia Development Corporation (MDC) was established as a one-stop agency to promote the overall development of the MSC. In addition, the MSC

International Advisory Panel comprising prominent business leaders, policy makers and scholars from the global ICT industry was set up to provide advice on the further development of the MSC.

13.16 Companies with strong value-added activities, which were providers or heavy users of multimedia products and services, were given MSC status and enjoyed certain privileges and incentives offered under the Bill of Guarantees. These included the freedom of ownership, unrestricted employment of foreign knowledge workers, and freedom of sourcing capital globally. They were provided with competitive financial incentives including income tax exemption for up to 10 years or a 100 per cent investment tax allowance for five years. They were also eligible to tender for key MSC infrastructure contracts. By the end of 2000, a total of 429 companies was granted MSC status. Of this total, 274 were Malaysian-owned companies, as shown in *Chart 13-1*.

13.17 As part of the effort to attract a sizeable number of world-class technology-led companies to Malaysia through the creation of an enabling multimedia environment, five cybercities were being developed in the MSC, namely, at Cyberjaya, Technology Park Malaysia, *Universiti Putra Malaysia*-Malaysian Technology Development Corporation (UPM-MTDC), Petronas Twin Towers and KL Tower. Cyberjaya was designed and developed for living as well as working in a multimedia environment. A city command centre would be set up in Cyberjaya, involving the integration of 23 systems, to function as a nucleus or city hub. In addition, Wilayah Persekutuan Putrajaya became the new administrative capital of Malaysia where the concept of electronic government was introduced.

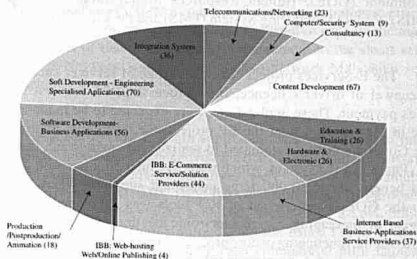
MSC Flagship Applications

13.18 To jump start the development of MSC, seven flagship applications were introduced to provide business opportunities for private sector participation. These flagship applications were categorized into two groups, namely multimedia development flagship applications and multimedia environment flagship applications. The multimedia development applications included electronic government, smart schools, multipurpose cards and telehealth while research and development (R&D) cluster, worldwide manufacturing web and borderless marketing were applications to create the multimedia environment. These applications attracted international market appeal. Countries such as Algeria, Botswana, Lebanon, Mozambique and Syria expressed interest in the various telehealth and electronic government applications. There were also ongoing initiatives to replicate the smart school model in a number of countries including Sri Lanka and South Africa.

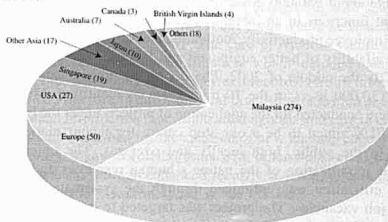
CHART 13-1

**APPROVED MSC-STATUS COMPANIES BY SECTOR AND COUNTRY
(AS OF 31 DECEMBER 2000)**

Sector



Country



Source: Multimedia Development Corporation.

13.19 The *electronic government* (EG) flagship application was launched with the objective of improving government operations in terms of its internal processes and delivery of services to the public and to business. Leading-edge ICT technologies and solutions were to enable such change and reinvent the way Government operated. Under this flagship, six pilot projects were implemented, namely, the Electronic Services (E-Services), Electronic Procurement (EP), Generic Office Environment (GOE), Human Resources Management Information System (HRMIS), Project Monitoring System (PMS) and the Electronic Labour Exchange (ELX).

13.20 The E-Services project covered a range of services such as the issuance and renewal of driver's licence, fines processing, driving test scheduling and utilities payment. These applications were expected to be made available to the public in May 2001. Under the EP project, the traditional procurement system of the Government was automated to realize cost savings and faster turnaround times. Phase I of the system, which went live on a pilot basis on 6 October 2000, would benefit about 20,000 large and small suppliers when fully rolled out. Under the GOE, a generic set of ICT tools was developed such as document management, messaging system, electronic meeting and decision tracking, which would assist the functioning of core processes, thus facilitating day-to-day operations and management of government offices. The system, scheduled to go live in April 2001, would not only increase the ICT awareness among government personnel but also improve their efficiency and effectiveness. The HRMIS project would enable about 950,000 government personnel to perform human resource management functions in an integrated environment through a single window interface. Employee productivity, motivation and satisfaction would be enhanced with the availability of better equipment and facilities and automation of work processes. By the middle of 2002, Phase I of the project would be rolled out to benefit 150,000 users in the 10 pilot agencies identified. Meanwhile, PMS trial runs were conducted for the application of projects under the Eighth Malaysia Plan. The ELX aimed to be a one-stop centre for labour market information accessible to the public, both locally and overseas. The objectives were to improve the mobilization of the nation's human resources and to ensure that manpower utilization was optimized through the systematic matching of job seekers to job vacancies. The project was targeted to become fully operational by November 2001.

13.21 The *smart schools* initiative was introduced with the objective of producing a new generation of Malaysians who will be ICT literate, creative as well as innovative and capable of leading the economy into the Information Age. The

project, which was implemented on a pilot basis during the Seventh Plan, involved a total of 90 schools comprising the construction of nine new schools and the upgrading of 81 existing schools. These schools were equipped with state-of-the-art multimedia/computing equipment and provided with comprehensive teaching-learning materials for four subjects, namely, *bahasa Malaysia*, English, science and mathematics. These materials not only enhanced the network-based curricula but also enabled students with varying capabilities to progress at their own pace. The Smart School Management System enabled school administrators to efficiently and effectively manage resources and processes required to support the teaching and learning functions of these schools. As a complement to the smart schools, the Global Schools Network was also initiated to network Malaysian schools with selected schools around the globe.

13.22 The *multi purpose card* flagship application was introduced to improve the ease with which Malaysians conducted routine transactions with the Government and private companies. Two major initiatives were carried out, namely, the Payment Multi Purpose Card (PMPC) and the Government Multi Purpose Card (GMPC). A series of milestones were achieved. The e-cash, a key application in both cards, completed its technical pilot during the Kuala Lumpur '98 - XVI Commonwealth Games, followed by the e-cash commercial pilot launched in September 1999.

13.23 With regard to GMPC, field tests were carried out with selected users. It was targeted that a total of two million smart cards would be issued to citizens in the MSC and Klang Valley in 2001. The card provided a secure medium for storing key personal identification information, which included data on identity card, driving licence and immigration entry/exit records. Health information was also to be stored on the card to allow medical practitioners instant access to basic and critical medical information that would aid diagnosis and care in emergencies. The GMPC became a test-bed for the creation of new leading-edge technologies by local companies, many in collaboration with other world-class corporations. To facilitate e-business through enhanced security, a new application, the Public Key Infrastructure (PKI), was included in the GMPC.

13.24 The *Telehealth* application was aimed at accelerating the achievement of Malaysia's health care vision towards creating a nation of healthy individuals, families and communities. During the Plan period, telehealth was implemented at 42 health centres and 41 other teleconsultation sites, many of which were

located in the rural areas. The implementation of the telehealth project started in August 2000 and by the end of the year, one of its projects, Teleconsultation, had completed installation at all sites. The three other projects, namely, Mass Customized/Personalized Health Information and Education (MCPHIE), Continuing Medical Education (CME), and Lifetime Health Plan (LHP) completed their respective Phase I. MCPHIE and CME were nationwide in scope while LHP covered sites such as Hospital Kuala Lumpur, Hospital Kajang, Hospital Ipoh, Hospital Seremban and selected health centres nationwide. The telehealth flagship application was not just a point-to-point consultation but incorporated the full spectrum of multimedia technologies to bring benefits to all players in the health sector.

13.25 The *R&D cluster* was designed to create a cluster of collaborating multimedia R&D centres and firms to produce leading-edge products and technologies while at the same time encouraging local high-tech start-ups and increasing local R&D activities to improve Malaysia's competitiveness. To catalyze these activities, the Government implemented several projects, which included the setting up of the MSC Research and Development Grant Scheme (MGS) in October 1997 and the MSC Student Attachment Programme in 2000.

13.26 Under the MGS, the Government provided an allocation of RM100 million during the Plan period. The aim of the scheme was to enhance technological capabilities of Malaysian MSC-status companies, particularly SMEs, through R&D. Since its launch, a total of 19 projects with a value of RM38 million was approved. The projects included a range of multimedia products and services such as computer telephony integration, interactive hearing aids for the hearing impaired and the transaction information management engine. The Student Attachment Programme was undertaken to provide industry relevant experience to students pursuing ICT-related courses. By working on areas identified by the industry, the students were able to relate coursework to on-the-job technical applications. The firms also benefited from having personnel working on specific problems and addressing their short-term needs. By the end of the Plan period, 51 students were involved in this programme.

13.27 The latest initiative developed under the MSC was the Entertainment Village (E-Village), aimed at becoming a regional centre for content development. Apart from providing world-class physical infrastructure for creative multimedia innovations by local and international investors, E-Village was also targeted to catalyze the development of local content in the entertainment industry.

Development of Communications Infrastructure

13.28 During the Plan period, substantial investments were made in laying the communications infrastructure comprising fibre optics, satellite and cellular technology to support the development of ICT in the country. An extensive fibre optic network was installed covering 62,600 kilometres linking states and major towns across the country by the end of 2000. The fibre optic network enabled high capacity broadband transmission capable of carrying different types of traffic such as data, voice and video. With regard to satellite technology, Malaysia had four satellite gateways, namely, at Kuantan, Labuan, Melaka and Sematan, which provided connections to countries around the Indian and Pacific Oceans. Despite these investments, the penetration rates were still low. The national average for fixed line penetration was only 23.2 per cent while in the rural areas, the penetration rate was 11.7 per cent.

13.29 For the MSC, a fibre optic backbone network covering 360 kilometres was completed during the Plan period. The backbone also involved the installation of Asynchronous Transfer Mode (ATM) switches at Cyberjaya, Wilayah Persekutuan Putrajaya and Bukit Jalil to support broadband multimedia applications and high speed Internet access. The MSC broadband infrastructure consisted of four major rings, each ring having a bandwidth of 2.5 gigabits per second (Gbps) scalable to 10 Gbps. To ensure the high quality of the infrastructure provided, a performance guarantee with financial rebates was introduced in 1999.

13.30 Internet and wireless technologies represented two of the fastest developing technologies in the telecommunications field. By the end of the Plan period, six ISPs were granted licences but only three had started to provide Internet access to their subscribers. To complement ISPs, Access Service Providers (ASPs) were also licensed. As at the end of 2000, there were 43 ASPs in the country, mainly in the Klang Valley and Pulau Pinang. With the advancement of wireless technology, new types of affordable access devices were made available to access the Internet. These included the Wireless Application Protocol (WAP) devices such as mobile phones, hand-held devices and set-top boxes.

Electronic Commerce

13.31 The rapid growth of the Internet as a consumer technology led to the accelerated use of electronic commerce (e-commerce) globally as well as nationally. The e-commerce market was estimated to have increased from USD1 billion in

1998 to USD6 billion in 2000 in the Asia Pacific region. E-commerce not only affected business and individual consumers, but it also reshaped market places, trading relationships and even international trading boundaries. E-commerce presented opportunities for businesses to improve competitiveness, have a global presence, undertake customization and create novel businesses. At the same time, there were concerns with regard to the global and borderless nature of e-commerce as well as consumer protection and confidence from cybercrimes. In view of the potentials and concerns on e-commerce, a National Electronic Commerce Committee was set up to formulate a framework aimed at promoting and coordinating the development of e-commerce.

13.32 To establish a comprehensive and robust framework on e-commerce, a study on Electronic Commerce Strategic Directions for Malaysia was undertaken. The study, which was completed in February 2000, underlined the importance of having a critical mass, building trust to conduct business on the web, attracting inbound customers, transforming organizations as well as enhancing policy and regulatory framework. Specific initiatives were recommended and these included On-line Trading Post, Integrated Logistics Hub, Encryption Technology Development, Intellectual Property Management System and Internet Exchange. The implementation of these initiatives was aimed at positioning Malaysia as an e-commerce hub in the global market space.

13.33 During the Plan period, several private sector initiatives were implemented to benefit from the rapid growth of e-commerce. Local companies started doing business on-line through e-commerce-enabled websites. These companies covered various industries such as retail entertainment, software, travel and auctions. Examples of e-commerce businesses included Mall of Malaysia, Asia Travel Mart, Lelong.Com and Cyber Music Asia.

13.34 In order to support the development of e-commerce, *Bank Negara Malaysia* designated Malaysian Electronic Payment Systems (MEPS) to build and operate an on-line payment gateway between consumers and merchants for on-line transactions over the Internet. MEPS, owned by 27 local financial institutions, uses the Secured Electronic Transaction (SET) protocol as the standard for payment. MEPS also enabled transactions to be conducted using the Secure Sockets Layer (SSL) protocol. In addition, MEPS runs the Nationwide Payment and Clearing System (NPCS), Electronic Purse Smart Card (MEPS CASH), Payment Multi Purpose Card (PMPC) and Inter Bank Giro (IBG).

13.35 As part of the effort to promote and encourage e-commerce, various laws and regulations were enacted to regulate activities in cyberspace. The Digital Signature Act 1997 provided an avenue for secure on-line transactions through the use of digital signatures. Under this Act, the Controller of Certification Authority was appointed on 1 October 1998 to monitor and license recognized Certification Authorities. By the end of 2000, two companies were authorized to verify transactions through providing digital certificates, namely, Digicert Sdn. Bhd. and MSC Trustgate Sdn. Bhd. The Copyright (Amendment) Act 1997 aimed at ensuring adequate protection of intellectual property rights for companies investing in the ICT and multimedia environment. Other acts included the Computer Crimes Act 1997 to provide for offences relating to the misuse of computers; the Telemedicine Act 1997 to provide a framework for licensed medical practitioners to provide telemedical services; and the Communications and Multimedia Act 1998 to provide a regulatory framework to cater for the convergence of the telecommunications, broadcasting and computing industries.

Human Resource Development for ICT

13.36 The ongoing revolution in ICT led to changes taking place in the composition of employment and in the labour market. The demand for ICT workers comprising hardware engineers, software engineers, systems analysts, computer programmers and technical support personnel increased from 88,160 in 1998 to 108,200 in 2000. This represented a rapid growth of 10.7 per cent per annum compared with the overall employment growth of 3.7 per cent during the same period. The technical support personnel and systems analysts were the two largest groups, representing 32.1 per cent and 23.7 per cent, respectively. On the supply side, it was estimated that about 20,260 students graduated from public and private institutions in ICT and related engineering courses in 1999. Of the total number of graduates, almost 71 per cent were from private institutions, indicating the important role of the private sector in ICT training. There were 170 private institutions and 28 public institutions offering ICT courses as at October 1999. While private institutions offered courses mainly at the diploma and bachelor degree levels, the public institutions mainly focused on the bachelor and post-graduate levels.

13.37 As part of the effort to meet the rising demand for ICT workers, particularly in the MSC area, the Multimedia University (MMU) was established in 1998 with two campuses, one each in Cyberjaya and Melaka. Equipped with high speed ATMs, multimedia learning facilities and digital libraries, MMU offered a spectrum of ICT and multimedia-based courses at the undergraduate

and post-graduate levels. By the end of 2000, about 9,000 students were enrolled in these courses. Of this total, about 22 per cent were ICT bachelor degree undergraduates. To meet the needs of the MSC, the Government successfully undertook a number of initiatives to adequately meet the demand for knowledge workers. These included measures introduced to increase the number of institutions of higher learning. This was accelerated by the awarding of MSC status to institutions of higher learning or their faculties that focused on training of knowledge workers in priority areas such as ICT, engineering and management.

13.38 With the anticipated rapid growth in e-commerce, many public and private institutions offered business studies courses with e-commerce content. The number of students enrolled in these courses were 6,075 in 1999 in both public and private institutions, mainly at the bachelor degree level. The number of business graduates with e-commerce training were 1,398 in 1999.

13.39 ICT-based training was also given emphasis among the working population to upgrade their ICT knowledge and skills. Under the Human Resource Development Fund (HRDF), RM101.6 million or 14.7 per cent were disbursed for ICT-based courses during the Seventh Plan period. This involved the financing of 296,800 training places.

Funding for ICT Industry

13.40 Access to venture capital is regarded as a prerequisite to develop enterprises based on innovative ideas and good business models. However, there was a lack of such capital, especially for the early stages of business development due to the reluctance of the traditional banking system to provide financing for these high-risk ventures as well as the lack of expertise to undertake a proper assessment of the project proposals. In view of these concerns, the Government established a RM500 million ICT Fund in 2000 to provide financing to high-technology and ICT-based firms. Of this amount, RM200 million was channelled through *Bank Industri dan Teknologi Malaysia Berhad* (BITMB) to provide financing to high-tech industries including advanced electronics, ICT, biotechnology and advanced manufacturing. Another RM300 million was channelled through commercial banks to provide venture capital financing for these industries. By the end of 2000, a total of 46 loan applications amounting to RM211.1 million was received by BITMB while the amount of loans approved was RM27.3 million.

13.41 To catalyze the growth of venture capital companies and draw their interest into the ICT sector, the MSC Venture Corporation (MSC VC) was set

up in 1999 as a wholly-owned subsidiary of the MDC. The MSC VC assisted MSC-status and potential MSC-status companies, particularly the SMEs to obtain venture capital funding. The MSC VC launched its first fund, the MSC Venture One, in June 1999 amounting to RM120 million. The fund targeted companies either at start-up, growth or pre-initial public offer (IPO) stages of development. By the end of 2000, MSC VC committed investments in 10 companies amounting to RM43 million.

13.42 During the Plan period, the Malaysian Exchange of Securities Dealing and Automated Quotation (MESDAQ) was established to provide an alternative avenue of fund raising for technology and high-growth companies without a track record as well as start-up companies. Focus was given to 12 priority technology areas such as advanced electronics, ICT, telecommunications, biotechnology and aerospace. To promote foreign investments in MESDAQ, expatriation of funds was exempted from foreign exchange control rules. Efforts were also taken to improve the trading system with the introduction of a new Internet-based system and work was initiated for a link-up with the Kuala Lumpur Stock Exchange (KLSE). Since the commencement of trading in April 1999, three technology-based companies related to pharmaceuticals, ICT and multimedia were listed.

III. PROSPECTS, 2001-2005

13.43 Malaysia is well placed to benefit from the new wave of growth based on the ICT revolution. The relatively developed infrastructure and the conducive environment put in place during the Seventh Plan period for the development of ICT, particularly within the MSC, have formed the foundation for Malaysia to leverage on the growth opportunities provided by the ICT. During the Eighth Plan period, focus will be given towards further strengthening the human resource capabilities, hard and soft infrastructure as well as the building of a critical mass of SMEs and Internet users to enable Malaysia to move rapidly towards becoming a developed nation with a knowledge-based society. Towards this end, the strategic thrusts for the development of ICT will include:

- ❑ *positioning Malaysia as a major global ICT and multimedia hub;*
- ❑ *upgrading and expanding the communications infrastructure to increase accessibility throughout the country as a means of bridging the digital divide;*

- ❑ *enhancing human resource development in ICT to increase the supply of highly skilled and knowledge manpower;*
- ❑ *promoting e-commerce and enhancing its use to enable Malaysia to compete more effectively in the global market;*
- ❑ *fostering local capabilities in creative content development;*
- ❑ *rolling out the MSC flagship applications to further provide the momentum for the development of the MSC;*
- ❑ *nurturing a critical mass of ICT-based SMEs; and*
- ❑ *promoting R&D activities on soft factors of ICT and Information Age developments that affect individuals, organizations and societies.*

Positioning Malaysia as a Global ICT and Multimedia Hub

13.44 Significant progress has already been made in fostering the development of ICT and multimedia. During the Eighth Plan, concerted efforts will be made to further enhance the development of the sector and position Malaysia as a major global ICT and multimedia hub. Focus will be made towards achieving world-class performance, in terms of service availability, affordability and productivity. In this regard, companies will be encouraged to constantly benchmark against the highest performing countries in the region and globally. To facilitate Malaysian companies to compete globally, ICT will be used as a key enabler, especially in critical sectors such as banking and finance, logistics, manufacturing and key services. The competitive and advanced ICT infrastructure in the MSC will also catalyze the growth of high value enterprises in the biotechnology, bio-informatics and design sectors.

13.45 As part of the effort to move towards world-class performance, the Government will implement a new policy framework for the ICT and multimedia sector that is based on rapid transition to full competition. The pro-competition framework will be the main driver of performance in terms of infrastructure roll-out, service quality and innovation, and competitive pricing. Initial steps have already been made towards creating this competitive framework with the enactment of the Communications and Multimedia Act 1998, which strongly endorses competition as a means of achieving high performance.

13.46 Among the additional measures that will be undertaken to ease market entry to create a competitive environment will be the implementation of a clear, simple and practical licensing regime and minimizing licensing requirements for new services such as ISP and Voice over Internet Protocol (VoIP). To ensure fair competition, the Government will undertake to remove user tariff controls, open up key bottleneck infrastructure elements such as local loop and transmission towers, and enforce fair interconnect rates and practices. To ensure Malaysia's continued competitiveness in the ICT industry, a research centre will be established, which will conduct studies, keep continuous tabs on the dynamics of the global ICT industry, assist the industry in benchmarking and also provide advice to the Government on policy planning in the ICT industry. The Government will also seek a leadership position for Malaysia in international fora to further the global hub agenda.

Upgrading and Expanding ICT Infrastructure

13.47 During the Plan period, investments will be made to upgrade communications network in line with technological advancements. The capacity of the transmission backbone connecting North, Central, East and South of Peninsular Malaysia and with Sabah and Sarawak will be upgraded to 10 Gbps using the Wavelength Division Multiplexing (WDM) technology. This will enable the transmission of high speed, broadband multimedia applications over long distances. For the Customer Access Network (CAN) or the local loop that connects residential and business customers to the local exchange, the current copper cables will be upgraded using the Asymmetric Digital Subscriber Line (ADSL) technology to support multimedia applications. Other initiatives that will be implemented during the Plan period will be the introduction of the Network Management System in CAN to ensure better service availability and the launching of *Telekom Malaysia* Internet Service Exchange (EastGate) in Cyberjaya. There will also be a migration to third generation (3G) mobile communications technology, which will provide mobile Internet to consumers, thus further enhancing Internet-based services such as e-commerce. Apart from the provision of infrastructure, efforts will also be made towards providing broadband access on flat rate bandwidth-based charges that are affordable. Such a pricing mechanism will promote Internet usage and also uptake of Internet-based applications among the people.

13.48 ICT infrastructure will continue to be extended to the rural areas as part of the effort to narrow the digital divide between the urban and rural areas, and consequently, achieving a balanced development in the country. To ensure an equitable distribution and access to ICT, the Universal Service Provision Programme that is based on three basic principles of availability, accessibility and affordability will be implemented. Under this Programme, a Universal Service Provision Fund will be set up with contributions from telecommunications service providers. The Fund, which will be operational in 2001, will be used to subsidize the provision of telecommunications infrastructure in the rural areas. It is anticipated that this Programme will increase the telephone penetration rate in the rural areas from 11.7 telephones per 100 population in 2000 to 17.5 telephones per 100 population in 2005.

13.49 With a view to further accelerating the use of ICT in the rural areas, the Government will implement the *Infodesa* programme. Under this programme, eight *Infodesa* centres will be established on a pilot basis. These centres will provide ICT training to the local communities, develop content applications as well as become one-stop centres for information on government services. The centres can also be utilized for teleworking and distance learning. The *Internet Desa* programme, which was launched in 2000, will be expanded to cover 100 locations. The centres will continue to be located at post offices and will offer awareness and training courses to the users.

13.50 Recognizing that significant access and equity gaps exist and that a substantial number of Malaysians will be at risk of being marginalized by the ICT revolution, a comprehensive and integrated policy as well as a framework for action to address the problem of the digital divide will be formulated during the Eighth Plan period. The policy will cover four important aspects, namely, ICT infrastructure plan for universal access, local content development, equitable access to affordable ICT products and services, and access to lifelong learning opportunities.

Enhancing Human Resource Development in ICT

13.51 As ICT becomes increasingly ubiquitous, the demand for ICT workers will grow rapidly, both to enable the use of existing technologies as well as to develop such technologies for the future. It is projected that the demand for workers in core ICT occupations such as hardware engineers, software engineers, systems analysts, computer programmers and technical support personnel will increase from 108,000 in 2000 to 181,600 in 2005. As reported in the Study on the Manpower Requirements to Support the Application and Diffusion of ICT

in Malaysia, the most required technical skills will be Local Area Network (LAN) administration, PC technical support, PC programming and client server computing.

13.52 To meet the increasing demand for ICT workers, efforts will be made to improve and expand ICT education. At the school level, about 8,000 primary and secondary schools will be provided with computer facilities by the end of the Plan period while computer-aided teaching and learning will be intensified with the development of software for the various subjects. Internet access will also be made available to schools and for those in the rural areas where conventional means of access may be a problem, access will be provided by satellite communication, especially the VSAT technology. The objective is to increase computer literacy among students as well as expose them to the benefits of the Internet, particularly those in the rural areas. More ICT and related engineering courses will also be introduced by both the public and private institutions of higher learning. A total of 122,910 students will be enrolled in these institutions by 2004, mainly at the diploma and bachelor degree levels. The private sector's involvement in the provision of ICT education will continue to be significant as 71 per cent of the total enrolment is from private institutions.

13.53 ICT training will continue to be given emphasis as the pace of technological change in ICT will necessitate ongoing training for the ICT workforce. Firms will be encouraged to send their workers for training to keep their skills up-to-date, thereby increasing their output and productivity. To facilitate this, the Government will provide tax incentives to reduce the cost of training to firms. The HRDF will also continue to provide disbursements for ICT-based training. In addition, new apprenticeship schemes in areas related to ICT will be introduced.

13.54 The negative influences of the Internet, such as misreporting and abuse of knowledge, can pose a security threat to the nation. To counter such influences, a code of ethics in the conduct of activities over the Internet will be inculcated beginning at the school level.

Promoting Electronic Commerce

13.55 With the ongoing innovations in ICT and the rapid growth of the Internet, the development of e-commerce will accelerate during the Eighth Plan period. As the initial foundation for e-commerce is already in place in terms of

the enabling environment and infrastructure development, special focus will be given towards promoting and encouraging the wider use of e-commerce as a new way of doing business through the digital network.

13.56 The greater adoption of e-commerce calls for a cohesive partnership between the Government, business and community. On the part of the Government, efforts will continue to be made to create a stable and supportive environment for the conduct of commerce and trade electronically. More attention will be directed towards the effective enforcement of the various laws and institutional mechanisms established. The Government will also undertake measures to build trust and confidence in e-commerce including security and privacy for consumers. In this regard, a law on personal data protection will be introduced to address privacy concerns. Infrastructure and logistical support, which encompass networks, payment systems and logistics will also be provided to enhance the development of e-commerce. In addition, the Government will carry out a detailed feasibility study and subsequent implementation programmes of the proposals identified under the study on Electronic Commerce Strategic Directions for Malaysia. E-commerce applications will be widely used to enhance organizational transformation in both the public and private sectors.

13.57 While the Government undertakes a key role in catalyzing the ideal environment for e-commerce to flourish, businesses and communities will have to respond and participate actively in the development and usage of e-commerce. E-commerce will bring substantial benefits to businesses in terms of a reduction in transaction costs, inventories and overheads as well as the time between the outlay of capital and receipts of products and services. For the consumers, the benefits that will be enjoyed include wider choices, quick delivery and the ability to shop anytime and from almost anywhere.

Fostering Local Capabilities in Content Development

13.58 In developing Malaysia into a global ICT and multimedia hub, several initiatives will be undertaken to foster local capabilities in creative content development. Steps will be taken to reduce regulations for television and film content production to enable more market participation. The Content Forum, which was set up with industry players as members, will draft its own code of conduct as a means of self-regulation. At the same time, there will be minimal

regulation on the production of on-line content so as not to impede the growth of the nascent industry. To further support and encourage the development of creative content industry locally, the Government will develop clear and precise rules on intellectual property rights protection. This will be complemented by effective enforcement to combat piracy.

13.59 In addition to the creation of a conducive legal environment for content development, the Government will provide financial assistance to promote the production and distribution of locally created content, especially creative multimedia content based on local culture. In this regard, the establishment of a content development fund will be considered, with mandatory contributions from broadcasters and exhibitors. The fund will be used to partly defray the cost of content creation activities that require significant financial resources. The provision of fiscal incentives will also be considered to stimulate content development locally.

13.60 To further develop the content industry, emphasis will be placed on skills development. The MMU will expand its capacity to produce graduates with specialized knowledge in the fields of multimedia and advanced digital technologies. In addition, a special programme will be formulated to enhance training in software development. Efforts will also be made to encourage the private sector to be involved in the training of such skills to fill the existing skills gaps identified for creative content development. These will be undertaken through the provision of incentives and the promotion of local and foreign collaboration in content production to enable the transfer of knowledge and skills to Malaysians.

13.61 The development of the creative content industry in Malaysia will be enhanced with the implementation of the E-Village initiative. This initiative will act as a catalyst by focusing on the creative supply chain, from content creation to commercialization and, finally, distribution. The state-of-the-art production studios and post-production facilities with the latest cutting-edge technology in animation and audio/visual effects will provide the infrastructure for creative multimedia innovations and R&D. The first of these production studios was launched in September 2000 while the remaining seven will be completed during the Eighth Plan period. Once completed, E-Village will be the regional centre for multimedia and content development. Guiding the direction of the E-Village project will be an international advisory panel comprising local and international practitioners in the creative multimedia industries.

Rolling-out the MSC Flagship Applications

13.62 Based on the experiences of the pilot projects as well as the need to maintain the momentum for the development of the MSC, the first wave flagship applications will be rolled out during the Eighth Plan period. The roll-out will comprise another key strategy in the overall plan to address the problem of the digital divide. The smart school concept will be expanded to cover 8,000 primary and secondary schools while telehealth will be implemented at health care centres as well as rural clinics. The pilot applications being developed during the Seventh Plan will be rolled out after ascertaining their effectiveness. For the E-Services project, more government services will be introduced that will transform it into a single government portal.

13.63 The second wave flagship applications will also be implemented during the Eighth Plan period with focus on attracting leading-edge technology developers into the MSC and promoting the transfer of technology and R&D. Towards this end, a study will be undertaken to identify the deliverables, timelines and milestones for the development of the second wave flagship applications. The study will also look into the constraints identified in current flagship processes and make recommendations for improvements. The second wave flagship applications will also address issues such as cross-flagships integration to improve first wave flagship applications pilot projects prior to roll-out. The development of the second wave flagship applications will be a continuing exercise, taking into account the latest changes in the operating environment.

Nurturing ICT-based SMEs

13.64 The creation of a critical mass of ICT-based SMEs is important for the development of a knowledge-based economy. Towards this end, several initiatives will continue to be undertaken. These include creating Malaysian icons of success to be role models for other SMEs, assisting SMEs in marketing and gaining international marketing access as well as upgrading the MSC central incubator to spawn technopreneurship throughout the economy. Another important element in nurturing these companies will be the provision of financial resources. As SMEs do not have sufficient collateral and, therefore, face difficulties in securing financing from the traditional banking system, the Government will establish an ICT fund to provide financial support, especially to SMEs and ICT start-up companies. Specific guidelines will be drawn up, which include flexible lending

requirements to provide SMEs greater access to the fund. To facilitate greater disbursement of the fund, training courses on risk assessment will be conducted to build up the expertise of those managing the fund. At the same time, efforts will be undertaken to promote the awareness of the ICT fund.

13.65 As e-commerce offers considerable opportunities for SMEs to create value added by producing new products, adopting completely new business practices or changing the ways in which they interact in the market place, efforts will be made to encourage more SMEs to adopt e-commerce applications in their business processes. These initiatives include awareness campaigns on the benefits of e-commerce, training courses and workshops to familiarize SMEs with business applications of the Internet, and award programmes to recognize the achievement of business innovators and reward innovative business practices. The Government will continue to provide matching grants to SMEs to finance e-commerce activities such as web page development and hosting. An allocation of RM5 million will be provided for this purpose during the Eighth Plan period.

Promoting R&D on Soft Factors

13.66 The contemporary information and communication products and services such as radio, television, cellular phones, e-mail, Internet, computers and video conferencing are changing the way individuals, organizations and societies are communicating, interacting, doing business transactions and learning. Recognizing the ubiquity and the nature of emerging Information Age issues and challenges, the Government, in collaboration with the public policy and higher learning institutions, will undertake research on the soft elements of ICT development. These include monitoring and evaluating ICT impact on public, private and household sectors; Internet subscription and usage profile; emerging work culture characterized by the rise of knowledge workers and teleworking modes; measuring knowledge developments and the formation of information and knowledge-based societies through Knowledge Imperative Index (KIX) and Knowledge Economy Model (KEM) initiatives; and realigning trade, industry, product and occupational classifications to define the information sector.

IV. ALLOCATION

13.67 During the Eighth Plan period, a total of RM5.2 billion will be allocated for ICT-related programmes and projects, as shown in *Table 13-4*. Of this amount, RM1.8 billion will be for the first wave flagship applications roll-out while

TABLE 13-4

**DEVELOPMENT ALLOCATION FOR ICT-RELATED
PROGRAMMES AND PROJECTS, 2001-2005**
(RM million)

<i>Programme / Project</i>	<i>Allocation</i>	<i>%</i>
Flagship Applications	1,824.9	35.4
E-Government	434.8	
Smart Schools	401.1	
Telehealth	400.0	
Multi Purpose Card	418.1	
R&D Cluster	1.9	
Cross Flagship	169.0	
Computerization	1,641.8	31.8
Research & Development	300.0	5.8
Bridging the Digital Divide	1,098.0	21.3
Infodesa	30.2	
Internet Desa	3.0	
Universal Service Provision	119.8	
Computer Infrastructure for Rural Schools	945.0	
Local Content	10.0	0.2
Others	284.4	5.5
Total	5,159.1	100.0

RM1.6 billion will be for the computerization of several ministries and agencies to further enhance the delivery of services to the public. Another RM1 billion will be spent to reduce the digital divide between the urban and rural areas through programmes such as *Infodesa*, *Internet Desa*, Universal Service Provision and computer infrastructure for rural schools. Other programmes that will be implemented include R&D and the development of content locally.

V. CONCLUSION

13.68 Malaysia has made significant strides in increasing the information and knowledge content in all economic activities. In developing further the knowledge-based economy, Malaysia will leverage on the knowledge accumulated from the implementation of the MSC since 1996. Efforts will be intensified in the provision

of access, particularly of the rural population, to the necessary infrastructure and infostructure. This will enable all Malaysians to take advantage of advances in ICT to improve efficiency and productivity, thus contributing to the increased overall competitiveness of the economy. Additional measures will also be undertaken to enhance human resource development to provide adequate skilled and knowledge manpower to support the knowledge-based economy.

THE UNIVERSITY OF CHICAGO
LIBRARY
540 EAST 58TH STREET
CHICAGO, ILL. 60637
TEL. 773-936-5000
FAX 773-936-5000



Chapter 14

Finance



14

FINANCE

I. INTRODUCTION

14.01 The finance, banking and insurance sector entered the Seventh Plan period on a sound footing with adequate capitalization levels and good asset quality. In particular, the continuing efforts of the Government to develop the financial system and implement policies to promote a robust and resilient financial system as well as reduce the potential for financial instability ensured that the financial sector was able to remain sound and intact despite the severe consequences of the recession following the Asian crisis. Consolidation of the domestic financial institutions through recapitalization and mergers was also initiated to develop a core of strong domestic institutions.

14.02 For the Eighth Plan period, a comprehensive, efficient, resilient and competitive domestic financial system will continue to be a vital element in meeting the economic aspirations of the nation. Measures will focus on further strengthening the financial sector to meet the challenges of globalization. In particular, these measures will be undertaken with a view to creating a strong, efficient and competitive banking system that will be able to withstand future shocks, thereby minimizing the adverse implications on macroeconomic stability. The restructuring of the financial institutions through consolidation will facilitate the development of an efficient and competitive banking system to support the growth of the economy. In addition, the financial sector will be made to provide a catalytic role in providing financing options for high-growth activities, particularly in the knowledge- and technology-intensive industries. To complement the measures in the banking sector, efforts will be taken to further develop the capital market as an internationally competitive and highly efficient capital market. Emphasis will also be placed on the introduction of new financial instruments, among others, through the development of the Ringgit bond and derivatives markets to further broaden and deepen the capital market as well as avoid the problem of funding mismatch.

II. PROGRESS, 1996-2000

14.03 During the Seventh Plan period, the finance, banking and insurance sector expanded at an average rate of 7.3 per cent per annum in spite of a contraction in 1998 arising from the Asian financial crisis. In terms of contribution to the Gross Domestic Product (GDP), its share increased from 10.4 per cent in 1995 to 11.6 per cent in 2000, surpassing the agriculture sector. Employment in the sector was 508,700 or 5.5 per cent in 2000.

Banking System

Assets and Deposits

14.04 The total assets of the banking system increased at an average rate of 10 per cent per annum from RM414.4 billion as at the end of 1995 to RM661.1 billion as at the end of 2000, as shown in *Table 14-1*. The increase in assets was mainly due to the strong growth of loans and advances in 1996 and 1997. In terms of total assets and deposits, commercial banks continued to record the largest share at 77.9 per cent and 77.0 per cent, respectively.

Loans

14.05 During the Plan period, the growth of loans underwent three distinct phases, namely, rapid growth in 1996-1997, contraction in 1998-1999 and recovery in 2000. Loan growth was in excess of 20 per cent per annum since 1995, and remained high in 1996 and 1997, expanding by 28.5 per cent and 26.6 per cent, respectively. The rapid increase was underpinned by strong economic activities, which saw a buoyant property and stock market. Apart from the great demand for credit during the period, there were also supply-side factors which resulted in an increased reliance on bank financing. Firstly, while there was significant progress in the equity market, the bond market was relatively underdeveloped. Borrowers could raise only a limited amount of funds through the issuance of private debt securities (PDS). Secondly, the success of privatization meant a bigger role for the private sector and the concomitant increase in the amount of financing required by the private sector. As the capital market was underdeveloped, most of the financing was provided by the banking institutions. The policy of tiering the banking institutions based essentially on their value of capital was also a contributory factor, especially in 1995 and 1996. With increased capital,

TABLE 14-1

**TOTAL ASSETS, DEPOSITS AND LOANS OF THE
BANKING SYSTEM, 1995 AND 2000**
(RM million)

Institution	Total Assets					Total Deposits					Total Outstanding Loans ¹				
	1995	%	2000	%	Average Annual Growth Rate, 1996-2000 %	1995	%	2000	%	Average Annual Growth Rate, 1996-2000 %	1995	%	2000	%	Average Annual Growth Rate, 1996-2000 %
Commercial ² Banks	295,460	71.3	514,838	77.9	11.7	196,851	69.6	364,353	77.0	13.1	182,079	69.8	345,620	76.1	13.7
Finance Companies	91,892	22.2	109,396	16.5	3.5	69,963	24.7	83,817	17.7	3.7	64,669	24.8	87,947	19.4	6.3
Merchant Banks	27,062	6.5	36,885	5.6	6.4	16,093	5.7	24,764	5.3	9.0	14,144	5.4	20,646	4.5	7.9
Total	414,414	100.0	661,119	100.0	9.8	282,907	100.0	472,934	100.0	10.8	260,892	100.0	454,213	100.0	11.7

Notes:

¹ Including housing loans sold to Cagamas Berhad² Including Islamic Banks

many banking institutions were able to expand their lending activities. In terms of loans by sector, an increasing amount of loans during the period were channelled to the property sector as well as for consumption and the purchase of securities. *Bank Negara Malaysia* (BNM) had instituted pre-emptive remedial policy prescription as early as 1995. Interest rates were gradually raised from 1995, complemented with a tightening on the guidelines on the hire-purchase loans for passenger cars and for the purchase of residential houses, apartments and shophouses. Further measures were introduced in 1997 to contain the amount of credit for the purchase of stocks and shares as well as selective categories of property.

14.06 Despite showing signs of moderation, loans continued to grow at levels considered to be unsustainable and creating imbalances in the financial sector. With the onset of the financial crisis, emphasis was given towards addressing the excessive loan growth problem and the high exposure of banking institutions to the property and stock markets. Specific tightening measures were undertaken, namely, a stricter guideline on loans to selected categories of property and the introduction of a credit plan. The latter was drawn in consultation with the banking institutions and stipulated a clear downward path for loans for successive quarters, beginning from the fourth quarter of 1997 to the fourth quarter of 1998.

14.07 The impact of the financial crisis, however, was much worse than anticipated and affected the balance sheets of the banking institutions. As external demand declined, economic activities contracted leading to cash flow and rising non-performing loan (NPL) problems. Banks began to tighten credit and the annual growth in loans decelerated sharply in 1998 to 1.3 per cent and even contracted by 0.1 per cent in 1999. The tight policy stance was reversed in mid-1998. The Government promptly sought to address the NPL problem by creating *Pengurusan Danaharta Nasional Berhad* (Danaharta), an asset management company and recapitalized the banking institutions through *Danamodal Nasional Berhad* (Danamodal). The banking institutions responded positively to these measures and in line with the recovery of the economy, loans began to increase in February 2000. By the end of 2000, outstanding loans recorded an annual increase of 5.4 per cent.

14.08 During the Seventh Plan period, loans extended by the banking system were directed mainly to the broad property and manufacturing sectors as well as in the form of consumption credit, as shown in *Table 14-2*. Loans to the broad property sector accounted for 35.9 per cent of the total loans mainly due to higher loans extended to the construction and residential property subsectors. Lending to the manufacturing sector was the second largest, accounting for 15.1 per cent, followed by loans for consumption purposes at 13.1 per cent.

TABLE 14-2
LOANS OF THE BANKING SYSTEM BY SECTOR, 1995 AND 2000
 (RM million)

Sector	1995	%	2000 ¹	%	Average Annual Growth Rate, 1996-2000 %
Agriculture, Forestry & Fishing	5,255.1	2.0	11,967.8	2.6	17.9
Mining & Quarrying	1,184.3	0.5	1,728.4	0.4	7.9
Manufacturing	48,818.2	18.7	68,422.6	15.1	7.0
Wholesale & Retail Trade, Hotels & Restaurants	21,432.2	8.2	38,347.3	8.4	12.3
Broad Property Sector of which:	73,557.6	28.2	163,214.9	35.9	17.3
Construction	20,232.9		41,109.1		
Residential Property ²	32,752.9		74,281.8		
Transport, Storage & Communications	5,101.3	2.0	13,700.5	3.0	21.8
Finance, Insurance & Business Services	31,874.0	12.2	34,454.6	7.6	1.6
Consumption Credit	29,518.9	11.3	59,724.5	13.1	15.1
Purchase of Securities	21,737.1	8.3	33,520.5	7.4	9.0
Others	22,413.1	8.6	29,131.9	6.4	5.4
Total	260,891.8	100.0	454,213.0	100.0	11.7

Notes:

¹ Including Islamic Banks.

² Including housing loans sold to *Cogamex Berhad*.

Structural Changes in the Banking System

14.09 The broad policy direction continued to be aimed at enhancing the soundness, effectiveness and efficiency of the banking system. This was undertaken through the implementation of both prudential and institutional measures.

14.10 *Prudential Measures.* During the Seventh Plan period, a number of prudential measures were implemented. Firstly, banking institutions were required to have a strong capital base to be effective inter-bank players. In this regard, finance companies were required to increase their minimum shareholders' funds to RM100 million by 1 January 1997, RM350 million by 1 January 1998 and, subsequently, RM600 million by 1 January 1999, to remain as participants in the inter-bank market. This requirement was imposed to ensure finance companies were well-capitalized to manage their risks in inter-bank transactions. However, the increase of capital funds to RM350 million and RM600 million was deferred in view of the crisis. This requirement was subsequently replaced with the new minimum amount of capital funds requirement where each of the domestic banking groups must hold a minimum capital fund of RM2 billion, whereas foreign banks will be required to hold a minimum of RM300 million by the end of 31 December 2001.

14.11 In addition, prudential regulations were also adjusted in line with development trends in the global financial markets. A comprehensive guideline on Minimum Standards on Risk Management Practices for Derivatives was issued in July 1996 to remove the requirement for approval by BNM on an individual product basis. As part of the effort to raise the standard of internal auditing in the financial industry, the Guidelines on Minimum Audit Standards for Internal Auditors of Financial Institutions were issued in February 1997. In view of the increasing involvement of banking institutions in complex trading operations and the potential for rapid change in their risk profile, a risk-based supervisory approach was adopted in 1997. The risk-based approach focused on areas of greatest risks and involved their identification and assessment as well as ensuring of adequacy of controls over those risks.

14.12 Since the onset of the financial crisis in July 1997, existing regulations were tightened to further strengthen the banking system in terms of sound banking practices, stronger prudential regulations and supervision, and greater transparency. The measures were designed to induce banking institutions to maintain a larger amount of reserves to support any further deterioration in loan portfolio. Beginning 1 January 1998, the default period for classifying a loan as non-performing was reduced from six to three months to be consistent with international standards. However, this reclassification together with the high interest rates resulted in the inability of many companies to service their loans, thus causing further pressure on their operations. The minimum level of general provisions was also raised from 1.0 to 1.5 per cent of total loans, net of specific provisions and interest-in-suspense. Given the adverse effect of this reclassification on the lending activities of banking institutions, the classification period was

subsequently lengthened to six months in September 1998. Nevertheless, other prudential aspects were retained including the classification of loans as non-performing when the account was overdue for at least 12 months as well as the requirement of the claw back of interest to day one of default. In addition, the classification period was only a minimum requirement and did not preclude any institution to adopt a more stringent classification requirement.

14.13 In order to promote a risk-based supervisory approach, the level of transparency in the annual financial statements of banking institutions was further increased to provide improved information to depositors and investors, enabling them to assess the financial soundness of the banking institutions. The additional disclosure requirements included the directors' report on business strategy and outlook, sectoral concentration of loans, amount of NPLs and changes to specific and general provisions, capital adequacy ratios and bank rating by external agencies.

14.14 Since July 1997, intensive monitoring and assessment of the health of the banking institutions was conducted. Stress tests were carried out on a monthly basis to gauge the sensitivity of a bank's solvency position to a deterioration in its loan portfolio. Banking institutions were required to take corrective actions well before they reached the point where additional capital was required. These actions included the requirement to build up provisions and exercise restraints on dividend payments. Banking institutions were also required to submit plans to raise additional capital within a specified period should there be a risk of the institution not being able to comply with the minimum capital adequacy ratio.

14.15 *Institutional Measures.* To complement the prudential measures, institutional measures were also implemented in order to address the structural weaknesses in the banking system, strengthen the banking institutions and promote greater efficiency and innovation. The strategy of developing a core of strong domestic banking institutions was implemented to ensure that the increasingly complex and sophisticated demands of the growing and changing domestic economy could satisfactorily be met by the domestic banking industry.

14.16 With the advent of the Asian crisis, comprehensive reform and restructuring of the banking sector was also undertaken to address weaknesses in the sector. As a pre-emptive measure to improve the resilience of the finance companies, a merger process was initiated by BNM in 1997. All finance companies were required to merge with the identified anchor companies or absorbed into commercial banks of which they were subsidiaries or form strategic alliances. To ensure the financial position of the acquiring anchor institution was not weakened, the

Government extended a one-year guarantee to the acquiring anchor institution to provide for any further reduction in the value of the acquired assets, to be determined after a due diligence review. In 1999, the number of finance companies were reduced from 39 to 22.

14.17 With the deepening of the economic crisis and further deterioration in asset quality, active assistance was required both to assist corporate borrowers and the banking institutions. A three-pronged strategy was thus initiated with the establishment of Danaharta and Danamodal as well as the setting up of the Corporate Debt Restructuring Committee (CDRC).

14.18 Deterioration in the asset quality of banking institutions adversely affected the efficiency of the intermediary role of the banking institutions. Specifically, the rising NPLs caused banking institutions to be overly cautious in their lending activities, resulting in viable projects being denied financing. If left unchecked, this development would have destabilizing implications on the overall economy. Therefore, to address the issue of rising NPLs and to ensure the continued efficiency and effectiveness of the intermediation process, the Government established the asset management company, Danaharta, in June 1998. Danaharta aimed at purchasing NPLs from financial institutions and manage these NPLs in order to maximize their recovery values.

14.19 As the sale of NPLs to Danaharta was undertaken at fair market value, banking institutions would usually incur losses. Recognizing the constraint in the ability of shareholders of banking institutions to raise capital on their own under the adverse financial environment, the Government set up Danamodal to inject capital into viable but under-capitalized institutions in order to restore the capitalization of these banking institutions to healthy levels. Danamodal coordinated its activities with Danaharta as well as with the banking institutions in strengthening their capital, liquidity and profitability positions. As a pre-requisite to receiving capital injection, banking institutions seeking recapitalization from Danamodal were required to make a firm commitment to sell their NPLs to Danaharta so that their NPL ratios fall below 10 per cent.

14.20 Since the health of the corporate and banking sectors was interlinked, the restructuring of the corporate debts was crucial to preserve the soundness of the banking sector. In this respect, CDRC was set up to complement the role of Danaharta and Danamodal and served as a platform for both the borrowers and creditors to work out feasible debt restructuring schemes without having to resort to legal proceedings. The restructuring of the corporate sector debts would

expedite the recovery of the corporate sector and in turn strengthen the health of the banking institutions.

14.21 By the end of December 2000, Danaharta had acquired and managed loans amounting to RM47.5 billion from the financial system. NPLs from the banking system managed by Danaharta amounted to RM37.5 billion or 44 per cent of the total NPLs in the banking system. To finance the acquisition of these loans, Danaharta issued RM11.1 billion in face value of Government-guaranteed loans and paid RM800 million in cash. This amount was lower than the financing requirement of RM15 billion estimated under the National Economic Recovery Plan (NERP). Significant progress was also made by Danaharta in managing and disposing some of the assets acquired from the financial institutions. Up to the end of December 2000, Danaharta had initiated recovery action on 98 per cent of NPLs under its portfolio. Loans and assets amounting to RM35.8 billion were restructured or disposed with an average recovery rate of 66 per cent.

14.22 Since its establishment in August 1998, Danamodal injected RM7.1 billion into 10 banking institutions in the form of Exchangeable Subordinated Capital Loans. With the improvement in the economy, eight banking institutions made repayment amounting to RM3.4 billion. As at the end of December 2000, the outstanding capital injection was RM4.9 billion involving four banking institutions.

14.23 The CDRC also made considerable progress in corporate restructuring. As at the end of December 2000, CDRC received 75 applications with debt totalling RM47.2 billion, of which 42 restructuring schemes involving debts of RM27.3 billion were resolved. In addition, CDRC was also involved in the restructuring of the transportation industry involving RM7.9 billion.

14.24 In line with the need to develop a core of strong and outward-looking domestic banking institutions, a consolidation exercise aimed at reducing the existing number of domestic financial institutions into 10 banking groups was undertaken. To facilitate the merger programme, tax incentives were granted in the form of exemption from stamp duty, real property gains tax as well as tax credit on 50 per cent of the accumulated losses of banking institutions which were acquired. By the end of the Seventh Plan period, 50 of the 54 banking institutions were consolidated into 10 banking groups. Of the remaining four banking institutions, one was given extension for completion of regulatory approval while the other three were allowed to initiate merger negotiations with new partners.

Islamic Banking

14.25 Total assets of the Islamic banking sector grew rapidly by 51.7 per cent per annum from RM6.2 billion in 1995 to RM47.1 billion by the end of 2000. This constituted 6.9 per cent of the total assets in the banking system, signifying that the Islamic banking system had exceeded the 5 per cent target to be achieved by 2000. Deposits mobilized increased significantly from RM4.9 billion to RM35.9 billion over the corresponding period. The increase in deposits was mainly due to the deposits placed by the domestic non-financial private sector, comprising individuals and enterprises. Financing extended by the Islamic banking sector expanded from RM3.5 billion to RM20.9 billion, channeled mainly to the property sector.

14.26 An important milestone in the development of the Islamic banking system in Malaysia was the establishment of the second Islamic bank, *Bank Muamalat Malaysia Berhad* in October 1999, as a result of the merger between *Bank Bumiputra Malaysia Berhad* and Bank of Commerce (M) Berhad. This enhanced further accessibility to Islamic banking with the increase of Islamic banking branches to 131 as well as 2,087 Islamic counters as at the end of 2000. Recognizing the growing importance of Islamic banking and *takaful*, BNM formulated a 10-year master plan for Islamic banking and *takaful*. In line with this development, a dedicated department, the Islamic Banking and *Takaful* Department was established in BNM in October 2000 to oversee the overall implementation of the measures outlined in the master plan.

14.27 To increase the transparency of Islamic banking among banking institutions participating in *Skim Perbankan Islam* (SPI), a new format for financial statements was introduced in October 1996. This format required the SPI banking institutions to disclose the performance of the Islamic banking operations in their financial reports. In tandem with the new requirements, the policy for income recognition for the SPI banking institutions was changed from a cash basis to an accrual basis. The National *Syariah* Advisory Council for Islamic Banking and *Takaful* was established in 1997 as the sole authoritative body to advise BNM and the Islamic banking institutions including *takaful* companies, on issues pertaining to Islamic banking and *takaful* operations.

14.28 To reinforce further the Islamic banking operations of the SPI banks, the Islamic Banking Unit of each individual SPI bank was required to be upgraded into an Islamic Banking Division. The minimum requirement for the Islamic Banking Fund was also increased from RM1 million to RM20 million for the commercial banks, RM10 million for finance companies and RM6 million for

merchant banks. As an incentive to the Islamic banking institutions as well as to increase the activity in the Islamic money market, all Islamic banking institutions were allowed to accept funds on Islamic repurchase agreements of less than one month maturity from non-interbank customers beginning 10 November 1998. This was accompanied by the introduction of two Islamic deposit-taking products in December 1998, namely, the Negotiable Islamic Debt Certificate (NIDC) based on *Bai' Bithaman Ajil* and Islamic Negotiable Instruments of Deposits (INID) based on *Al-Mudharabah* to mobilize savings and provide the Islamic money market with marketable and liquid instruments.

Special Funds

14.29 As part of the Government's continuing efforts to make available financial resources at reasonable cost to promote investments in the priority sectors, a number of new funds were established and additional allocations provided to existing funds. The new funds included the Fund for Small and Medium Industries (FSMI), Rehabilitation Fund for Small and Medium Industries, *Tabung Projek Usahawan Bumiputera* (TPUB) and the Special Scheme for Low and Medium Cost Houses (SLMCH). Additional allocations were also provided for the Fund for Food (3F) and New Entrepreneurs Fund (NEF).

14.30 The FSMI was launched in 1998 with an initial allocation of RM1 billion, with the objective to promote new productive capacity and utilize existing capacity in the manufacturing, agro-based industry and services sectors. To further enhance the effectiveness of FSMI and address the problems faced by the small- and medium-scale enterprises (SMEs) affected by the economic slowdown, the Government had since May 1998 relaxed the operational guidelines of FSMI and increased its allocation to RM1.85 billion as a revolving fund. All activities of SMEs in the manufacturing, agro-based industry and services sectors, for the export or domestic markets, were eligible for loans under the scheme. The eligibility criteria of SMEs were also reviewed to include SMEs with shareholders' fund of up to RM10 million. In addition, the maximum loan amount was increased from RM2 million to RM5 million, while the minimum loan amount was reduced from RM250,000 to RM50,000. To improve accessibility, the scheme was extended to all commercial banks, *Bank Islam Malaysia Berhad*, 10 finance companies and four development finance institutions. As at the end of December 2000, the number of loans approved were 5,668 with a total value of RM4.1 billion.

14.31 In view of the full utilization of the amount allocated under the FSMI, the fund was terminated on 3 April 2000. Nevertheless, recognizing the large

demands for financing by the SMEs as well as the importance of the SMEs in the economy, the Government launched the Fund for Small and Medium Industries 2 (FSMI 2) with an allocation of RM200 million on 15 April 2000. The objective of the Fund was to provide financing to SMEs in the manufacturing and services sectors to assist them in penetrating the export market or providing linkages to export-oriented companies. As at the end of December 2000, a total of 192 loans valued at RM99.3 million was approved.

14.32 To complement the FSMI, the RM750 million Rehabilitation Fund for Small and Medium Industries (RFSMI) was launched on 23 November 1998. The Fund focused on SMEs that were viable but experienced difficulties in obtaining credit due to existing NPLs. Under this scheme, the SMEs were allowed to utilize 30 per cent of the approved sum to restructure their problematic loans. SMEs with shareholders' fund not exceeding RM10 million were eligible to apply for loans at an interest rate of 5.0 per cent repayable over seven years. The minimum amount of the loan was RM50,000 and the maximum RM5 million. However, the RFSMI was reduced to RM500 million in 1999 due to the slow uptake of loans. At the end of December 2000, the number of loans approved were 272 with a value of RM288 million.

14.33 *Tabung Projek Usahawan Bumiputera* (TPUB) was established with an allocation of RM300 million on 11 February 2000, to assist small- and medium-scale Bumiputera entrepreneurs and wholly-owned Bumiputera companies that had difficulties in obtaining financing to undertake new projects or to continue with existing viable projects in the construction, manufacturing and services sectors. By the end of December 2000, a total of 140 loans amounting to RM66.5 million was approved.

14.34 As part of the efforts to ensure the availability of affordable houses to meet the needs of the low- and medium-income groups, the Government established the SLMCH with an initial allocation of RM2 billion on 1 May 1998. However, due to low utilization rate, the allocation was reduced to RM1 billion in 1999 and, subsequently, terminated effective from 4 August 1999. The revolving credit scheme provided bridging finance facility to developers at a maximum lending rate of 6.5 per cent per annum for a maximum period of three years. Participating financial institutions under the scheme included commercial banks, finance companies, merchant banks and *Bank Islam Malaysia Berhad*. To speed up the approval process, developers were allowed to submit their applications for financing directly to any participating institution, replacing the previous arrangement, whereby endorsement from *Syarikat Perumahan Negara* was required. By the end of December 2000, a total of 106 loans valued at RM793.5 million was approved.

14.35 The 3F scheme, which was established in 1993 with an initial allocation of RM300 million, was increased by RM400 million in 1997 and another RM300 million in 1999. The additional allocation of RM300 million was managed by *Bank Pertanian Malaysia*. This scheme aimed at boosting domestic food production and reducing the food import bill, thereby assisting in controlling inflation. It provided soft loans for investments to increase the production of primary and processed food products as well as improve their distribution. In 1998, the minimum loan under this scheme was reduced from RM50,000 to RM10,000 per borrower while its scope was extended to include other agricultural activities such as commercial cultivation of *padi* and roselle as well as breeding of prawns. The maximum lending rate remained at 4.0 per cent per annum. A total of 2,487 loans was approved under the scheme amounting to RM661.6 million as at the end of December 2000.

14.36 The NEF was increased to RM1.25 billion through an additional allocation of RM500 million in 1998. The aim of the scheme was primarily to stimulate the growth of Bumiputera SMEs in new business ventures. The scheme focused on Bumiputera SMEs with shareholders' fund of not more than RM10 million. A total of RM1.3 billion was approved for 2,876 loans as at the end of December 2000.

Development Finance Institutions (DFIs)

14.37 DFIs continued to complement other major financial institutions in providing financing to priority sectors. They specialized in medium- and long-term capital financing as well as a range of financial services not normally provided by licensed financial institutions. Lending by these institutions increased by an average rate of 21 per cent per annum from RM5.1 billion in 1995 to RM13.2 billion in 2000. As at the end of 2000, loans extended to the manufacturing sector accounted for 25.1 per cent while the transport/storage and construction sectors accounted for 22.3 per cent and 8.5 per cent, respectively.

14.38 As part of the efforts to promote trade, the Export-Import Bank of Malaysia Berhad (EXIM Bank) facilitated the export of goods and services through the provision of export credit, financing of capital investment as well as advisory services. The main focus of EXIM Bank was in the promotion of exports of capital goods and exports to non-traditional markets.

14.39 *Bank Pembangunan Malaysia Berhad* was converted into *Bank Pembangunan dan Infrastruktur Malaysia Berhad* (BPIMB) to facilitate the financing of infrastructure projects which were not implemented due to difficulties in obtaining loans from the banking institutions. This was aimed at reviving the construction sector and other construction-related activities which were adversely affected by the economic slowdown. In addition, the BPIMB loans provided a new way of financing Government projects through the deferred payments system. To strengthen the capital base of BPIMB, its paid-up capital was increased from RM105.5 million to RM1 billion.

14.40 Recognizing the importance of venture capital as a source of financing to encourage the development of high-technology industries, a fund of RM200 million was established to finance high-tech projects. In this regard, *Bank Industri Malaysia Berhad* (BIMB) was restructured to become *Bank Industri dan Teknologi Malaysia Berhad* (BITMB) to manage the new fund. To further enhance the operations of BITMB, its capital base was increased from RM320.5 million to RM670.5 million.

Other Financial Institutions

14.41 Deposits mobilized by *Bank Simpanan Nasional* (BSN) increased from RM5.2 billion in 1995 to RM10.7 billion in 2000, while total resources increased to RM11.4 billion. The bulk of the investments were in Government securities which accounted for 29 per cent of total investments. Lending operations also expanded with total outstanding loans increasing from RM1 billion in 1995 to RM2.2 billion as at the end of 2000. Loans were mainly extended to individuals, accounting for 88 per cent of outstanding loans for purchase of houses and hire-purchase financing.

14.42 Following the financial crisis, BSN undertook measures to rationalize its operations. Under the banking sector merger programme, BSN's associate and subsidiary companies, namely, BSN Commercial Malaysia Berhad, BSN Merchant Bank and BSN Finance were merged with one of the anchor banks. As a result of this review, BSN focused on its core business of retail banking with an emphasis on personal finance, catering for the total financial requirements of individuals and households.

14.43 The *Employees Provident Fund* (EPF) continued to be the largest among the provident and pension funds in the country with resources constituting about

85 per cent of all such funds. Total resources increased from RM98.8 billion held in trust for the benefit of 7.8 million members in 1995 to RM167.1 billion for 9.5 million members by the end of 1999. During the Seventh Plan period, EPF played an active role in the country's development by providing resources for the financial requirements of both the public and private sectors. Total investments of the EPF increased from RM96.6 billion in 1995 to RM181.5 billion in June 2000.

14.44 As part of the strategy to diversify its portfolio of investments, the Employees Provident Fund Act 1991 was amended with effect from 1 November 1996, mainly to allow its members to invest in approved fund management institutions of up to 20 per cent of the amount in excess of RM50,000 in their retirement account. Since the introduction of the Member's Savings Investment Scheme, withdrawals for investments in approved fund management institutions in 2000 amounted to RM1.5 billion, accounting for 14.6 per cent of total withdrawals. To support the EPF's efforts to promote its annuity scheme, the 2000 Budget provided an income tax relief up to RM1,000 on premiums for annuities purchased under the EPF scheme.

Capital Market

Funds Raised and Secondary Market Activity

14.45 Although the banking system remained as the main source of financing in the economy, the share of new financing from the capital market increased in 1998 and 1999 due to the slowdown in the demand for loans and greater caution on the part of the banks in their lending activities. The ratio of net funds raised in the capital market to loans extended by the banking system reached 3.2 in 1998, indicating that new financing from the capital market was three times the amount of new financing from the banking system. The ratio was even higher in 1999 as net funds raised in the capital market amounted to RM17.2 billion while total loans declined by RM200 million.

14.46 Net funds raised by the *public sector* amounted to RM29.7 billion during the Seventh Plan period. A notable development in the domestic bond market was the implementation of the *Khazanah* bond issuance programme to build the benchmark yield curve. The bonds were interest-free and based on the concepts of *murabahah* and *bai' al-dayn*, issued on a quarterly basis and for an amount of not less than RM500 million per issue. The first issue of RM1 billion nominal value and three-year maturity was in September 1997.

14.47 The *private sector* raised a total of RM121 billion net funds from the capital market. In terms of composition, the equity market mobilized a sum of RM48.2 billion or 39.8 per cent of total net funds, while the balance was raised from the PDS market. Raising of funds from the equity market was substantially contained by the regional financial crisis which reflected the heightened risk aversion of investors and the bearish investor confidence that prevailed throughout most of the crisis period. As a result of this, certain new issues were under-subscribed and posted a discount to their offer prices during the height of the crisis. Trading amounted to 58.3 billion units in 1998 compared with 72.8 billion units in 1997, as shown in *Table 14-3*. The value of market turnover fell by 72.2 per cent from RM408.6 billion in 1997 to RM113.7 billion in 1998.

Development of the Capital Market

14.48 The Securities Commission (SC) also introduced several measures as part of the on-going exercise to ensure the growth and orderly development of the capital market. These measures continued to focus on enhancing protection for investors, ensuring systemic stability, promoting innovation and competition as well as providing a fair and orderly environment for the trading of securities. The Securities Industry Act 1983 (SIA) was reviewed and amended in April 1998 to deter market manipulation and insider practices. The provisions on insider trading were amended to broaden its definition and new provisions were included to enable action to be taken against such market manipulation. To further enhance transparency, the amended SIA required chief executive officers or directors of public companies to disclose their interests in any listed corporation and its associates. In addition, the SC strengthened the rules on related-party and interested party transactions to protect investors.

14.49 To further enhance the efficiency of the derivatives market, the Malaysian Derivatives Clearing House was merged with the Malaysian Futures Clearing Corporation in 1997. With the merger, a common clearing house was created to facilitate more effective risk management. The derivatives industry was further consolidated with the merger of the Kuala Lumpur Commodities Exchange and the Malaysian Monetary Exchange in 1998 under the new entity of the Commodity and Monetary Exchange of Malaysia.

14.50 As part of the measures to curb excessive speculation in the stock market, the Kuala Lumpur Stock Exchange (KLSE) suspended regulated short-selling as well as the lending and borrowing of securities in the domestic stock

TABLE 14-3

**KEY INDICATORS OF
KUALA LUMPUR STOCK EXCHANGE, 1995-2000**

<i>Indicator</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>
Price Indices						
Composite	995	1,238	594	586	812	680
Emas	279	348	151	149	206	160
Second Board	299	576	163	158	181	133
Industrial	1,823	2,359	1,108	1,044	1,389	1,217
Finance	7,562	10,285	3,273	3,660	6,447	5,071
Property	2,104	2,539	761	781	1,027	633
Plantation	2,447	2,864	1,837	1,830	1,677	1,362
Mining	386	588	173	246	235	193
Price Earning Ratio	24.5	28.6	10.3	-130.6	-32.4	21.3
Market Capitalization (RM billion)	564.8	806.8	375.8	374.5	552.7	444.4
Number of listed companies	529	621	708	736	757	795
Turnover (cumulative)						
Volume (billion units)	34.0	66.5	72.8	58.3	85.2	75.4
Value (RM billion)	178.9	463.2	408.6	115.2	185.3	244.1

Note: Figures shown are as at the end of the period except for turnover which is cumulative

market. Listed companies were allowed to buy back their shares following an amendment of the Companies Act 1965. Investors were given protection by an increase in the Compensation Fund to RM314.1 million that could be used against claims relating to defaults, fraudulent acts or insolvency of stockbroking companies. In addition, the Securities Clearing Automated Network Services (SCANS) set up a Standby Facility of RM500 million to reduce the possibility of systemic risk in the stock market arising from the failure of any stockbroking company in meeting its trading obligations. The objective of the Standby Facility was to ensure the integral strength of the system, thereby protecting the overall interest of investors.

14.51 In response to the financial crisis and its effects on the domestic capital market, measures were implemented in early September 1998 to strengthen and further enhance transparency in the equities market. Relevant securities laws were reviewed and amended to enhance the enforcement powers of the SC. In addition, measures were taken to eliminate nominee trading and ensure that all trading of Malaysian shares were transacted through the KLSE. The aim was to promote KLSE as the premier market for Malaysian securities and return offshore trading of KLSE-listed Malaysian equities to the local bourse. Subsequently, the Central Limit Order Book International Market (CLOB) stopped trading on equities of Malaysian companies with effect from 15 September 1998. However, measures were taken to facilitate the trading of these shares in the KLSE under a comprehensive solution arrangement agreed by KLSE and Singapore Exchange Limited (SGX). A total of 160,313 investors, representing 93 per cent of CLOB investors, accepted the agreement for staggered release of their shares on the KLSE bourse.

14.52 The SC and KLSE reviewed their rules and regulations as well as strengthened their supervisory and enforcement capabilities to ensure fair and orderly trading. Measures were taken particularly to further strengthen the capacity in monitoring the financial position of brokers. The SC, among others, widened the scope of its investigative capabilities and strengthened its financial reporting surveillance and enforcement functions.

14.53 Measures were also introduced by the SC to reduce the risk exposure of stockbrokers. In December 1998, the SC approved the Capital Adequacy Requirement (CAR) framework that sought to enable both the KLSE and stockbroking companies to identify more clearly the capital available to cover risks of running a securities business from the actual level of risk faced by the business at any given point in time. This framework came into effect in 1999 and was part of the measures being taken to enhance the prudential regulation of the stockbroking industry.

14.54 As part of the efforts to strengthen the domestic capital market, SC announced the policy framework for the consolidation of 62 stockbroking companies (SBCs) into a core of well-capitalized Universal Brokers able to offer a full range of capital market services. This was a follow-up to the earlier initiatives to encourage mergers and SBCs were allowed to find their own merger partners and to determine their own valuation. In addition to tax incentives provided to encourage mergers, Universal Brokers will be allowed to operate an additional branch for every stockbroking licence surrendered, subject to the approval of the SC.

14.55 In the *PDS market*, net funds raised amounted to RM55.9 billion, the bulk of which was raised by the finance, insurance and business services, and manufacturing sectors. The PDS issued was partly attributable to corporate debt restructuring. There was also a demand for PDS by investors as the yields of the bonds were higher than the prevailing interest rates. The funds were raised mainly through bonds with warrants, *Cagamas* bonds as well as Islamic and conventional bonds. To promote greater market efficiency and expedite the approval process of issuance of PDS, the Malaysian Rating Corporation Berhad (MARC) was established as the second rating agency in 1996 to complement the functions of the Rating Agency of Malaysia (RAM).

14.56 As part of the efforts to develop the secondary market for bonds, the Bond Information and Dissemination System (BIDS) was launched in October 1997, with the aim of providing comprehensive market information on domestic debt securities to market participants. The system facilitated the efficient pricing of new issues, improved liquidity and widened the market. In its first phase, BIDS provided information on both primary and secondary market activities, including information on all outstanding PDS, Malaysian Government Securities (MGS), Treasury bills, *Bank Negara* bills and *Cagamas* bonds.

14.57 Recognizing the need to further develop the bond market as a competitive source of financing and reduce the reliance on the banking system, the National Bond Market Committee was established to provide the policy direction and to rationalize the regulatory framework as well as recommend appropriate implementation strategies. Towards this end, three working groups were established, namely, the Legal and Regulatory Reform Committee, the Product and Institutional Development Committee and the Infrastructure and Operations Working Group.

14.58 SC became the single regulatory authority for the supervision and regulation of the corporate bond market with effect from 1 July 2000. SC introduced several new guidelines and regulations to expedite approval and encourage the issuance of PDS. Among others, these guidelines included greater transparency and flexibility on the issuance of PDS as provided under the shelf registration scheme, allowing repo transactions in PDS as well as introducing restrictions on the utilization of PDS proceeds for the development of certain properties.

Unit Trust Funds

14.59 The number of unit trust funds that were launched increased from 67 in 1995 to 127 in 2000, as shown in *Table 14-4*. The net asset value of funds under management by unit trust management companies was RM43.3 billion or 9.7 per cent of KLSE's market capitalization by the end of 2000. The number of investors also increased from 6.8 million to 9.6 million unit holders over the corresponding period. The growth of the unit trust industry was given a boost with the launch of the RM3 billion *Amanah Saham Wawasan 2020*, a unit trust fund open to all Malaysians between the ages of 12 and 29.

14.60 During the Seventh Plan period, efforts were undertaken to provide a regulatory environment that would protect the interests of the investing public and facilitate the rapid and orderly development of the unit trust industry. In this regard, the SC became the central regulatory authority of the unit trust and property trust industries. Its responsibilities included the approval of unit trust schemes, registration of prospectus and trust deeds as well as approval for the appointments of directors, members of the investment committee and chief executive officers of unit trust management companies. In addition, the Guidelines on Unit Trust Funds was revised in 1997, aimed at liberalizing authorized unit trust investments as well as upgrading skills and professionalism. These Guidelines also required the appointment of internal auditors and compliance officers to enhance disclosure and promote self-regulation. The revision removed the size limit of 500 million units and allowed fund managers to invest in financial instruments such as futures contracts for the purpose of hedging and other collective investment schemes. The Guidelines on Marketing and Distribution of Unit Trusts was promulgated to enhance the skills and professionalism of the unit trust agents and sales persons. To promote accountability and responsibility, personnel involved in the marketing and distribution of unit trust products must register with the Federation of Malaysian Unit Trust Managers (FMUTM) and comply with the Code of Ethics and Standards of Professionalism.

14.61 Recognizing the strategic role of the fund management industry in the development of Wilayah Persekutuan Kuala Lumpur as a financial centre, the SC initiated a multi-pronged approach for its development. These measures included the streamlining of its regulatory framework, deregulation of certain restrictions and development of other forms of collective investment schemes. In this regard, the SC issued the Guidelines for the Establishment of Foreign Fund Management Companies to maximize the opportunities brought about by liberalization, increased customer sophistication, growth of institutional funds

TABLE 14-4

SELECTED INDICATORS OF UNIT TRUST FUNDS, 1995-2000

Indicator	1995	1996	1997	1998	1999	2000
Units in Circulation (billion)	31.9	39.0	45.3	46.5	52.6	63.8
Number of Management Companies	27	30	31	32	34	34
Number of Approved Funds	67	77	84	95	107	127
Total Approved Fund Size (RM billion)	37.4	47.1	55.7	61.9	74.4	90.4
Number of Unit Holders (million)	6.8	7.9	8.3	8.6	8.9	9.6
Total Net Assets Value (NAV) of Funds (RM billion)	44.1	60.0	33.6	38.7	43.3	43.3
% of NAV to KLSE's Market Capitalization	7.8	7.4	8.9	10.3	7.8	9.7

Source: Securities Commission.

and the presence of foreign fund managers. To further strengthen the fund management industry, the Futures Industry Act 1993 (FIA) was amended to facilitate the participation of fund managers and unit trust management companies in futures trading with the aim of hedging their investment portfolio.

Venture Capital Financing

14.62 The number of venture capital companies (VCCs) increased from 20 in 1995 to 30 in 1999, as recorded in the annual surveys on VCCs conducted by BNM. During the period 1996-1999, the VCCs invested a total of RM726 million of which 70.8 per cent was in the manufacturing sector. In terms of type of investment, RM193.2 million or 26.6 per cent was channelled to acquisition or buy-out financing, RM100.8 million or 13.9 per cent for second stage financing and RM124.2 million or 17.1 per cent for bridging financing. The VCCs remained reluctant to provide seed capital financing due mainly to its risk-adverse attitude towards investments. Similarly, financing for start-ups was substantially reduced from a high level of RM81.1 million in 1997 to RM7.3 million in 1999.

14.63 In view of the need for technology-based companies to seek competitive forms of financing to enhance their operations, the Malaysian Exchange of Securities Dealing and Automated Quotation (MESDAQ) was launched in 1997. MESDAQ provided an avenue for the high-growth and technology companies access to public funds as well as provided venture capitalization with an early exit route. Since commencement of trading in April 1999, three technology-based companies related to pharmaceuticals, information and communications technology (ICT) and multimedia were listed. By the end of 2000, MESDAQ had registered 15 stockbroking companies as members. In an effort to market MESDAQ, various promotional programmes were organized for potential issuers, the investment community, the media and the general public.

14.64 A number of venture capital funds were also established to further enhance the SMEs access to financing. In this regard, the RM120 million MSC Venture One was established in June 1999, to provide venture capital financing to innovative and emerging ICT and multimedia companies at the various stages of start-up, growth and pre-Initial Public Offer (IPO). As part of the strategy to encourage the development of new high-technology industries, three other venture capital funds with a total amount of RM500 million was established. These included the RM200 million fund to finance high-technology projects channelled through *Bank Industri dan Teknologi Malaysia Berhad* and two funds of RM150 million each established at the commercial banks. In addition, to promote the development of the venture capital industry as an alternative source of financing, tax incentives were granted to VCCs in the form of full tax exemption on all sources of income received during the life span of the VCCs or for a period of 10 years, whichever was earlier.

Insurance

14.65 Total assets of the insurance industry increased at an average rate of 14.6 per cent from RM25.5 billion in 1995 to RM50.3 billion in 2000, despite the dampening effects of the 1997 financial crisis. Such assets accounted for 4.0 per cent of the total assets of the financial system. The insurance industry continued to provide an important source of funds for capital development in the country. Investment in corporate debt securities grew at an average rate of 31.2 per cent per annum and accounted for 40.9 per cent of insurance funds as at the end of 2000. On the other hand, investment in Government papers and loans guaranteed by the Government remained unchanged and accounted for 13.7 per cent of the assets of the insurance funds. Cash and deposits grew by 10.3 per cent per annum to RM10.5 billion or 21.2 per cent of total assets in 2000.

14.66 During the period 1996-2000, the combined premium income of the life and general insurance increased at an average rate of 11.5 per cent per annum from RM8 billion in 1995 to RM13.8 billion in 2000. Premium income of the industry as a percentage of nominal Gross National Product (GNP), increased to 4.6 per cent in 2000 compared with 3.7 per cent in 1995. Total benefits and net claims paid out by the industry increased by 19 per cent per annum to RM5.5 billion in 2000, representing 39.9 per cent of premium income.

14.67 Total assets of life insurance funds increased by 108 per cent, or at an average annual rate of 15.8 per cent from RM17.6 billion in 1995 to RM36.6 billion in 2000. Despite a setback due to the economic crisis in 1997, total premium income of the life sector recorded a 95.6 per cent increase to reach RM8.8 billion in 2000, from RM4.5 billion in 1995. Accordingly, the ratio of premium income to nominal GNP increased from 2.1 per cent in 1995 to 2.9 per cent in 2000. During the same period, total sums insured in force increased by 68.3 per cent to RM414.4 billion in 2000 from RM246.2 billion in 1995, recording an average annual growth of 11 per cent. The ratio of sums insured in force to nominal GNP increased to 138.4 per cent in 2000 from 116.1 per cent in 1995.

14.68 Total assets of general insurance funds increased by 73.4 per cent or at an average annual rate of 11.6 per cent from RM7.9 billion in 1995 to RM13.7 billion in 2000. Total premium income of the general insurance industry recorded an average annual growth of 7.4 per cent per annum, increasing from RM3.5 billion to RM5.0 billion in 2000. The ratio of premium income of the general insurance industry to nominal GNP remained unchanged at 1.7 per cent in 2000 compared with 1995.

14.69 A major development in insurance regulation and supervision during the Seventh Plan period was the introduction of the Insurance Act 1996 and its accompanying regulations on 1 January 1997. This Act, which replaced the Insurance Act 1963, serves to promote better accountability on the part of insurers, insurance brokers and adjusters, strengthen their financial standards, ensure that their operations are conducted in a sound manner and accord greater protection to policy owners.

14.70 With the introduction of the Insurance Act 1996, various policies were implemented during the Seventh Plan period, aimed at consolidating the insurance industry, strengthening public confidence in the industry, improving its competitiveness, and enhancing its role in the development of the economy. Towards this end, measures were undertaken to build up the financial strength

of insurers through the imposition of higher minimum paid-up capital requirements for insurers. The capital requirements were implemented in phases to reach RM100 million by 30 June 2001. The minimum solvency requirement for insurers was also progressively increased from RM5 million in 1995 to RM50 million on 1 January 2001. Arising from the introduction of the new capital and solvency requirements, the aggregate paid-up capital of Malaysian incorporated insurers increased from RM1.5 billion in 1995 to RM4.2 billion in 2000. The pace of strengthening the financial position of insurers would have been faster had it not been for the economic downturn, which necessitated a temporary relaxation of the capital and solvency requirements during the years 1998 to 2000.

14.71 Another measure taken to create stronger insurers was by consolidating the insurance industry through mergers and acquisitions (M&As). During the Seventh Plan period, the Government continued to pursue this initiative by various means, including offering a package of incentives to encourage M&As among insurers, such as according flexibility to insurers in the areas of investment and compliance with operating cost control guidelines as well as granting of *takaful* licences and tax incentives. As at the end of December 2000, five M&As involving 10 insurers were completed, with another nine proposals involving 17 insurers at various stages of implementation.

14.72 Efforts were also directed at improving the general conduct of insurance business and strengthening public confidence in the insurance industry through better corporate governance, adoption of best practices, implementation of various guidelines as well as improvement of skills and expertise in underwriting, claims settlement and risk management. On a sectoral basis, steps were taken to improve the competitiveness of life insurers and accelerate their growth. This took the form of new product development in line with the changing needs of the consumers, enhancing technical expertise in product design as well as in the underwriting of life insurance coverage. To enhance the operational efficiency of life insurers and reduce premium costs to policy holders, guidelines to control operating costs of the insurers were implemented. At the same time, qualitative guidelines were introduced specifying the minimum educational, training and productivity levels to improve professionalism in the insurance industry. These measures increased the market penetration rate from 24.1 per cent in 1995 to 30.9 per cent in 2000.

14.73 In the general insurance sector, various initiatives were taken for the improvement of insurance services, particularly in respect of handling of insurance claims as well as in ensuring fair pricing of insurance products. The Government, in cooperation with the insurance industry, also embarked upon the task of

identifying and ensuring the availability of insurance coverage and services for the agriculture sector. The positive response of insurers to the Government's call and other measures taken to optimize the retention of premium within the country also resulted in the net retention ratio improving from 74.4 per cent in 1995 to 89.6 per cent in 2000. These measures included increasing the number of professional reinsurers from five in 1995 to 10 in 2000, implementation of the Scheme for Insurance of Large and Specialized Risks, provision of tax incentives on reinsurance ceded to insurers in the Labuan International Offshore Financial Centre (IOFC), and the enhancement of retention through improvements in skills and expertise in underwriting specialized risks. In addition, under the Guidelines on General Reinsurance Arrangements issued in April 2000, reinsurance premiums placed overseas is subject to a maximum limit of not more than 50 per cent of total reinsurance premiums.

14.74 The *takaful* industry, comprising two operators, namely, *Syarikat Takaful Malaysia Berhad* (STMB) and *Takaful Nasional Sdn. Berhad* (TNSB), recorded significant growth during the Seventh Plan period with the main business indicators recording strong double-digit growth. Total assets of *takaful* funds grew rapidly by 45.6 per cent per annum from RM183.3 million in 1995 to RM1.2 billion as at the end of financial year 2000. Assets of the family *takaful* funds accounted for 75 per cent of the total fund assets, while general *takaful* funds accounted for the balance of 25 per cent. In terms of distribution of *takaful* fund assets, investment accounts with Islamic banks and banking institutions participating in Islamic banking schemes amounted to RM498.2 million and constituted the largest portfolio at 42.6 per cent of total assets in 2000. This was followed by investments in corporate or debt securities and Government investment issues amounting to RM302 million or 25.9 per cent and RM142.3 million or 12.2 per cent, respectively.

14.75 Total contributions from family and general *takaful* business grew significantly from RM83.4 million in 1995 to RM444.7 million in 2000, an increase of 39.8 per cent per annum. Its strong growth was attributed to increasing awareness of the public on the benefits of participating in *takaful* as well as the expansion of the distribution network with the opening of more branch offices and *takaful* desks by *takaful* operators. In addition, *takaful* operators also engaged specialized marketing personnel to promote their family *takaful* products. As at the end of 2000, there was a total of 118 branch offices and *takaful* desks throughout Malaysia.

14.76 To spur the development of the *takaful* industry, BNM formulated a five-year strategic plan for *takaful* business which included strategic initiatives to enhance the regulatory framework and supervision of *takaful* operators. The review of the *Takaful* Act 1985 was initiated in 1999 with the aim of ensuring financial accountability of *takaful* operators and according greater protection to *takaful* participants. In an effort to promote greater disclosure and uniformity in the accounting treatment of *takaful* business, accounting standards and model accounts were being formulated to ensure uniformity, greater disclosure and transparency in financial reporting. On the part of the *takaful* operators, a code of ethics (Code) was implemented as part of the continuous effort to establish a minimum standard of *takaful* practices and promoting healthy business conduct among *takaful* operators. The Code also aimed at enhancing the standard of governance among the *takaful* operators and creating a common platform for them to collaborate and promote *takaful* business in addition to promoting better understanding and cooperation between *takaful* operators and conventional insurers.

14.77 As a step towards developing the *re-takaful* market and facilitating *re-takaful* exchanges among *takaful* operators in the region, the region's first full-fledged *re-takaful* operator, ASEAN Retakaful International (L) Ltd. (ARIL), was established in May 1997 as an offshore *re-takaful* company in the Labuan IOFC. The establishment of ARIL was to create a vehicle for more dynamic *re-takaful* exchanges among *takaful* operators in the region and, at the same time, provide the additional *re-takaful* capacity to further reduce their dependence on conventional reinsurance. In the international arena, Malaysia is a member of the Developing Eight Group (D-8), an arrangement for development cooperation among eight developing countries, namely, Bangladesh, Egypt, Indonesia, Iran, Malaysia, Nigeria, Pakistan and Turkey, where *takaful* was endorsed as a D-8 project to be spearheaded by Malaysia. To this effect, Malaysia was entrusted with the task to educate and market the concept and application of *takaful* among the members of the Organization of Islamic Countries (OIC), and ultimately to assist in the establishment of *takaful* companies worldwide. Following a two-day workshop on *re-takaful* organized by Malaysia, among the resolutions adopted was the transformation of ARIL into a well-capitalized *re-takaful* operator for D-8 member countries which involved the enhancement of ARIL's paid-up capital and the establishment of more *takaful* operators in D-8 member countries to support ARIL's business.

Labuan International Offshore Financial Centre (IOFC)

14.78 During the Seventh Plan period, efforts continued to be undertaken to expand and deepen the activities of offshore banking, insurance, leasing and

fund management as well as Islamic financial activities. In addition, life insurers were allowed to sell life insurance policies transacted in foreign currencies to Malaysians of high net worth, while general insurers were allowed to have limited access to the domestic market to underwrite selected Malaysian risks on a direct basis. To encourage Malaysian insurers to cede reinsurance business to insurers in Labuan, the premium on reinsurance was accorded full tax deductibility. In addition, the Labuan Interbank Offer Rate (LABOR) was launched as a benchmark rate to further promote efficiency and the volume of treasury operations in Labuan. Several measures were also implemented to develop a competitive offshore Islamic financial centre. These measures included attracting full-fledged Islamic banks to operate in Labuan and promoting Islamic funds to operate out of Labuan. Management companies with expertise in Islamic financing were allowed to provide advisory services on the development of Islamic financial instruments and products.

14.79 To further promote Labuan IOFC as a centre for Islamic banking and finance, a working group was set up to formulate the framework for developing an International Islamic Financial Market. As part of the framework, a *Syariah* Advisory Council was established as a consultative body for the setting of rules and guidelines necessary for the issuance of financial instruments as well as establishing prudential standards. To ensure that the Council had the credibility and acceptance in the global financial community, the membership comprised international representatives, scholars and practitioners. In November 2000, the first memorandum of understanding between a Malaysian company with a Labuan offshore Islamic bank was signed to issue Islamic global bonds for the market.

14.80 To boost its growth and create more business activities in the Labuan IOFC, measures were taken to provide a conducive legal and administrative environment. The Labuan Offshore Trusts Act 1996 was enacted for the creation and recognition of offshore trusts. The Labuan Offshore Limited Partnership Act 1997 provided for the establishment and regulation of offshore limited partnerships. To facilitate the development of capital market activities in Labuan, the Labuan Offshore Securities Industry Act 1998 provided the legal framework for the regulation of mutual fund activities and establishment of a financial exchange in Labuan. In addition to the new legislation, the Labuan Offshore Financial Services Authority (LOFSA) was established as a one-stop agency to streamline and rationalize the administrative machinery for the supervision of activities and operations of the offshore financial services industry.

14.81 The offshore business activities in Labuan were given a further boost with the launching of the Labuan International Financial Exchange (LFX) in November 2000. The LFX is a web-based financial exchange that provides listing and trading facilities for a wide range of financial and non-financial products such as Islamic financial products, mutual funds, bonds, derivatives and insurance-linked products. In addition, it would also promote other related offshore activities such as custodial, depository, clearing and trustee services.

14.82 During the Plan period, the number of companies incorporated under the Offshore Companies Act 1990 were more than three times that established during its first five years from 1991-1995. In 2000, there was a total of 2,309 offshore companies, as shown in *Table 14-5*.

Type	Offshore Companies	Foreign Offshore Companies	Domestic Companies	Total
Banks	9	49	2	60
Leasing	19	-	-	19
Insurance	23	16	-	39
Insurance-Related	27	2	-	29
Fund Management	7	1	-	8
Trading and Non-Trading	2,086	13	-	2,099
Trust Companies	-	-	20	20
Audit Firms	-	-	20	20
Liquidator Firms	-	-	15	15
Total	2,171	81	57	2,309

III. PROSPECTS, 2001-2005

14.83 During the Eighth Plan period, the finance, banking and insurance sector is expected to expand by 8.5 per cent per annum. Emphasis will be focused on the rationalization and strategic positioning of the sector in a rapidly changing financial landscape driven by advances in technology, globalization of financial markets and increasing reliance on knowledge for value creation. Towards this end, the Financial Sector Master Plan together with the Capital Market Master Plan will provide a comprehensive framework for the strategic development of the financial sector over a 10-year period.

14.84 The overall thrust is to create a strong, resilient and competitive financial sector that will provide the catalyst for higher growth in the economy. To instil a greater sense of public responsibility as custodian of public funds as well as to be more prudent in their operations, the financial institutions will need to practise good governance and enhance professional training, particularly in financial management for all levels of personnel. Strategies for the development of the financial sector during the Eighth Plan include:

- ☐ *creating a core of strong, well-managed and adequately capitalized banking institutions;*
- ☐ *improving the overall efficiency and competitiveness of the banking sector;*
- ☐ *developing Islamic financing as an effective avenue for the mobilization and allocation of funds;*
- ☐ *strengthening the capital market as well as developing a strong and competitive environment for capital market intermediation services;*
- ☐ *accelerating the development of the bond market to reduce the concentration of risks in the banking sector;*
- ☐ *encouraging the growth of the local venture capital industry in order to support the development of knowledge-based and high technology industries; and*
- ☐ *further strengthening the insurance industry to facilitate more effective and efficient risk transfers as well as to mobilize resources for long-term financing.*

14.85 A dynamic and competitive financial sector will provide not only an important source of resource mobilization but will also facilitate monetary policy to be conducted increasingly through market-based instruments. As monetary policy operates through the financial system, strengthening of the banking institutions and their increased efficiency will enhance the effectiveness of the monetary policy. The further deepening of the capital market will also enable BNM to move towards more open market operations, rather than rely on direct instruments such as the statutory reserve requirement (SRR) in its conduct of monetary policy.

Banking System

14.86 As part of the efforts to establish a core of strong domestic banking institutions, the minimum capital funds will be raised to RM2 billion for domestic banking groups and RM300 million for foreign-owned banking institutions. With the rapid pace of development in the financial markets, it is crucial that banking institutions are strongly capitalized to better withstand challenges from a more competitive and liberalized economic environment. The stronger capital position will enable the banking institutions to meet the increasingly sophisticated needs of customers and financing requirements of knowledge-based and high-technology industries.

14.87 To facilitate the development of a sound and efficient banking system, a review of the regulatory framework will be undertaken. A balanced approach will be adopted taking into account the stage of development of the economy and the banking sector. In this context, there will be more emphasis on market discipline and self-regulation to generate competition amongst the banking institutions. This will be complemented by regular on-site examinations by BNM to ensure that financial institutions continue to operate in a prudent manner. In addition, prudential regulations will be tightened to minimize sources of systemic risks.

14.88 Measures will also be taken to enhance surveillance and examination by the authorities to ensure the safety and soundness of the banking system. In this regard, the early warning system will be improved to provide advance warning on deteriorating financial conditions in individual institutions to enable prudential surveillance to be undertaken to avert bank failure and contain associated systemic risks. As a complement to off-site monitoring, it will prompt an early inspection and enable the authority to prioritize the utilization of their examiners in critical cases.

14.89 Recognizing the need for shared responsibility in maintaining overall banking system stability, a mechanism will be put in place to limit the Government's financial guarantee for deposits. The establishment of a deposit insurance fund to be managed by BNM will protect or guarantee deposits of banks and other savings institutions.

14.90 Efforts will also be taken to facilitate lending to the productive sectors of the economy such as the agriculture food production industry. In this regard, comprehensive databases will be set up at selected focal points to assist banking institutions in loan evaluation. At the same time, the banking institutions will have to upgrade their expertise and skills in loan evaluation, particularly of projects in new growth areas.

14.91 On the part of the banking institutions, they will need to strengthen their capabilities and be innovative to meet the challenges and competition arising from globalization and technological advances in the areas of banking services. In this regard, application of technology will be promoted, especially the use of electronic commerce in the financial sector. Banking institutions will also be encouraged to optimize their delivery channels by offering a complete range of products to their customers. A more extensive cross-selling of financial products and services within the financial group will enable institutions to optimize their network capabilities and improve the quality of services offered. In addition, merchant banks will be encouraged to further expand their business scope and enhance investment banking activities in equities and debt securities. This will enhance the effectiveness of the banking sector in providing value-added financial services and intermediation of risks.

14.92 A comprehensive plan for Islamic banking is outlined in the Financial Sector Master Plan. The future emphasis will be on quality rather than quantity, particularly for banking institutions participating in the *Skim Perbankan Islam*. Core players will be groomed while players who fail to deliver positive results will be phased out gradually. New guidelines and targets for Islamic banking will be introduced including the further development of Islamic banking units in existing banking institutions. The Islamic money market will introduce new benchmarks for the Islamic banking players. In addition, manpower development and training will be emphasized to further upgrade knowledge and professionalism in Islamic financing. In this regard, an industry-owned institute will be established to undertake research and training in Islamic banking, *takaful* and Islamic securities. Efforts will also be geared towards the development of Kuala Lumpur and Labuan as centres in promoting Islamic banking and finance activities.

Capital Market

14.93 The SC, in its continuing efforts to develop the capital market, formulated a Capital Market Master Plan to provide a strategic development framework for the capital market to meet the challenges of regional competition and increasing globalization. The overall objective is to create a capital market that is internationally competitive in all core areas as well as to provide a highly efficient conduit for the mobilization and allocation of funds. The capital market is to be supported by a strong and facilitative regulatory framework that will enable it to perform its functions effectively and will provide a high degree of confidence to capital market users.

14.94 In recognizing the need to further broaden and deepen the capital market to ensure that Malaysia remains the preferred fund-raising centre for Malaysian companies, the Capital Market Master Plan outlines a set of initiatives that includes the further development and enhancement of alternative capital raising avenues such as the corporate bond market and venture capital. A key priority for the development of the capital market is to establish a corporate bond market that provides a competitive source of financing across a wide range of tenure, maturity and risk profile. Towards this end, among others, efforts will be directed at facilitating the domestic issuance of corporate bonds by lowering associated costs; ensuring that the bond market microstructure is robust and efficient, and facilitates innovation; and promoting a greater breadth of investment in corporate bonds by investors. Measures will also be taken to ensure greater liquidity in the secondary market. In addition, the overall process of fund-raising will be made more efficient in an effort to lower the overall cost of raising capital within the capital market.

14.95 Efforts will also be taken to develop a more competitive and vibrant investment management industry, as it is central to mobilizing domestic savings more effectively. Emphasis will be focused on ensuring a significant number and diversity of industry players with greater access to a larger pool of funds available for management; developing a large pool of highly skilled professionals to foster greater innovation and competitiveness in the industry; and ensuring a more facilitative regulatory framework. In this regard, there will be further deregulation of the investment management industry to allow for the development of a larger number and diversity of industry players with greater access to funds available for management. The development of a private pension fund industry will also be facilitated, to supplement the national pensions system and provide for greater competition and diversity in the institutional management of private funds and to ensure that the capital market mobilizes and allocates funds effectively.

14.96 To promote a more conducive environment for investors, emphasis will be placed on enhancing and maintaining a strong framework for corporate governance and shareholder value recognition. Efforts will be taken to fully implement recommendations contained in the Finance Committee Report on Corporate Governance. To complement these efforts, measures will be taken to encourage institutional investors to promote corporate governance, improve avenues for minority shareholders to exercise their rights, enhance the awareness and accountability of corporates, and ensure high standards of financial reporting and continuous disclosure of timely, relevant and accurate information.

14.97 Recognizing the importance of developing internationally competitive market institutions that provide value to all its stakeholders, efforts will be taken to restructure Malaysian exchanges to strengthen their efficiency and competitiveness. This will be undertaken through the consolidation of all existing exchanges to create a single market institution that is able to compete in the global marketplace. In addition, the creation of a single Malaysian clearing house and common trading platform as well as an integrated clearance and settlement system for all exchange-traded products will be undertaken.

14.98 In developing further the capital market, the SC will focus on strengthening the regulatory framework. In this regard, the SC will progressively implement a system of market-based regulation across all segments of the capital market industry whereby, among others, front-line regulation by market intermediaries and self-regulation by industry associations will complement the regulatory role of SC. Within this context, disclosure-based regulation will also be strengthened to enhance transparency through comprehensive and timely disclosure. To ensure the effectiveness of the regulatory framework, the SC will further enhance its capacity in enforcement. In addition, to ensure regulatory parity in the treatment of all participants in the capital market conducting similar activities, efforts will be taken to implement full functional regulation. In this regard, capital market activities will be regulated according to function rather than by institution. Within such a seamless regulatory framework, gaps and overlaps in the regulation of capital market participants undertaking comparable activities will be minimized, thus reducing the scope for regulatory arbitrage.

14.99 Efforts will also focus on facilitating a more competitive environment for domestic intermediation services with the introduction of full-service Universal Brokers to provide integrated financial services. In addition, there will be further deregulation of the market to allow a more comprehensive range of services and products to be offered and a progressive deregulation of fixed fee structures, while other transaction costs will also be reduced. The SC will continue to ensure that the Malaysian intermediary services are anchored on appropriate prudential standards, with high levels of business conduct and professional skills.

14.100 In order to further develop the capital market, efforts will be taken to encourage the growth of Islamic capital markets, in particular, those in Islamic equities, private debt securities and collective investment and fund management activities. The further development of the Islamic capital market in Malaysia will add to the breadth and diversity of the overall capital market as well as provide a significant contribution to the overall growth of the financial services industry. Towards this end, a comprehensive, multi-pronged approach to enhance the competitive position of Malaysia's Islamic capital market is incorporated in the Capital Market Master Plan. Measures identified include the need to facilitate the development of a wide range of innovative and competitive products and services related to the Islamic capital market; creation of a viable market for the effective mobilization of Islamic fund; ensuring that an appropriate and comprehensive accounting, tax and regulatory framework for the Islamic capital market is in place; and enhancing the value recognition of the Malaysian Islamic capital market internationally.

14.101 Greater efforts will be undertaken to nurture a pool of highly skilled human capital and increase investor awareness. In this regard, the Capital Market Master Plan has identified training initiatives aimed at enhancing market skills and providing greater investor education. The SC's investor education programme will be further developed to enable investors to make informed investment decisions and increase investor understanding of their rights and responsibilities.

14.102 In order to develop a diverse group of active institutional investors to stimulate secondary market trading, the Government will encourage the setting up of fixed income bond funds. To further broaden the investor base, a study will be undertaken to restructure the EPF with the objective of transforming it into more efficient, manageable and focused pension funds units. Consideration will also be given to allow corporates to set up superannuation funds to capture employee contributions in excess of the mandatory EPF deductions and extending tax incentives to these retirement funds as a means to diversify the country's long-term savings pool. To increase the availability of high credit quality papers, incentives will be given to encourage the private sector to issue bonds locally.

Venture Capital Financing

14.103 Recognizing the potential of venture capital as a source of funding to nurture and develop the high-growth and technology industries, efforts will be undertaken to promote venture capital financing. Fiscal incentives will be provided

to investments in venture capital funds to finance knowledge-based and high-technology industries at start-up, seed capital and first stage financing. To facilitate access to the capital market and improve the exit mechanism for venture capitalists, several listing requirements on MESDAQ for high-growth and technology companies will be liberalized, including reducing the requirement that 70 per cent of the listing proceeds be used in Malaysia. In addition, a credit guarantee scheme will be considered as a support mechanism for the development of the high-technology industries. The aim of the scheme is to mitigate the risks of the financial institutions through the provision of a guarantee on the viability of a particular technology-based project proposal. Steps will also be taken to enhance institutional participation in venture capital funds. In addition, venture capital companies will be given exempt dealer status under the Securities Industry Act 1983, while venture capital trusts will be allowed to invest fully in unquoted companies.

14.104 To accelerate the development of the venture capital industry, a one-stop agency will be established to ensure its orderly expansion. This agency will formulate, coordinate and monitor all policies, strategies and incentives as well as supervise the development of the venture capital industry. In addition, the Government will establish a venture capital fund totalling RM500 million and consideration will be given to outsourcing the management of the fund to the private sector. The Government will take a holistic approach in developing the venture capital industry so that it can effectively contribute towards financing the requirements of a knowledge-based economy. Other initiatives which were outlined in the Financial Sector Master Plan include facilitating the establishment of Islamic venture capital funds, establishment of matching services, establishment of more business angel clubs and networks and establishment of technology appraisal centres in promoted high-technology sectors.

Insurance

14.105 The Financial Sector Master Plan, which will be implemented during the Eighth Plan period, will provide the framework for the development of the insurance industry. The overall objective of the Master Plan is to build an efficient, effective and stable financial sector that supports both the needs of the real economy and the socio-economic objectives of the country. The aim is also to build at the core of this financial system strong domestic insurers able to provide Malaysian consumers with world-class products and services, while

meeting international commitments to liberalize the sector in the medium term. This will enable the insurance industry to be financially resilient, innovative, productive and cost efficient as well as able to mobilize long-term savings, adopt international best practices and display high professional ethics and standards.

14.106 The full implementation of the Master Plan will be undertaken in three phases over a 10-year period ending in 2010. Phase I will involve building up the capabilities of domestic insurers by allowing them greater operational and management flexibility to develop and optimize on skills, scale and technology. For this purpose, deregulatory measures will be taken in areas that will encourage innovation in the market, allow insurers access to a broader product range and leverage on distribution channels as well as promote greater competition among domestic insurers. Phase II will focus on strengthening the financial resilience of insurers and enhancing consumer protection which is expected to lead to industry consolidation and the convergence of performance standards in the domestic industry towards best practice and performance benchmarks. This will also serve to establish the foundation necessary to support a greater role for market discipline to complement regulation and supervision of the insurance industry as well as to prepare the industry for the third phase, which will entail progressive liberalization of the insurance sector. Under Phase III, Malaysian consumers will be provided with greater access to world-class products and services, while the insurance industry is expected to be competitive internationally. The pace at which measures under the Master Plan will be implemented will be determined based on periodic reviews carried out to gauge the progress made by domestic insurers.

14.107 Efforts will also be continued to optimize the retention of insurance premiums within the country. In this regard, BNM will monitor closely the reinsurance programmes of individual reinsurers to ensure that they maximize local insurance capacity before reinsuring abroad. The capacity of Malaysian insurers to retain larger risks will be strengthened through the consolidation and increased capitalization of the insurance industry. In addition, the reinsurance underwriting skills and expertise will be further enhanced through technology transfer by the foreign professional reinsurers as well as the experience and knowledge gained from implementing the Scheme for Insurance of Large and Specialized Risks.

Labuan International Offshore Financial Centre (IOFC)

14.108 The IOFC in the future is not only a centre that thrives on the offshore financial services, but also one, which is developed holistically to support the development of the island, and provides an effective complementary role to the domestic financial market. Moving forward, efforts will be focused on implementing the various recommendations of the Financial Sector Master Plan which primarily stresses on a number of key areas such as promoting and diversifying further the financial players and activities in the IOFC, promoting the development of Islamic banking and *re-takaful* business as well as developing and strengthening the capital market, e-commerce and the ancillary activities.

14.109 To further develop the Labuan IOFC and in line with the Financial Sector Master Plan, legislation will be reviewed to facilitate new businesses, and at the same time allow the offshore service providers to maximize their capabilities and expertise to expand their businesses. Continual review and assessment of the tax structure will also be undertaken to ensure Labuan remains competitive and attractive. Benchmarking against the leading IOFCs around the world in various areas of businesses will be established to ensure that the IOFC will always be competitive, especially in terms of pricing and cost of doing business. Towards this ends, the Labuan Tax and Business Advisory Council, a consultative body comprising tax experts, practitioners and regulators will be formed. Similarly, the supervisory practice and legal framework in the IOFC will be continually assessed and upgraded to ensure that they are in line with the international supervisory requirements.

14.110 Another area of growth for Labuan IOFC will be Islamic banking and *takaful*. The development of the International Islamic Financial Market (IIFM), which is spearheaded by LOFSA, is expected to be a key contributor to the expansion of Islamic financing globally. The *Syariah* Advisory Council will provide input for the development of Islamic banking, finance and *takaful* in the IOFC, particularly in defining the standards and rules required in making the market function smoothly. The development of Labuan, will also benefit from the E-commerce Gateway, a portal which will be developed into a full-fledged e-commerce site to facilitate Islamic financial payments, as a marketplace for financial products and backroom operations activities, and submission of statutory documents and statistical information to LOFSA.

IV. ALLOCATION

14.111 The Federal Government development allocation and expenditure for the period 1996-2000 and allocation for the period 2001-2005 are as shown in Table 14-6. The development finance institutions (DFIs) will continue to provide funding for projects in priority areas. In this regard, the capital base of the DFIs will be further strengthened through an increase in Government's equity participation amounting to RM1.9 billion. In addition, an allocation of RM566.6 million will be made available for the development of SMEs through the provision of credit and financial services.

TABLE 14-6
DEVELOPMENT ALLOCATION FOR FINANCE, 1996-2005
(RM million)

<i>Programme</i>	<i>7MP</i>		<i>8MP</i>
	<i>Allocation</i>	<i>Expenditure</i>	<i>Allocation</i>
Venture Capital	220.0	220.0	778.0
Industrial Promotion	11.5	11.5	10.0
Small & Medium Enterprise Loans	560.0	527.4	566.6
Other Financial Services	100.6	67.0	44.2
Government Equity	4,000.1	4,000.1	1,880.6
Total	4,892.2	4,826.0	3,279.4

V. CONCLUSION

14.112 During the Seventh Plan period, the contribution of the finance, banking and insurance sector was affected by the regional financial and economic turmoil. Consequently, efforts were focused on strengthening and maintaining the financial sector stability as well as restoring investor confidence. For the Eighth Plan period, these efforts will be continued to further strengthen the sector to mobilize and allocate domestic financial resources effectively and efficiently in facilitating the growth of the economy. Emphasis will be focused on developing a core of strong and competitive domestic institutions that will provide a new source of growth for the economy. At the same time, measures will also be taken to further develop alternative modes of financing to complement the traditional financing sources.

Chapter 15

Tourism



15

TOURISM

I. INTRODUCTION

15.01 The tourism industry continued to contribute towards generating foreign exchange earnings, employment and income during the Seventh Plan period. Although the industry was affected by the economic crisis in 1997 and 1998, its quick rebound contributed to the strong economic recovery of the nation. This was attributed mainly to the concerted efforts by the public and private sectors as well as the successful implementation of measures outlined in the National Economic Recovery Plan (NERP) to revitalize the tourism industry.

15.02 For the Eighth Plan, the policy thrust is to achieve rapid tourism growth on a sustainable basis. Towards this end, a holistic and coordinated approach will be adopted to further boost the tourism industry. Greater efforts will be undertaken to provide a wider variety of quality tourism products to stimulate tourism demand both internationally and domestically. In addition, more effective promotional strategies in established and emerging markets will be carried out continuously to capture a larger share of the tourism market.

II. PROGRESS, 1996-2000

Tourist Arrivals

15.03 Tourist arrivals increased at an average rate of 6.5 per cent per annum during the Plan period. Tourist arrivals declined in 1997 and 1998 mainly due to occurrences of haze, localized outbreaks of Nipah and Cocksackie viruses as well as the Asian financial crisis. The number of tourist arrivals to Malaysia declined by about 13 per cent in 1997 and 10.6 per cent in 1998. However, the tourism industry responded well to the measures taken to revitalize the industry, which included increased promotional efforts targeted at markets not affected by the economic crisis such as China, India, Middle East, Australia and Europe.

As a result, the tourism industry recovered quickly as reflected by the rapid increase in the number of tourists to 7.9 million in 1999, which represented an increase of 43.6 per cent over the 1998 figure. In 2000, a record of 10.2 million tourist arrivals was achieved, which surpassed the target by 3.7 million tourists.

15.04 There was a slight change in the profile of tourist arrivals during the Seventh Plan period, attributed mainly to the measures undertaken to diversify the tourism market. The Asian financial crisis also affected tourist arrivals from the region and as a result, the percentage of short-haul tourists from the Association of South East Asian Nation (ASEAN) region declined from 73.5 per cent in 1995 to 69.2 per cent in 1998 but improved to 70.3 per cent in 2000, as shown in *Table 15-1*. The fastest growth in the number of tourist arrivals was from the emerging

TABLE 15-1
SELECTED TOURISM INDICATORS, 1995, 2000 AND 2005

Indicator	1995	2000	2005
Number of Tourist Arrivals ('000)	7,469	10,221	14,273
By Country of Origin (%)			
ASEAN ¹	73.5	70.3	63.5
Japan	4.4	4.5	5.2
China	1.4	4.2	4.8
Taiwan	3.9	2.1	2.4
Hong Kong SAR	2.0	0.7	1.8
India	0.4	1.3	2.7
Australia	1.8	2.3	2.7
United Kingdom	2.2	2.3	2.5
USA	1.3	1.8	2.1
Others	9.1	10.5	12.3
Total Tourism Receipts ² (RM million)	9,927.8	18,756.7	29,499.5
Number of Hotels ³	1,220	1,492	1,541
Number of Hotel Rooms	76,373	134,503	140,503
Average Length of Stay (nights)	4.8	5.5	5.8
Occupancy Rate of Hotel (%)	65.5	55.0	60.0
Employment ⁴	67,214	78,671	79,603

Notes:

¹ Excludes Myanmar, Vietnam and Cambodia

² Tourism receipts = tourist receipts + excursionist receipts

³ Hotels with 10 rooms and above, and excluding service apartments and condominiums

⁴ Employment covers the hotel industry only

markets such as India and China with an annual average rate of 34.6 per cent and 32.4 per cent, respectively. In relative terms, tourists from China increased by 2.8 percentage points, followed by India, which increased by 0.9 percentage points. Tourist arrivals from Australia and United States of America increased by 0.5 percentage points, while Japan and United Kingdom increased marginally by 0.1 percentage points.

Tourism Receipts and Expenditure

15.05 Tourism receipts registered 13.6 per cent annual growth during the Seventh Plan period to reach RM18.7 billion in 2000. This was due to the growth in tourist arrivals as well as the increase in the average length of stay and per diem expenditure. The average per diem expenditure of tourists increased by 20.5 per cent from RM255.90 in 1995 to RM308.36 in 2000, while the average length of stay increased from 4.8 nights in 1995 to 5.5 nights in 2000. The major tourist revenue generating markets were from the ASEAN region, particularly from Singapore and Thailand as well as China, Japan, Australia and United Kingdom, as shown in *Table 15-2*.

TABLE 15-2
TOURIST RECEIPTS¹ BY COUNTRY, 1995 AND 2000
(RM million)

Country	1995	2000
ASEAN	5,456.1	9,582.0
Japan	682.0	1,029.5
Taiwan	630.7	469.0
United Kingdom	323.0	646.4
China	171.9	1,226.4
Australia	251.7	644.1
Hong Kong SAR	280.1	164.5
Others	1,379.4	3,573.5
Total	9,174.9	17,335.4

Note: ¹ Tourist receipts exclude excursionist receipts

15.06 The growth of the industry contributed to economic development through its close linkages with a wide spectrum of industries, which was reflected by the expenditure pattern of tourists, as shown in *Table 15-3*. In addition, the economy also benefited from the positive net contribution to the services account of the balance of payments by the tourism industry. In terms of the tourist expenditure pattern, accommodation remained the biggest component increasing from 32.0 per cent in 1995 to 32.8 per cent in 2000. Shopping expenditure remained the second largest expenditure component of tourists, increasing from 21.0 per cent to 23.1 per cent during the same period, in line with efforts to promote Malaysia as a shopping paradise. The other expenditure components that increased during the Plan period were food and beverages and organized sightseeing.

TABLE 15-3
COMPOSITION OF TOURIST EXPENDITURE¹, 1995 AND 2000
(%)

Item	1995	2000
Accommodation	32.0	32.8
Shopping	21.0	23.1
Food & Beverages	18.0	19.5
Local Transportation	8.0	7.1
Domestic Airfares	5.0	4.6
Organized Sightseeing	4.0	4.2
Entertainment	6.0	5.0
Miscellaneous	6.0	3.7
Total	100.0	100.0
Total (RM million)	9,174.9	17,335.4

Note: ¹ Tourist expenditure excludes excursionist expenditure

Domestic Tourism

15.07 Taking into cognizance the importance and vast potential in domestic tourism, a number of measures were undertaken to enhance its development. In this regard, aggressive promotional activities were carried out under the theme

Cuti-cuti Malaysia with the aim of encouraging domestic travel and reducing currency outflows. The tourism promotions at the state level such as the Visit Perak Year and the Visit Selangor Year further boosted domestic tourism. In addition, the declaration of holidays for the public service for the first Saturday of the month effective 1 January 1999 and also the third Saturday of the month effective 1 February 2000, had a positive effect on domestic tourism. The number of domestic tourism trips increased by 89.9 per cent at 15.8 million trips in 1999 compared with 8.32 million trips for the period August 1997 to July 1998. The number of domestic hotel guests also increased by 46 per cent to 1.02 million in March 2000 compared with 698,000 in March 1998. The rapid improvements in the transportation system during the Plan period provided faster and easier access to tourist destinations, which facilitated the increase in domestic tourism.

Investment

15.08 The private sector actively stimulated the growth of the tourism industry through its investments in hotel and tourism-related projects. These investments increased by 107 per cent from RM8.8 billion during the Sixth Plan period to RM18.2 billion during the Seventh Plan period. The number of hotels increased by 22.3 per cent from 1,220 in 1995 to 1,492 at the end of the Plan period. The supply of hotel rooms increased by 76.1 per cent from about 76,370 rooms in 1995 to 134,500 in 2000. The average occupancy rate of 65.5 per cent in 1995 declined to 50 per cent in 1998 mainly due to the excess supply of hotel rooms and the fall in tourist arrivals. Subsequently, the average occupancy rate increased to 55 per cent in 2000 largely due to measures undertaken to draw more inbound tourists and encourage domestic tourism. The timesharing concept provided opportunities for individuals to invest in vacation ownership and maximize the usage of timeshare resorts. At the end of the Plan period, there were 18 timeshare companies with about 30,000 members, generating an average annual sale of RM88 million. The timesharing concept contributed to the growth of the tourism industry as an average of 60 per cent of timeshare members utilized their holiday entitlement every year.

15.09 The Government complemented the efforts of the private sector by implementing tourism development programmes, involving an expenditure of RM484.2 million during the Seventh Plan period. These programmes included the restoration and conservation of historical sites, upgrading of tourism facilities and infrastructure, beautification of tourism sites as well as the development of medium-priced hotels. Among the projects that were completed during the Plan

period were the restoration of historical sites, the upgrading of rest houses in various states as well as the provision of public amenities, pedestrian walkways, observation towers, jetties and landscaping of tourist spots. During the Plan period, an additional Hotel Seri Malaysia in Genting Highlands was completed to bring the total number in operation to 16 offering 1,574 rooms. These medium-priced hotels were targeted at budget-conscious travellers, achieving an average occupancy rate of 58.7 per cent in 2000, which was slightly higher than the national average of 55 per cent.

Employment and Training

15.10 Employment in the hotel industry grew at an average annual rate of 3.2 per cent to reach 79,600 in 2000. Training remained a priority area in view of the importance of human resource development and the relatively skill-intensive nature of tourism employment. The National Tourism Human Resource Development Council (NTHRDC) supervised and coordinated training development activities for the tourism industry. The National Vocational Training Council (NVTC) developed national occupational skill standards (NOSS), comprising five levels, ranging from the operation and production level to the management level. The operation and production level included reservation and ticketing clerk, convention clerk, food and beverage waiter as well as water-park attendant. The management level included car-rental operations manager, front-office manager and theme-park operations manager. At the end of the Plan period, a total of 71 NOSS was developed in the tourism sector constituting tourism and travel (30), hotel (33) and theme park (8) subsectors. Eighteen public institutions as well as 47 private institutions conducted training in tourism-related courses. In addition, the hotel apprenticeship programme under the Human Resources Development Fund (HRDF) was initiated in February 1997 to reduce the shortage of skilled workers in the tourism sector. By the end of 2000, a total of 1,985 apprentices was trained through the collaborative efforts of 12 training institutions and 130 hotels. A study on human resource development in the tourism industry was initiated in 2000 to provide a comprehensive picture on the issues, development and directions of human resource development in the industry.

Tourism Products

15.11 Tourism product development was given greater emphasis to continuously upgrade the quality of existing products as well as develop new products to

capture a bigger share of the world tourism market. In this regard, a vast array of tourism products was offered to cater for the diverse interests and demands of tourists. The tourism products included the promotion of Malaysia as an attractive hill and island resort, an international shopping and major events destination, eco-tourism, agro-tourism, homestay programmes, cultural and heritage tourism as well as education, student and health tourism.

15.12 Hill and Island Resort. Malaysia is famous for its hill and island resorts, which continued to attract both domestic and foreign tourists during the Plan period. The hill resorts such as Penang Hill, Fraser's Hill, Cameron Highlands and Genting Highlands catered for a diversity of interests ranging from the relatively unspoilt retreat to entertainment and theme park attractions. The island resorts which included Pulau Tioman, Pulau Redang, Pulau Pangkor and Pulau Pinang offered beautiful beaches as well as a host of activities for tourists. The hill and island resorts were developed at a rapid pace due to their increasing popularity. Consequently, there was a need to ensure that the development of these resorts did not jeopardize the natural beauty and environment. In this regard, a Cabinet Committee was established in 2000 to coordinate, monitor and ensure the sustainable development of highlands and islands.

15.13 Shopping Destination. During the Plan period, greater efforts were made to promote Malaysia as an international shopping destination to encourage tourists to stay longer and spend more. To make shopping more attractive, leather goods were added to the list of duty-free items such as cameras, watches, pens, cosmetics and computers. In addition, the depreciation of the Ringgit enabled Malaysia to be positioned as a value for money tourist and shopping destination. To enhance Malaysia's position as a shopping paradise, three Mega Sales Carnivals were simultaneously carried out in all states in March, August and December 2000. These sales carnivals not only provided the best bargains for goods and services but also entertained shoppers with many attractive events. The events featured during the Carnival included the Made-In-Malaysia Exhibition, Malaysia Fashion Week and Midnight Sales. To further strengthen the nation's image as a shopping paradise, a factory outlet cum cultural centre project was initiated at a strategic location near KL International Airport (KLIA) to provide a channel for the direct distribution of locally produced goods from manufacturers to consumers at competitive prices and also offer the opportunity for tourists to learn more about Malaysian culture.

15.14 Thematic Events. To enhance the growth of a vibrant tourism industry, monthly thematic events were organized. These events included the Colours of Malaysia, Merdeka Celebration and National Water Festival. The inaugural annual

Colours of Malaysia event, which was a month-long celebration to showcase the unique customs and traditions of the multi-racial society, was launched in 1999 to attract more tourists. A host of exciting activities at national and state levels was organized for tourists to experience and savour the different cultures of Malaysia. These activities included a spectacular parade bearing the theme "Colours of Malaysia", cultural performances, shadow plays, Malaysian cuisine, Arts and Crafts Festival and the Traditional Textiles of Malaysia Exhibition. In conjunction with the month-long *Merdeka* Celebration, numerous events culminating with the National Day parade were organized to celebrate the nation's independence. The National Water Festival was another month-long event that was organized featuring various activities related to water sports and recreation.

15.15 *Sports and Recreation Tourism.* Sports and recreation tourism was given priority in view of the high profile and huge revenue it generated for the nation. Its development was enhanced by the completion of sports and recreation facilities of international standard such as the National Sports Complex, the Formula One Circuit and the National Theatre. The promotion of the Year of Sports and Recreation in 1998 (YSR '98) raised the nation's image as a sports and recreation destination. In conjunction with YSR '98, more than 240 sports and recreational events were organized with the Kuala Lumpur '98 - XVI Commonwealth Games as the premier event. The Games attracted 6,670 athletes and officials. In addition, there was a substantial number of media and visitors from abroad as reflected by the 4.4 per cent increase in tourist arrivals in September 1998 compared with the corresponding period in 1997. To benefit from the international awareness and momentum generated by YSR '98, other annual world-class events were organized. These included the Formula One Grand Prix, World Motorcycle Grand Prix, World Amateur Inter-Team Golf Championship, Mount Kinabalu International Climbathon, Johor International Kite Festival, Baleh-Kapit Raft Safari and Labuan Sea Challenge.

15.16 *Cruise Tourism.* The development of cruise tourism was given emphasis to exploit the nation's comparative advantage in terms of port facilities and attractive land-tour packages as well as the expansion of the international cruise market to the Asian region. The total number of passengers on cruises was estimated at 920,000 during the Plan period. The private sector was instrumental in developing cruise tourism and invested in the construction of dedicated passenger terminals. The completion of the Star Cruise Terminals in Port Klang and Langkawi during the Plan period facilitated the expansion of the cruise industry in Malaysia. In addition, efforts were made to enhance cruise tourism through regional cooperation. The ASEAN Cruise Working Group was formed in 1999 to develop

the full potential of the cruise industry in the region as a means of attracting more tourists. Towards this end, a study was initiated to outline strategies for the integrated development of cruise tourism in ASEAN.

15.17 *Eco-tourism.* Eco-tourism entails visitation to relatively undisturbed natural areas, promotes conservation, has low visitor impact and provides for socio-economic involvement of the local population. The National Eco-tourism Plan was drawn up in 1996 to provide the framework for the development of eco-tourism. The Plan included 25 guidelines to provide the best approach to eco-tourism, with recommendations on health and safety, conservation inputs, site selection, zoning and carrying capacity. In addition, lists of potential and existing eco-tourism sites as well as opportunities for private sector investment were identified. During the Seventh Plan period, several eco-tourism projects were implemented such as Wang Kelian State Park in Perlis, Tasik Bera in Pahang and *Taman Hidupan Liar* Hilir Kinabatangan in Sabah.

15.18 *Agro-tourism and Homestay Programmes.* Agro-tourism and homestay programmes provided opportunities for local involvement and additional sources of income. A total of 19 agro-tourism locations was developed with the participation of farmers and fishermen during the Seventh Plan period. The products included day visits, farmstay and agro-tourism packages. Homestay programmes offered tourists a distinctive style of accommodation with emphasis on warm and friendly hospitality within private homes at relatively cheap prices. By the end of the Plan period, 612 homestay operators in 31 villages were registered with the Government. A study to formulate a National Rural Tourism Master Plan was initiated in 2000 to maximize the potential of agro-tourism and homestay programmes.

15.19 *Cultural and Heritage Tourism.* In view of the tremendous potential of cultural and heritage tourism, numerous programmes that included the preservation of historical monuments and sites as well as the setting up of museums, art galleries and state cultural centres were undertaken. The completion of projects such as the National Theatre, PETRONAS Philharmonic Hall, National Arts Gallery, Islamic Art Museum as well as Arts and Cultural Centres in Alor Setar, Ipoh and Kuantan during the Plan period provided a more varied, entertaining and educational experience for tourists. The inclusion of the Kinabalu National Park, Sabah and Mulu National Park, Sarawak in the World Heritage List in 2000 provided a big boost to Malaysia's efforts in promoting cultural and heritage tourism. The other sites that were still under consideration by the United Nations Educational, Scientific and Cultural Organization (UNESCO) were the *Taman Negara*, Peninsular Malaysia and Niah Caves, Sarawak. The Historic Inner

Cities of Penang and Melaka were also submitted in 2000 for consideration to be included in the UNESCO World Heritage Status. The non-governmental initiative to restore the Cheong Fatt Tze mansion in Pulau Pinang was awarded the inaugural UNESCO Asia-Pacific Heritage Conservation Award 2000. This award generated greater international awareness and provided further impetus to the conservation movement.

15.20 Education, Student and Health Tourism. The increase in the number of institutions of higher learning and twinning programmes with foreign universities provided the foundation for the growth in education tourism. A total of 13,600 foreign students was registered with institutions of higher learning in the country. There were additional spinoffs as parents of foreign students took the opportunity to spend their holidays at tourist attractions when visiting their children. Student tourism became popular during the Plan period, as reflected by the demand for tours to visit schools to enable students from other countries to gain knowledge of the school education system as well as experience the Malaysian school atmosphere, which is unique with the social interaction of the various ethnic groups. As for health tourism, Malaysia took steps to position itself as a premier destination for quality yet affordable health and medical services in the region. In this regard, the National Committee on Health Tourism was formed in 1997. Aggressive campaigns, with the collaboration of the private sector were launched to market health tourism not only for the sick but also for those needing medical checks for a medical-cum-leisure experience. The campaigns were also aimed at family members who accompanied the sick. A total of 44 private hospitals with 7,065 beds was identified to participate in health tourism. The number of foreign patients seeking treatment from 1998 to June 2000 were 398,560. In addition, the Langkawi and Labuan hospitals were specially built by the Government to provide health services as well as attract foreign tourists.

15.21 Meetings, Incentives, Conventions and Exhibitions. Greater efforts were made by the public and private sectors to gain a larger share of the meetings, incentives, conventions and exhibitions (MICE) market to tap its high-yielding potential. It was the only market segment that was not adversely affected by the economic crisis in 1997-1998. The total number of events, participants and revenue generated increased steadily during the Seventh Plan period, as shown in *Table 15-4*. This was largely attributed to the nature of the MICE market where organizers made their commitments a few years in advance and the aggressive bidding to host major events. During the period 1996-2000, a total of 4,008 events was held with 1.5 million participants generating RM5.1 billion in revenue. Among the major MICE events that were held during the Plan period

TABLE 15-4

MEETINGS, INCENTIVES, CONVENTIONS AND
EXHIBITIONS, 1996-2000

	1996	1997	1998	1999	2000
Number of Events					
International	296	316	380	387	423
National	426	447	420	437	476
Total	722	763	800	824	899
Number of Participants					
Foreign	108,410	115,768	138,826	139,195	152,760
Local	170,593	179,122	161,210	166,030	181,713
Total	279,003	294,890	300,036	305,225	334,473
Revenue (RM million)					
Foreign	346.9	382.0	458.1	512.7	567.5
Local	545.9	573.2	532.0	547.8	597.2
Total	892.8	955.2	990.1	1,060.5	1,164.7

included the Asia Pacific Economic Cooperation (APEC) Summit, International Union of Forestry Research Organization World Congress, Defence Services Asia Exhibition and Conference as well as ASEAN Travel Forum.

15.22 Theme Parks. Theme parks have family appeal and provide a trip into a world of adventure and excitement. The existing theme parks such as the Genting Theme Park, Sunway Lagoon, Mines Wonderland, Bukit Merah Laketown Waterpark and A'Famosa Water World were upgraded to provide better quality services to attract more visitors. These parks, which involved substantial private sector investments, were equipped with a critical mass of attractions to draw domestic and international tourists. These tourism-oriented theme parks, which provided integrated and complementary services from shopping centres to hotels and restaurants, continued to generate economic value during the Plan period.

15.23 Wilayah Persekutuan Putrajaya. The development of Wilayah Persekutuan Putrajaya covering 4,580 hectares, which showcases the new Administrative Centre of the Federal Government as well as Malaysia's first Intelligent Garden City, became a must-see destination for tourists. It focused on environment-friendly development, which was reflected by the measures undertaken such as the development of a wetlands area to maintain the quality of the lake water as

well as the demarcation of a precinct solely to conserve the environment in its natural state. The Putrajaya Lake and Wetlands were designed as self-sustaining and balanced eco-systems to support the development of Wilayah Persekutuan Putrajaya as a Garden City. The architecture of the buildings was designed for their aesthetic value and to blend with the environment. The integrated planning and development of Wilayah Persekutuan Putrajaya not only provided an ideal environment for residents to live and work but also offered tourists a unique, interesting and educational experience.

Marketing Strategies and Promotions

15.24 The unique blend of natural beauty and a rich diversity of culture, traditions, history and lifestyles of the various ethnic groups presented an appealing theme to promote tourism. As such, the theme "Malaysia Truly Asia" was launched in 1999 as the master brand to position Malaysia as a top tourist destination in the region. Tourism branding was used as a promotional platform to create an easily identifiable image, to generate interest and facilitate recall in the decision-making process of destination selection. Besides the use of an attractive and consistent brand, customer-focused promotions were also undertaken. The marketing efforts took into account the needs, preferences and cultures of tourists from different segments and countries, to cater for their varied interests and demands. In addition, promotional activities were stepped up to achieve greater penetration into new segments and markets. In this regard, four new Tourism Malaysia offices were set up in Dubai, Jeddah, New Delhi and Phuket in 2000. The students, honeymooners, silver-haired and the film industry were identified for more vigorous market development and promotion.

15.25 Taking into consideration the importance of marketing, a special promotional budget of RM150 million was approved in 1999. The budget was used for advertising, public relations and information dissemination activities to further boost the tourism industry. In addition, a budget allocation of RM110 million for Malaysia Centennial towards the New Millennium was approved for the organization of events from September 1999 to August 2001. Among others, the events were organized to instil the spirit of *Malaysia Boleh*, reflect and appreciate the achievements of the nation during the 20th century as well as stimulate the growth of the tourism industry.

15.26 In order to reap the full benefits of information and communications technology (ICT), the official website of Tourism Malaysia was continuously updated and upgraded to enhance its popularity as a mode of communication for

information dissemination. It was a rich source of information that covered key events and festivals, special interests and links to state tourism and related websites. The private sector took advantage of the new technologies and launched their own websites, which provided not only information but also interactive services such as online ticketing as well as reservation of tour packages and accommodation.

III. PROSPECTS, 2001-2005

15.27 The tourism sector will assume an even greater role in stimulating the growth of the economy during the Eighth Plan period. Tourist arrivals are expected to grow at an average rate of 6.9 per cent per annum to reach 14.3 million by 2005. Tourism receipts are targeted to grow at an average annual rate of 9.5 per cent to reach RM29.5 billion in 2005. With the continuous improvement in tourism products and services, marketing and promotion, infrastructure as well as institutional and regulatory framework, Malaysia is well placed to reap the gains of the tourism industry.

15.28 The overall policy thrust of the tourism sector is to achieve sustainable tourism growth in order to realize the full potential of employment and income-generation effects at the national, state and local levels. Towards this end, tourism development will be prioritized and focused to achieve the optimal impact of the resources allocated. The tourism development strategies that will be rigorously pursued are as follows:

- ☐ *emphasizing sustainable tourism development;*
- ☐ *focusing on a holistic and integrated approach to tourism development;*
- ☐ *projecting Malaysia as a fascinating destination with year-round carnival atmosphere;*
- ☐ *engaging in customer-focused product development and promotions;*
- ☐ *enhancing human resource development;*
- ☐ *facilitating and increasing accessibility;*
- ☐ *ensuring the comfort, safety and security of tourists; and*
- ☐ *forging strategic alliances and enhancing international cooperation.*

Sustainable Tourism Development

15.29 The long-term success of the tourism industry hinges on the successful implementation of sustainable tourism development. This is evident as the physical environment and cultural heritage are core attractions of tourism products and are sensitive assets that must be carefully conserved. Increasing importance will be accorded to ensure a greater involvement of the local community to maximize benefits and minimize adverse effects. Towards this end, sustainable tourism development will be the key strategy that will provide the necessary balance among economic, social, cultural and environmental needs in all tourism planning and implementation. The nature parks, rivers, lakes, caves, wetlands and wildlife sanctuaries will be conserved in line with sustainable development. In addition, the completion of the study on the development of hill stations and highlands in Malaysia during the Eighth Plan period will provide policy guidelines and a plan of action to achieve sustainable development in these areas.

Holistic and Integrated Approach

15.30 A holistic and integrated approach that leverages on the innovation and vitality of the private sector, the hospitality, courtesy and civic-consciousness of the public as well as the support of the Government is essential to elevate the tourism industry to a higher level of achievement. In this regard, the National Tourism Promotion and Coordination Committee will continue to spearhead the cooperative efforts of the public and private sectors. To further strengthen the coordination efforts necessary for the successful implementation of tourism programmes and events at all levels, state tourism and culture authorities will be formed in all states during the Plan period. This will provide the necessary mechanism for the states to effectively coordinate and organize their tourism programmes. In addition, the provision of general tourism education to the public through the mass media will be further encouraged. This is to promote greater awareness of the importance of tourism as well as to gain and broaden the support for sustainable tourism development from the public. The establishment of tourism clubs in schools will also serve as an effective and efficient means to disseminate information as well as inculcate values that are supportive of the efforts to promote the tourism industry.

15.31 The provision of relevant information for effective strategic planning, coordination and implementation is a key ingredient for the holistic approach to succeed. In this context, further efforts will be made to improve the tourism

database by undertaking relevant surveys and other forms of data collection in a timely manner. A significant initiative will be the establishment of the Tourism Satellite Account (TSA), which will greatly strengthen the tourism database. The TSA is designed to organize information about the effects of tourism activities on production, income, wealth and employment in a way consistent with the System of National Accounts. Furthermore, the improvements in the database will facilitate and support efforts towards customer-focused product development and promotion.

Creating A Carnival Atmosphere

15.32 In order to draw more tourists to stay longer, increase spending and make repeat visits, efforts will be intensified to portray Malaysia as an exotic place with year-round events filled with a carnival atmosphere. This requires a well-planned tourism calendar throughout the year, which will be widely publicized in advance. The highlights are the annual month-long events that will be organized including *Merdeka* Celebration, Colours of Malaysia, National Water Festival, Food and Fruits Festival as well as Malaysia Agriculture, Horticulture and Agro-tourism Show (MAHA). In addition, world-class events will continue to be staged including the Formula One Grand Prix, World Motorcycle Grand Prix, International Go-Kart Race, Le Tour De Langkawi, Melaka Historic City Celebration, Penang International Dragon Boat Festival, Borneo Eco-Challenge, Mount Kinabalu International Climbathon and the Motorized Paraglider Tour of Malaysia. The new events that will be organized include the World Formula One Powerboat race and Extreme Games (X-Games) Asian qualifying rounds. In view of the increasing interests in the art of self defense and taking into account the variety of martial arts practised by different ethnic groups in the country, martial arts events and training will be organized and packaged as a tourism product to add to the carnival atmosphere.

15.33 Malaysia's endeavour to be a shopping paradise, which includes the month-long Mega Sales Carnival to be held three times a year will not only contribute to the atmosphere of festivities but also provide shoppers with the widest range of bargain sales which include consumer goods, household products and property. During this period, the Government will consider reducing certain taxes such as sales tax and stamp duty, while hotels and restaurants will be encouraged to provide special concessions. To assess the success of the Mega Sales Carnivals, a study on its impact will be conducted. Meanwhile, the completion of the factory outlet near KLIA and an electronic city of international standard will further enhance shopping and tourism. The electronic city will be an area

specially designated to provide shoppers with a wide range of electrical and electronic goods featuring the latest products in the market. The private sector will be encouraged to offer genuine goods at fair prices with better packaging and delivery services as well as provide warranties and honour the return of goods.

15.34. Greater efforts will be directed to encourage more hotels to support the concept of creating a Malaysian identity and a more exotic ambience, which can serve as unique selling points. These include the Malaysian way of greeting, the use of traditional attire as uniforms and the setting up of in-house cultural bodies. In addition, hotels will be encouraged to allocate floor space for the display and sale of local handicraft. To complement efforts to create a carnival atmosphere, cosmopolitan living with international cuisine such as the Bintang Walk will be encouraged.

Product Development and Promotion

15.35 To enable the tourism sector to achieve a sustainable growth, it is essential to take into cognizance the needs and preferences of tourists. Changing consumer demand and the emergence of different segments create new opportunities to be harnessed. There will be a greater emphasis on the need to align product development to meet certain standards that will satisfy domestic and foreign tourists' preferences and demands. There will also be a greater commitment to expand and improve tourism products such as eco-tourism, agro-tourism, rural tourism, cultural and heritage tourism, cruise tourism, education, student and health tourism as well as the MICE market. In addition, incentives will be provided to facilitate and enable the private sector to develop niche tourism products more effectively.

15.36 Eco-tourism, agro-tourism and rural tourism have the potential to regenerate the rural economy, consistent with the policy of a wider distribution of the benefits of the tourism industry. With regard to eco-tourism, its development and implementation will continue to be guided by the National Eco-tourism Plan. Accordingly, more sites with eco-tourism potential will be identified for development. At the same time, efforts will be intensified to promote Malaysia as a well-known eco-tourism destination. Agro-tourism and homestay programmes will be reviewed and reformulated under rural tourism development. In this context, it is envisaged that the completion of the National Rural Tourism Master Plan in 2001 will provide the necessary framework and guidelines for the successful development of rural tourism.

15.37 Greater emphasis will be placed on further promoting cultural and heritage tourism. Concerted efforts will be made to secure the inclusion of *Taman Negara*, Peninsular Malaysia, Niah Caves, Sarawak as well as the Historic Inner Cities of Penang and Melaka in the World Heritage List during the Plan period. To add value and attract tourists, research will be encouraged to provide additional educational information, interesting stories and folklore on the nation's cultural and historical heritage. Other measures that will be undertaken include the expansion of the Langkawi, Culture and Arts Festival to cover European culture and arts. The National theatre will host more foreign plays and cultural shows that are of world-class standards to promote cultural tourism as well as provide opportunities for Malaysian to enjoy and enrich their cultural experiences. In addition, the promotion and development of local handicraft will be intensified to offer a wider range of attractive items and souvenirs at reasonable prices to tourists.

15.38 During the Plan period, cruise tourism, yachting and leisure boat activities will be further developed to tap the expected growth of Asia as a vacation and cruise destination. Product development will include packaging creative itineraries and interesting land attractions to meet market needs. Marketing and promotion will be emphasized to attract more cruise liners and leisure boats to Malaysian ports and jetties as well as increase tourist arrivals. The development and upgrading of ports and jetties along the Malaysian coastline will be undertaken in stages to cater not only for passenger and cargo transportation but also for tourism promotion. As an integrated approach, facilities will be developed for cruise ships and leisure boats, marinas and related recreational activities such as yachting, boating, diving, fishing as well as shopping, entertainment, food and accommodation. This will allow cruise ships and leisure boats to sail to different sites of interests as well as create more activities for these tourists to increase their length of stay and expenditure. To enhance economic linkages, innovative fly-cruise packages for both the medium- and long-haul markets will need to be developed. The completion of the study by the ASEAN Cruise Working Group will outline strategies to develop cruise tourism including the determination of cruise facilities and infrastructure requirements as well as the development of a joint-marketing plan for ASEAN.

15.39 Education, student and health tourism will be further developed to tap their full potential in attracting more inbound tourists and enhancing tourism growth. A Committee on Education Tourism will be established to spearhead activities such as marketing and promotion as well as the facilitation of administrative

procedures for students and parents. In view of the increasing demand for student tourism, a programme will be formulated to coordinate and facilitate visits to schools as part of the tour package. The National Committee on Health Tourism will intensify its efforts to accelerate the growth of health tourism, which includes medical and dental treatment.

15.40 Vigorous efforts will be undertaken to actively position and promote Malaysia as a premier MICE destination by targeting at associations, multinationals and international organizations to hold more conferences, exhibitions and incentive travel in Malaysia. The development of a convention centre in Wilayah Persekutuan Putrajaya as well as the National Exhibition and Convention Centre (NECC) in Subang, Selangor with state-of-the-art facilities will spur the expansion of the MICE market. In addition, the institutional and human resource capacity will be strengthened. Towards this end, the establishment of an organization to promote and develop the MICE market will be explored. Measures will also be undertaken to develop professionals who have the skills to organize and manage major events including conferences and exhibitions.

15.41 Other market segments that will continue to be actively promoted are the honeymooners, silver-haired and the film industry. The honeymooners represent a rapidly growing market that has high-spending potential. To further promote the silver-haired programme, the administrative and regulatory procedures will be constantly reviewed to make them more attractive and convenient for senior citizens from foreign countries to stay in Malaysia for an extended period. The foreign film industry will be encouraged to shoot their films in the country as they will not only bring foreign exchange but also provide extensive publicity, essential for tourism promotion.

15.42 Marketing and promotional efforts will be geared towards consistently developing Malaysia's brand in key overseas markets by reinforcing the image of the country as a top-of-the-mind desirable holiday destination. In line with the strategy to diversify the tourism markets by increasing the market share from medium- and long-haul markets, another eight Tourism Malaysia offices will be established during the Eighth Plan period. As a result, the total number of Tourism Malaysia offices overseas will be increased to 30. With the establishment of these offices, greater attention will be given to the preferences, needs and peculiarities of each strategic market, to formulate a more aggressive and customer-focused promotion that will effectively convert interest into actual travel to Malaysia and further boost the performance of the tourism industry. In addition,

greater promotional efforts will be undertaken to attract tourists from the United States of America, which has a relatively large potential market that has yet to be tapped. Emphasis will also be given to the need to provide an accurate description of Malaysia in efforts to attract tourists. To accelerate the growth of the tourism industry, the allocation for marketing and promotion under the annual operating budget will be increased. To exploit the potential of ICT, a world-class tourism portal will be launched during the Plan period. This portal will provide a cutting-edge technology not only for global destination marketing promotion but also to take advantage of the anticipated expansion of e-commerce in the tourism industry.

15.43 The promotion of domestic tourism will continue to be accorded priority, as it is vital for the growth of a vibrant tourism sector. The marketing strategy will be to develop and inculcate a Malaysian culture of scheduling a vacation on a regular basis. In this connection, the domestic tourism campaign will be intensified to promote Malaysia as an exciting holiday destination to Malaysians.

Human Resource Development

15.44 Investments in human capital will continue to be given priority in order to achieve the highest degree of competence and professionalism to ensure the competitiveness of the tourism industry. In this regard, the National Tourism Human Resource Development Council (NTHRDC) will have an increasingly important role to supervise and coordinate training in the tourism industry. To meet the challenges of continuous improvement and new demands of the industry, existing NOSS will be reviewed while new NOSS will be developed. The importance of courtesy, graciousness and promptness of services by frontliners of the industry will be further emphasized. In addition, the training of tour guides will be upgraded to improve their competency level and enable them to provide better quality services. Tour guides will, therefore, need to be conversant in the English language and other foreign languages as well as well-versed with the history and background knowledge of the relevant tourism sites. The collaboration of the public and private sectors will be encouraged to increase the number of training programmes. The completion of the study on human resource development in the tourism industry in 2001 will provide a holistic and integrated plan of action to further upgrade the human resource capacity of the industry. It will also address issues on job attrition and career development in the industry.

Accessibility

15.45 Air, surface and sea transportation will be continuously upgraded to facilitate accessibility and the growth of the tourism industry. Towards this end, negotiations will be conducted to expand international air access in new strategic tourist markets as well as to promote KLIA as a regional hub. At the same time, point-to-point chartered flights for inbound tourists will continue to be encouraged. The upgrading of airports in Mulu and Miri, Sarawak as well as improvements of roads to major tourist attractions such as *Taman Negara*, Peninsular Malaysia will also be undertaken to cater for the expected increase in tourist arrivals to these areas. These efforts will be complemented with the enhancement of quality and efficiency of rail services for passengers as well as the increased emphasis on multimodalism during the Plan period. The development and upgrading of dedicated passenger terminals in key ports will be encouraged to support the growth of cruise tourism. In addition, emphasis will be given to improve accessibility, particularly in Sabah and Sarawak as well as less developed areas, to meet the increasing demand from locals and tourists. As Immigration and Customs formalities are an integral part of accessibility, further improvements in entry and exit procedures will be instituted to ensure hassle-free travel.

Ensuring the Comfort, Safety and Security of Tourists

15.46 The comfort, safety and security of tourists are crucial for the success of the tourism industry. The Government will step up security patrols, particularly in remote tourist resorts, to ensure the safety of tourists. At the same time, adherence to safety measures in the transportation of passengers by road, rail, sea and air will remain a top priority. Operators, guides and instructors in the tourism business will need to be more conscious of the well-being of tourists and strive to ensure their comfort and safety. In addition, further efforts will be made to provide tourists with quality goods and services at reasonable prices. Adequate training will be provided to produce professional and competent personnel that practise the highest safety standards. Projects will also be undertaken to beautify and enhance the nation's beaches and rivers. Furthermore, greater efforts will be made to reduce air pollution and improve air quality. These measures are essential to reinforce the image that Malaysia is a safe and pleasant place to visit.

Strategic Alliances and International Cooperation

15.47 Strategic alliances that allow participants to reap synergistic benefits through economies of scale will be more actively pursued. This will involve the leveraging of resources and the process of complementing products and services

in a business environment. As such, airlines, tour groups and hotels will be further encouraged to forge strategic alliances and smart partnerships to organize joint tour packages at the regional level to enhance profitability and competitiveness. At the same time, cooperation with national tourist organizations (NTOs), regional tourism groupings and international tourism organizations will be enhanced to provide an added boost to the performance of the tourism industry. In this regard, regional collaboration efforts will be strengthened, particularly with the Visit ASEAN Year 2002. There will also be progressive liberalization of tourism services under the ASEAN Framework Agreement on Services. In this context, the Special NTOs Task Force on Trade Negotiations in the Tourism Sector will conduct negotiations to obtain commitments to liberalize tourism services among member countries. In view of Malaysia's comparative advantage in eco-tourism, the nation will take full advantage of the promotion of International Year of Eco-tourism in 2002 by the World Tourism Organization. Malaysia will capitalize on this high profile promotional event, not only to generate greater awareness and interest but also to enhance the development and growth of its eco-tourism.

IV. ALLOCATION

15.48 During the Eighth Plan period, the development allocation for tourism will be RM1 billion, as shown in *Table 15-5*. The allocation focuses on a combination of programmes that will maximize returns to the industry and

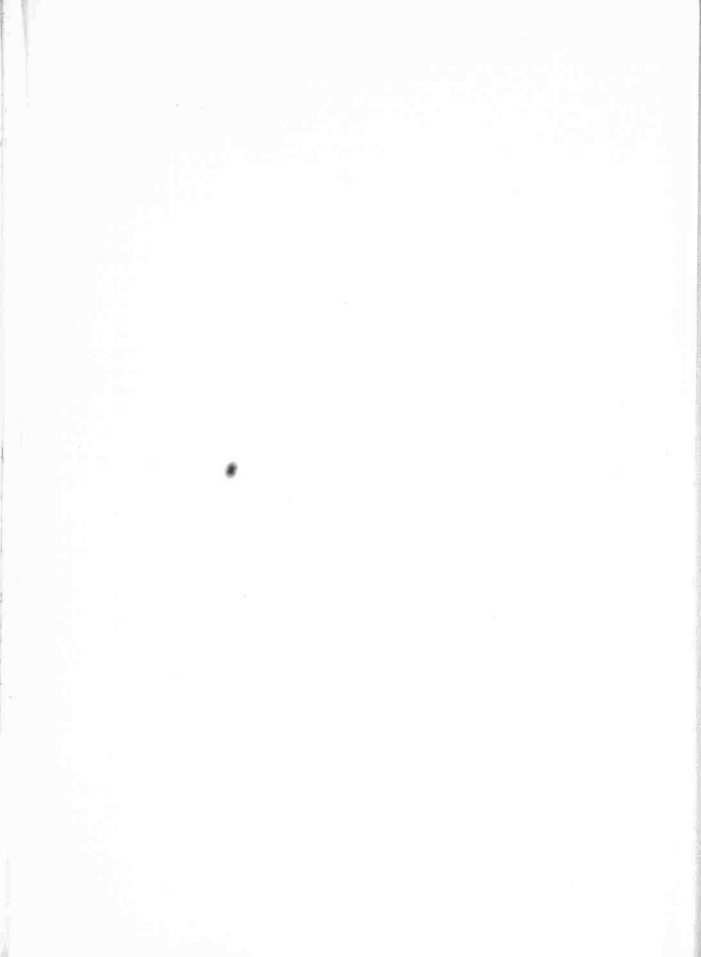
TABLE 15-5
DEVELOPMENT ALLOCATION FOR TOURISM, 1996-2005
(RM million)

Programme	7MP		8MP
	Allocation	Expenditure	Allocation
Preservation of National/ Historical Heritage	56.0	42.4	125.0
Accommodation	49.0	34.0	35.5
Beautification/Cleanliness & Environmental Protection	89.2	69.5	295.3
Facilities & Infrastructure	335.5	276.2	473.6
Others	75.8	62.1	79.6
Total	605.5	484.2	1,009.0

economy. The major programmes that will be implemented include the preservation and conservation of national historical sites, beautification and environment protection, tourism product development as well as the provision of medium-budget accommodation and tourism-related infrastructure facilities.

V. CONCLUSION

15.49 The tourism industry will be a major contributor to the growth of the economy during the Eighth Malaysia Plan period. The overall policy thrust is to attain rapid tourism growth on a sustainable basis. It will require the concerted efforts of not only the public and private sectors but also the general population. The successful implementation of strategic measures which include sustainable development, holistic and integrated approach, creation of a festive and carnival atmosphere, customer-focused product development, comfort, safety and security of tourists as well as the enhancement of strategic alliances and international cooperation, will provide the impetus for the tourism industry to realize its full potential.



16

DISTRIBUTIVE TRADE

I. INTRODUCTION

16.01 The distributive trade sector, which comprises wholesale and retail trade, contributed significantly to the economy in terms of generating output and employment during the Seventh Plan period. However, the economic downturn in 1998 resulted in lower aggregate demand that adversely affected the wholesale and retail trade sector. The sector responded well to measures aimed at stimulating domestic demand and rebounded with positive growth towards the end of the Plan period in tandem with the nation's economic recovery.

16.02 During the Eighth Plan period, the distributive trade sector will be further strengthened and enhanced to meet the challenges of globalization and liberalization as well as more demanding consumer preferences. The overall policy thrust is to increase efficiency and productivity to achieve sustainable growth in the sector as well as increase consumer welfare and quality of life. Towards this end, the strategies that will be implemented include measures in enhancing competitiveness, providing an enabling institutional and regulatory environment, forging stronger linkages and expanding electronic commerce (e-commerce). In addition, consumer protection and maintenance of price stability will be emphasized.

II. PROGRESS, 1996-2000

16.03 The wholesale and retail trade sector registered an average annual growth of 4.2 per cent during the Seventh Plan period despite a negative growth of 3.1 per cent in 1998. The decline was largely attributed to the dampened consumer spending due to the negative wealth effects arising from the sharp decline in share prices and the uncertainty in employment. However, the recovery of the Malaysian economy together with the rebound in consumer confidence as well

as the reduction in interest rate and easing of credit terms, such as for credit cards and hire purchase of passenger cars, contributed to the growth of the distributive trade sector at 2.5 per cent in 1999 and 5.9 per cent in 2000. The employment in the wholesale and retail trade sector grew at an average annual rate of 3.3 per cent from 896,000 jobs in 1995 to 1,055,000 jobs in 2000.

Developments in Distributive Trade

16.04 *Distributive Trade Structure.* The total number of wholesale and retail establishments increased by 12.6 per cent from 192,200 establishments in 1995 to 216,400 in 1998. The structure of the distributive trade sector changed during the Plan period with the increasing presence of hypermarkets, supermarkets and direct selling. The growth of very large retail chains with integrated wholesale and retail functions affected traditional wholesalers and retailers that were located within the target areas of hypermarkets.

16.05 A survey on shopping habits in 1997 indicated that the sundry and provision shops remained the most popular shopping outlets for groceries. Wet markets, farmers' markets and night markets were also popular, as 40 per cent of respondents were regular patrons. Shoppers at supermarkets increased by 1.5 times, while hypermarket shoppers more than doubled since 1995. A Study on the Impact of Hypermarkets on Distributive Trade in 1999 found that the estimated sales of hypermarkets were RM700 million in 1999, constituting 0.4 per cent of total sales in the wholesale trade. The study also found that hypermarkets affected the sales of 58 per cent of the retailers in the neighbouring areas where hypermarkets were located. In terms of prices, 35 per cent of the retailers surveyed lowered their prices in response to competition from the hypermarkets.

16.06 *Franchising.* Franchising presented a means to promote entrepreneurs in the distributive trade with relatively low capital investment and a greater probability to succeed. The brand name, systems, guidance, training and support from the franchisors were among the critical factors that contributed to the success of the franchised business. A significant initiative in promoting franchising was the enactment of the Franchise Act 1998 which provided the necessary framework to monitor and promote the franchise industry. The Act provided for an enabling environment to promote an orderly development of the franchise industry through the compulsory registration of franchises with the Registrar of Franchises, which enhanced cooperation and commitment between franchisor and franchisee. In addition, the Franchise Advisory Council was formed to make recommendations to the Government on issues and directions of the franchise industry.

16.07 The Franchise Development Programme (FDP) was introduced as a strategy to increase the number of Bumiputera entrepreneurs in retail trade. The FDP identified products and services for franchising, particularly products that required low investment costs, assisted in developing franchise package for local products as well as matched Bumiputera entrepreneurs as master franchisees with international franchisors. At the end of the Plan period, Bumiputera entrepreneurs owned 604 franchises while non-Bumiputera entrepreneurs owned 1,555 franchises, as shown in *Table 16-1*. The franchises were mainly concentrated in businesses related to food, household products, cosmetics, motor vehicle servicing and photo studios.

TABLE 16-1
NUMBER OF FRANCHISES BY SECTOR AND
ETHNIC GROUP, 2000

<i>Sector</i>	<i>Bumiputera</i>	<i>Non-Bumiputera</i>
Food	72	142
Household Products	189	509
Medical Centre and Pharmacy	29	5
Signage	5	-
Building Maintenance	31	3
Kindergarten and Gymnasium	5	20
Telecommunications	3	7
Optometrist	11	12
Cosmetics	108	79
Printing	11	-
Computer	13	6
Leather Goods and Apparel	22	33
Bookstore and Stationery	4	4
Consultant	1	-
Handicrafts	4	1
Education Centre	2	5
Hotel	16	-
Motor Vehicle Servicing	27	270
Photo Studio	41	441
Goldsmith	6	18
Forwarding Service	3	-
Retailing	1	-
Total	604	1,555

16.08 *Direct Selling.* The Direct Selling Act 1993 defined direct sale as a door-to-door or a mail order sale. By the end of 2000, a total of 750 direct selling licences was issued, constituting 450 multi-level marketing companies as well as 300 single-level marketing and mail order companies. A wide range of products such as food, cosmetics, health and household products was sold. During the Plan period, total sales from direct selling was RM17.8 billion at an average annual growth rate of 9.1 per cent. The industry's growth was attributed to a number of factors that included busier lifestyles with less time for in-store shopping, personal attention and the confidence generated by the Direct Selling Act 1993.

16.09 The Government introduced a number of measures to further promote the direct selling industry. To encourage Bumiputera participation in the direct selling companies, which was found to be low at 22 per cent in 1999, new direct selling companies as well as existing companies with an annual sales exceeding RM15 million were required to have Bumiputera equity. All direct selling companies were encouraged to be members of the Direct Selling Association of Malaysia or the Multi-Level Marketing Association in order to promote self-regulation and ethical practices. In addition, the issuing of new direct selling licences was frozen for one year effective from 1 June 2000 to enable the Government to review and put in place measures for the healthy development of the industry.

16.10 *Farmers' and Wet Markets.* Farmers' and wet markets remained popular modes of retail business during the Plan period. These markets provided opportunities for self-employment, particularly during the economic crisis and improved the income of traders and farmers. By the end of 2000, there were 131 farmers' markets with 5,467 stalls in Peninsular Malaysia while the number of wet markets were 412 with 21,360 stalls.

16.11 *Warehouse Sales.* The warehouse sales were organized by the private sector for a short period of time with the aim of increasing sales, particularly for clothing, footwear and household furnishings. The increase in warehouse sales reflected its popularity during the Plan period. The warehouse sales were able to attract consumers due to the relatively lower prices compared with prices in regular retail outlets.

16.12 *Strengthening Distributive Trade.* During the Seventh Plan period, efforts were undertaken to strengthen the distributive trade sector. As part of the efforts

to modernize the sector, the bar code scanning project was launched on 6 May 1997. Initially, five supermarkets in the Klang Valley took part in this pilot project. The implementation of this project resulted in savings in labour input as the retailers did not have to place a price tag on each item but only at the display rack. Besides savings in operational cost, the time taken to check out and pay for the items purchased was substantially reduced. Based on the success of the pilot project in increasing efficiency and customer satisfaction, the project was implemented nationwide in 1999 and covered 159 retail outlets.

16.13 During the Plan period, measures were also undertaken to enhance the management and marketing capability of traders to supply value-added products through improved packaging and presentation as well as greater product differentiation. Towards this end, seminars that were organized during the Plan period included the Workshop on Visual Merchandising, the Workshop on Facilitative Exports through Exhibition, Training on Marketing Plan for Exporters, Training on Developing Brands for Export as well as the Seminar on South Korea: Packaging, Labelling and Import Regulations for Processed Food Products. To promote Malaysian products overseas, the Malaysia External Trade Development Corporation (MATRADE) participated in 23 international trade fairs, which involved 297 participants and generated RM31.9 million in sales in 2000. In addition, technical and advisory services were given by *Majlis Amanah Rakyat* (MARA) to improve packaging and increase value added.

16.14 The promotion of the Buy Malaysian Campaign was aimed at reducing imports and strengthening the economy. The campaign was launched nationwide in 1998 through the combined efforts of the Government, industries and media. It provided a boost to the manufacturers and agricultural producers as the market share of locally produced goods expanded, which increased the need for local distribution of inputs and final goods. A Made-in-Malaysia logo was introduced to facilitate the identification of Malaysian products to support the Buy Malaysian Campaign. In addition, efforts were made to encourage the development of the nation's own brand names. Some of the notable Malaysian brand names included Don apparel, Royal Selangor pewter and *Anakku* baby products. Furthermore, there was an emerging trend whereby large retailers took the initiative to sell products under their own brand names. In general, such products were of acceptable quality and priced lower than equivalent products of other established brands, thus offering more choices for consumers.

E-commerce

16.15 E-commerce included doing business over the Internet, selling goods and services that were delivered offline as well as services which could be delivered online. It offered immense opportunities for the distributive trade sector to expand its customer base, enter new markets, rationalize its business and increase productivity. To realize the full potential of e-commerce, measures were undertaken to provide a conducive environment for the development of e-commerce such as the provision of a comprehensive regulatory framework of cyber laws, intellectual property laws and the required infrastructure.

16.16 During the Plan period, the distributive trade sector developed online shopping facilities which offered the convenience of shopping from the home or any place with Internet connection, 24 hours a day, the whole year round. In this regard, retail outlets such as the Mid-Valley Megamall and Parkson Grand complemented their store presence with online shopping as an alternative distribution channel. Other initiatives included the Mall of Malaysia, which was launched in 1997, as an Internet store offering a wide range of products such as gifts, books, apparel, healthcare products and car audio accessories.

16.17 A survey of e-commerce capabilities and readiness of small- and medium-scale enterprises (SMEs) in 1999, which included distributive trade, found that more than one-half of the firms surveyed did not have the prerequisite capabilities which included the prevalent use of electronic mail and databases for customers, suppliers and products. Less than 10 per cent of SMEs had online linkages with key business partners and Internet-based ordering and payment system. A similar survey on large companies in 1999 found that firms in wholesale and retail trade were relatively ready to adopt e-commerce compared with other sectors such as agriculture and construction. The large wholesale and retail companies surveyed were capable in terms of developing computerized databases of their customers, suppliers and products. The capabilities in terms of Internet order taking and payments, however, were low. In addition, only about a quarter of the companies surveyed had a clear e-commerce strategy and less than one-half had their own websites. These findings provided the basis for the formulation of strategies to further develop e-commerce.

Bumiputera Participation

16.18 To promote Bumiputera participation in distributive trade, the Government continued to implement measures to boost their participation. Assistance was

rendered in various forms including licences, credit facilities, business premises, technical and advisory services as well as training and entrepreneurial development. During the period 1997-2000, a total of 2,847 wholesale and 6,157 retail licences for controlled items was issued to Bumiputera entrepreneurs. In addition, 309 rice wholesaling licences, 54 rice importing licences and eight rice export licences were issued to Bumiputera entrepreneurs.

16.19 During the Seventh Plan period, the Government provided various financial assistance to Bumiputera entrepreneurs in distributive trade. In this regard, MARA provided loans amounting to RM241.1 million that benefited 7,734 Bumiputera entrepreneurs. Other sources of funding included the Small Entrepreneur Financing Fund (SEFF), the Small Entrepreneur Fund (SEF) and the *Tabung Ekonomi Kumpulan Usaha Niaga* (TEKUN). A total of RM39.8 million was disbursed under the SEFF, which benefited 1,428 entrepreneurs while the SEF approved RM383.8 million for 33,910 entrepreneurs engaged in distributive trade. In addition, loans amounting to RM60.2 million were granted to 20,390 entrepreneurs under TEKUN.

16.20 The programme to provide Bumiputera entrepreneurs with strategic business premises continued to be implemented during the Plan period. Towards this end, 271 business premises with 4,236 lots located in shopping complexes and arcades, shop houses, markets, stalls and bazaars were provided by MARA for rental. The completion of 11 shopping complexes covering about 241,500 square metres with 1,138 lots by UDA Holdings Berhad also assisted Bumiputera entrepreneurs in securing business premises. In addition, other government agencies such as the State Economic Development Corporations (SEDCs) and *Perbadanan Kemajuan Kraftangan Malaysia* (PKKM) also provided 5,772 lots and 60 lots, respectively, to Bumiputera entrepreneurs in distributive trade.

16.21 Training continued to be an important strategy for entrepreneurial development. During the Plan period, MARA trained 13,764 Bumiputera participants. The training courses covered areas such as business, marketing, negotiations and consultancy. To increase the efficiency and effectiveness of training programmes, MARA also collaborated with the private sector to conduct practical training in supermarkets and hypermarkets. In addition, apprenticeship training was provided to 3,557 participants under the Entrepreneur Training Programme to increase their level of competence with emphasis on practical training.

16.22 The Graduate Entrepreneur Scheme was introduced in 1998 to train graduates with tertiary education on ways to start a business and become entrepreneurs. As at December 2000, 1,144 participants underwent basic business training. A fund of RM10 million was established and managed by *Bank Pembangunan dan Infrastruktur* to provide financial assistance to the graduates to start their businesses. The amount of loans provided ranged from RM20,000 to RM250,000. As at December 2000, RM7.4 million in loans were approved for 86 applicants of whom 20 applicants were for purposes related to retailing of goods such as computers, sports equipment, car accessories, books and gifts.

16.23 The Bumiputera Participation Unit under the Ministry of Domestic Trade and Consumer Affairs was established in 1999 to enhance Bumiputera participation in distributive trade. The Convention on Bumiputera in Distributive Trade was organized in 2000 to obtain feedback on issues faced by Bumiputera entrepreneurs in the sector. The resolutions from the convention provided additional inputs for the formulation of a comprehensive plan of action to encourage the active participation of Bumiputera in this sector.

Establishing Closer Linkages with Other Sectors

16.24 Distributive trade established closer linkages with the support services, agriculture, manufacturing and tourism sectors during the Plan period. The logistics support services, which included forwarding agents, freight forwarders, inland haulage companies as well as shipping and air cargo companies contributed towards the enhancement and expansion of distributive trade. This was mainly attributed to the expansion and upgrading of roads, highways, railway infrastructure, ports, airports and communications that facilitated the improvements in logistics services. The increase in efficiency through shorter delivery time and productivity gains by the logistics services, in turn contributed to the improvements in efficiency of the supply chain and distribution system for the domestic and export markets. The linkages with the agriculture and manufacturing sectors were strengthened through the implementation of the Third National Agricultural Policy (NAP3) and the Second Industrial Master Plan (IMP2). In this regard, activities were undertaken to facilitate the promotion of product development and differentiation as well as marketing and distribution, which generated higher value added for the economy.

16.25 Efforts that were undertaken during the Plan period to position Malaysia as a leading international shopping centre provided the impetus for closer linkages

between the tourism and distributive trade sectors. The three month-long Mega Sales Carnivals that were held in 2000 on a nationwide basis were successful in attracting more shoppers, which stimulated the growth of wholesale and retail trade. In addition, commercial operations of the Light Rail System I (LRT STAR) and LRT System II (LRT PUTRA), which began during the Plan period, coupled with the integration of urban transport infrastructure provided a convenient means of transportation to shopping complexes. These efforts facilitated the growth in tourism expenditure and consumer demand, which enhanced the growth of the distributive trade sector.

Ensuring Adequate Supply of Essential Goods

16.26 During the Plan period, measures were undertaken to ensure an adequate supply of essential goods at reasonable prices through close monitoring by the Task Force on Essential Goods and the Special Panel on Building Materials. The number of inspections by enforcement officers was increased to ensure correct price tagging of goods and prevent hoarding of essential goods. In this regard, *Ops Sedar* and *Ops Budget* were launched throughout the nation and about 586,000 business premises were inspected annually. *Ops Budget* was to ensure that prices of goods that were given reduction or exemption in duty were reduced accordingly after the Budget announcement. *Ops Sedar* was conducted not only to provide information, advice and guidance to traders but also to ensure their compliance with the required rules and regulations.

16.27 Price stability of essential goods continued to be given priority during the Plan period. In this respect, the prices of goods that were monitored increased from 99 to 255 items. This was to provide consumers with up-to-date information on prices as well as to ensure that such goods were readily available and priced at reasonable levels. The relevant legislation such as the Price Control Act 1946 in respect of labelling and price tagging and the Control of Supplies Act 1961 were strictly enforced to ensure price stability. The Control of Supplies Regulations (Prohibition of Exports) 1998 was gazetted to prohibit the exports of five commodities, namely, flour, cooking oil, sugar, condensed milk and diesel beyond a specified quantity. Subsequently, a review was made and only flour remained on the list of items that had a limit on quantity of exports. This measure curbed the outflow of essential items and ensured that the supply could match domestic demand. These efforts together with the sound macroeconomic management contributed towards the relative stability of consumer prices during the Plan period.

Consumer Protection and Education

16.28 Measures were undertaken during the Seventh Plan period to ensure consumer protection and promote consumer education to stimulate the healthy development of distributive trade. In this regard, a significant development was the enactment of the Consumer Protection Act in 1999. The Act aimed at safeguarding consumer interests and ensuring that traders will be responsible in their business operations. As provided for in the Act, the Consumer Claims Tribunal and the National Consumer Advisory Council were established in November 1999 and April 2000, respectively. The basic aim of the Consumer Claims Tribunal was to preside on and expedite the settlement of claims. The National Consumer Advisory Council was to advise the Government on consumer issues as well as promotion of consumer protection and awareness.

16.29 Consumer education was provided to instil consumer awareness as a means to protect their interests. Towards this end, measures undertaken to disseminate consumer education included the conduct of seminars, use of mass media as well as publication of brochures, consumer guidebooks, bulletins and videos. In addition, efforts by non-governmental organizations (NGOs), including the Federation of Malaysian Consumers Association (FOMCA), also contributed towards the promotion of consumer education and protection. Enforcement measures and consultations were also undertaken to safeguard consumer interests. The enforcement of consumer protection-related regulations resulted in legal action being instituted against 11,657 traders in 2000. Furthermore, channels for consumer complaints were adequately provided which included the use of the designated postal box and electronic mail address. As a result, an average of 5,087 complaints was received and investigated from 1997 to 2000. Tripartite consultations represented an amicable and effective way to resolve disputes. In this regard, the Government assisted in resolving about 3,000 disputes between the consumers and traders from 1997 to 2000.

III. PROSPECTS, 2001-2005

16.30 The distributive trade sector supported by sustained economic growth and rapid expansion of the tourism industry will assume a more prominent role in the growth of the economy. In this regard, the wholesale and retail trade sector is expected to grow at an average annual rate of 7.8 per cent during the Eighth

Plan period. Towards this end, the strategies that will be implemented to strengthen the performance of the distributive trade sector are as follows:

- ❑ *enhancing the competitiveness of distributive trade;*
- ❑ *facilitating the development of new distribution modes;*
- ❑ *expanding e-commerce;*
- ❑ *intensifying efforts to increase Bumiputera participation;*
- ❑ *strengthening linkages with other sectors of the economy;*
- ❑ *ensuring price stability; and*
- ❑ *promoting consumer education and ensuring consumer protection.*

Enhancing Competitiveness

16.31 Globalization and liberalization of trade and services necessitate that vigorous efforts be undertaken to enhance competitiveness in order to ensure sustainable growth of the distributive trade sector. Towards this end, the private sector will be the driving force while the Government will be a facilitator to enhance competitiveness. Measures will be undertaken to provide an enabling administrative and legislative environment as well as to modernize and strengthen the sector. As part of the efforts to modernize the sector, the bar code scanning project will be progressively extended to all retail outlets. With the expansion in the usage of the scanning system, greater benefits will be realized at every stage of the production, distribution and consumption cycle. The manufacturers will have more accurate sales information and, therefore, greater control of their production plans. Retailers will have better inventory control and faster service at checkout counters. In addition, it will facilitate the monitoring of prices of essential goods more effectively.

16.32 During the Plan period, efforts will be made to foster fair trade practices that will contribute towards greater efficiency and competitiveness of the economy. In this context, a fair trade policy and law will be formulated to prevent anti-competitive behaviour such as collusion, cartel price fixing, market allocation and the abuse of market power. The fair trade policy will, among others, prevent firms from protecting or expanding their market shares by means other than greater efficiency in producing what consumers want. In addition, a national policy and master plan on distributive trade will be formulated to facilitate an orderly and healthy development of the sector.

16.33 To enhance the competitiveness of the distributive trade sector, human resource development will be emphasized. In this regard, relevant training such as accounting, business management, marketing and entrepreneurial development will continue to be intensified during the Plan period. The training programmes will be continuously reviewed and upgraded to keep pace with the latest developments including e-commerce.

16.34 Market expansion to other countries will be encouraged to reap the benefits from economies of scale. Strategic alliances and smart partnerships with foreign companies will be fostered to penetrate new markets as well as facilitate the export of locally manufactured goods. Efforts will be undertaken to promote Malaysia as a regional distribution and warehousing hub. This endeavour will be supported by efficient facilitation measures. Steps will also be undertaken to develop Malaysia as an international centre for *halal* food by capitalizing on the nation's competitive advantage in the *halal* food industry. Malaysian producers will, therefore, be encouraged to tap the immense opportunities to export *halal* food. In addition, further efforts will be made to increase research and development (R&D) on food technology. There will also be an increased utilization of e-commerce applications to facilitate the sourcing, distribution and export of goods.

16.35 The further strengthening of the support services for distributive trade will be crucial to increase competitiveness. In this regard, measures will continue to be undertaken to develop a more efficient production and distribution system for food, general merchandise and other consumer goods. In addition, support services such as logistics, warehousing, distriparks and communications will also be improved.

16.36 In order to enable effective policy formulation and implementation, a comprehensive database on distributive trade will be developed. It will also facilitate the monitoring of the performance of the industry and also the effectiveness of programmes to increase Bumiputera participation. Market research activities will be encouraged to enable producers and distributors to supply goods that meet changing preferences as well as raised expectations and demands of consumers.

16.37 A well-regulated and efficient intellectual property regime is necessary to protect the interests of producers, attract investments as well as encourage innovation and technology transfer. In this regard, an intellectual property authority

will be established to oversee the development of intellectual property rights that include the registration of patents, trademarks and copyrights. The registration of trademarks will be accelerated with improvements in computerization of relevant Government agencies. Efforts will be stepped up to curb the import and production of counterfeit goods. The Special Copyright Task Force will intensify efforts to ensure adequate copyright protection and conduct enforcement to contain piracy.

Development of New Distribution Modes

16.38 The development of new distribution modes will be encouraged, as it will offer a wider variety of choices for consumers to suit their convenience and preferences. It will also generate a positive competition effect, which can result in efficiency gains that can be passed on to consumers in the form of more competitive prices and better services.

16.39 *Franchising.* The franchise industry, backed by strong economic growth and optimism, is expected to flourish rapidly. To accelerate the development of the Franchise Development Programme (FDP), RM100 million will be allocated during the Plan period. This allocation will focus on activities such as promotion and marketing, training, financing, product development as well as improvement of database. In addition, the FDP will continue to emphasize on nurturing home-grown franchises. It will also be implemented to increase the involvement of Bumiputera entrepreneurs in the retail business. Furthermore, Malaysian franchises will be encouraged to export their products and services in view of the anticipated increase in opportunities of global trade.

16.40 *Direct Selling.* The direct selling industry is expected to expand further during the Plan period. Direct selling companies will be encouraged to use more local content and local packaging to save foreign exchange and increase value added. These companies will be encouraged to maximize the benefit of contract manufacturing or be vertically integrated to produce raw materials, processing, packaging and market local products. In addition, direct selling companies will need to be competitive and look for opportunities to export locally manufactured products. With the view to deregulating the industry, the Government will review the Direct Selling Act 1993. In addition, a new legislation aimed at preventing pyramid schemes will be formulated. As a preventive measure, anti-pyramid scheme campaigns will be intensified to inform and educate the public on the dangers of such schemes.

16.41 *Factory Outlets and Electronic City.* An international standard factory outlet near KL International Airport (KLIA) will be launched during the Plan period. Its focus is on branded goods that are sold directly from factories at competitive prices. The success of this factory outlet will serve as a model for it to be replicated in other states. The electronic city, which is a shopping area that specializes in the sale of electrical and electronic goods, will also be launched during the Plan period. It will provide the latest and widest possible range of goods at competitive prices to attract domestic and foreign shoppers. The establishment of factory outlets and the electronic city will not only spur the growth of the distributive trade sector but also promote tourism.

Expanding E-commerce

16.42 The positive developments in e-commerce coupled with the expected increase in online shopping presented opportunities to be tapped to enhance the growth of the wholesale and retail trade. Retailers will be encouraged to use both the store and the Internet to increase identity and sales as well as accommodate delivery, return of goods and after-sales service. At the same time, Internet start-up retailers without a physical store presence will be encouraged, as it can save costs in terms of office rental and wages. Online retailers will need to develop or upgrade Internet ordering and fulfillment systems to remain competitive. It is envisaged that online shopping that provides consumers with greater control in terms of customizing products and schedule times for home delivery will become popular and, therefore, need to be incorporated into the system. To gain the confidence of consumers, emphasis will be placed on security of e-commerce, particularly for online payment transactions. In this context, online retailers will be encouraged to be Secure Electronic Transaction (SET) compliant, which is a worldwide security standard, to protect both the trader and customer. In addition, the wholesale and retail trade will also be encouraged to take advantage of business-to-business transactions through the Internet to expand their business and source for products at the most competitive price.

Increasing Bumiputera Participation

16.43 During the Eighth Plan period, further efforts will be made to provide credit facilities, business premises, technical and advisory services as well as training to increase Bumiputera participation in the retail and wholesale trade.

Port Klang and Port of Tanjung Pelepas as cargo transshipment centres as well as KLIA as an aviation hub will facilitate the expansion of the distributive trade sector.

16.46 Efforts will also be intensified to forge closer linkages between tourism and distributive trade sectors. The concerted measures that will be undertaken to boost the tourism industry, particularly efforts to promote Malaysia as a shopping paradise including the organization of three month-long Mega Sales Carnivals, will further enhance the distributive trade sector. In addition, the emphasis on an integrated transport system and pedestrianization projects, which provide easy and convenient access to shopping centres, will also further contribute to the growth of distributive trade.

Ensuring Price Stability

16.47 Price stability will remain a major policy concern during the Plan period. As the sources of price pressures are both demand- and supply-related, a combination of policies involving both demand- and supply-related elements will be implemented in a flexible, coordinated and pragmatic manner. Prudent monetary and fiscal policies will continue to be adopted to address demand-related issues. To safeguard the interest of all Malaysians, particularly the low-income group, adequate supplies of essential goods will continue to be ensured to prevent undue price pressures. At the same time, micro-measures will be implemented to address infrastructure and distribution bottlenecks. Such measures will lower production costs and, therefore, increase the competitiveness of the products. In addition, a price analysis and monitoring system with built-in trigger mechanism will be developed to serve as an early-warning system for supply-side actions to be taken to maintain price stability. The Government will also introduce a legislation to curb excessive and unwarranted price increases.

Consumer Education and Protection

16.48 Consumer education will continue to be a means of increasing awareness on consumer rights to safeguard their interests during the Eighth Plan period. The increased awareness among consumers will act as a deterrent against unethical trade practices. The traders will be encouraged to offer quality goods at competitive

prices, provide warranties and after-sales service as well as have a clear return of goods policy. Other measures that will continue to be implemented include the enforcement of the provisions of the Consumer Protection Act 1999 as well as provide greater publicity for the Consumer Claims Tribunal so that more consumers will be aware and avail of the facility. As part of the efforts to promote consumer education to the public, the establishment of consumer clubs in *Rukun Tetangga* sectors and schools will be encouraged. In the quest for total consumer protection, a study to formulate a consumer master plan will be undertaken during the Plan period. It will provide a comprehensive analysis of the status, issues and directions of consumer education and protection in the light of globalization and liberalization. Action will be taken to protect consumer interests in e-commerce transactions. Areas covered by the Consumer Protection Act 1999 will be extended to include e-commerce.

IV. ALLOCATION

16.49 The Eighth Plan allocation for distributive trade is RM763.2 million, as shown in *Table 16-2*. This allocation will be utilized to provide loans and financing for small- and medium-scale enterprises in the distributive trade sector, support the purchase of business premises in strategic locations, modernization and development of distributive trade as well as for training and consultancy services.

TABLE 16-2
DEVELOPMENT ALLOCATION FOR
DISTRIBUTIVE TRADE, 1996-2005
(RM million)

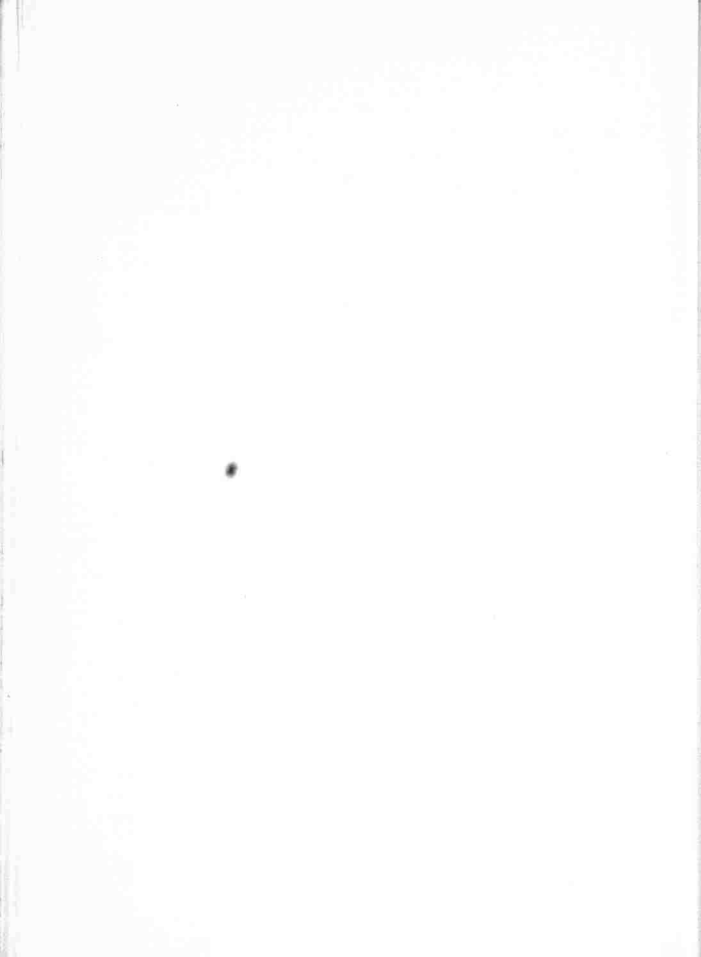
Programme	7MP		8MP
	Allocation	Expenditure	Allocation
Funds for Distributive Trade	200.0	200.0	243.0
Upgrading and Modernization of Trade Services	22.6	20.9	40.0
Business Premises	438.1	257.5	440.2
Training and Consultancy	18.8	16.2	40.0
Total	679.5	494.6	763.2

V. CONCLUSION

16.50 The distributive trade sector is well placed to make a larger contribution to the economy during the Eighth Plan period. This is underpinned by the anticipated strong economic growth, the increase in consumer demand and the concerted efforts to further strengthen the sector. The policy thrust is to enhance competitiveness and achieve sustainable growth in distributive trade. Towards this end, the collaborative efforts of both the public and private sectors in implementing the strategies are critical to achieve the growth target and increase consumer welfare.

Chapter 17

Health



17

HEALTH

I. INTRODUCTION

17.01 The objective of the health services is to raise and continuously improve the health status of individuals, families and communities. During the Seventh Malaysia Plan period, the scope and coverage of programmes ranging from health promotion, disease prevention as well as curative and rehabilitative services were further improved, while health infrastructure development focused more on rural and remote areas. The delivery of health services was also made more efficient with the application of information technology (IT). In addition, the growth of private health sector services complemented the public health sector. Privatized pharmaceutical and hospital support services were also closely monitored to ensure quality.

17.02 During the Eighth Malaysia Plan period, primary healthcare will remain the focus of national health development while concerted efforts will be continued to improve equity and quality in the provision of health services for the population. This will include further development and expansion of the scope of primary, secondary and tertiary healthcare, greater use of IT in the delivery of health services as well as more emphasis on increasing the quantity, capacity, capability and quality of health personnel to meet the demand of the rapidly expanding health sector. Specific programmes such as occupational safety and health, geriatric care, mental health and prevention and control of emerging diseases and re-emerging infections will be expanded. Research and development (R&D) in health services will be further enhanced during the Plan period. In addition, the governance of the health sector will continue to be strengthened to ensure efficient and effective utilization of resources and balanced development of the sector.

II. PROGRESS, 1996-2000

17.03 During the Plan period, the thrust of the health sector was focused on improving the health status of the population. Emphasis, therefore, was placed on the promotion of health with the support and commitment of the community and improving access to health facilities. Besides meeting basic needs, health programmes also took into account the changing pattern of diseases, escalating cost and rising public expectations. The public sector continued to expand health facilities and services as well as increased the number of health and allied health professionals, while the private sector complemented the public sector, particularly in the provision of curative health services.

Promotive and Preventive Health Services

17.04 *Health promotion and disease prevention programmes* continued to be accorded high priority during the Plan period. The activities were carried out with better integration and cooperation of the private sector and non-governmental organizations (NGOs). The programmes took into account the increasing affluence of society and its sedentary and stress-filled lifestyles. They emphasized the promotion of a healthy lifestyle, better nutrition, immunization, safe water supply as well as food quality and safety. These efforts led to significant improvements in the health status of the population as evidenced by the increasing life expectancy at birth and reduction of infant and toddler mortality rates, as shown in *Table 17-1*.

17.05 The immunization programme in 1999 achieved a 100 per cent coverage for Bacille Calmette-Guerin (BCG), while it was 94.1 per cent for the triple antigen vaccine (diphtheria, pertussis and tetanus), 93.4 per cent for poliomyelitis and 86.2 per cent for measles. Malaysia was declared a polio-free area in October 2000. In addition, activities that focused on the wellness paradigm, emphasizing nutrition and the inculcation of a healthy lifestyle, were promoted in schools through the supplementary food programme and dental health services. Consistent with the concept of shared responsibility for health development, health promotive activities were organized by government agencies, voluntary organizations, the NGOs and Parent-Teachers Associations.

TABLE 17-1

SELECTED INDICATORS OF HEALTH STATUS, 1995 AND 2000¹

<i>Indicator</i>	<i>1995</i>	<i>2000²</i>
Life Expectancy At Birth (in years)		
Male	69.4	69.9
Female	74.2	74.9
Crude Birth Rate (Per 1,000)	25.9	24.4
Crude Death Rate (Per 1,000)	4.6	4.4
Infant Mortality Rate (Per 1,000)	10.4	7.9
Toddler Mortality Rate (Per 1,000)	0.8	0.1
Maternal Mortality Rate (Per 1,000)	0.2	0.2
Perinatal Mortality Rate (Per 1,000)	9.8	7.5 ²
Neonatal Mortality Rate (Per 1,000)	6.8	5 ²

*Notes:*¹ Figures for 1999² Figures for 1998

17.06 The *healthy lifestyle campaign* was continued with emphasis on the prevention of diabetes, promotion of healthy diet and nutrition, exercise and fitness, road safety, safety at home and the workplace, health and safety of children as well as the promotion of mental health. The healthy lifestyle campaign disseminated information on incidents and prevention of contagious diseases such as human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), tuberculosis and dengue as well as diseases caused by the Nipah and Cocksackie viruses. In addition, the *Program Sihat Tanpa AIDS Untuk Remaja* (PROSTAR) on the prevention of HIV/AIDS, established 458 PROSTAR clubs, mainly made up of 23,780 adolescents as peer group tutors in 339 schools and 119 districts.

17.07 Surveillance and control of infectious diseases was further strengthened through capacity and capability building as well as greater collaboration and coordination between various agencies. During the recent out-break of the Nipah

virus, rapid response and greater collaboration efforts were established through the inter-ministerial committee and networking with international bodies such as the World Health Organization (WHO) and the Control Disease Center in Atlanta. Efforts to establish the Infectious Disease Centre was started in 1999 with the upgrading of the Disease Surveillance Unit in the Ministry of Health, Infectious Disease Research Centre in the Institute of Medical Research (IMR) in Kuala Lumpur, and the National Public Health Laboratory in Sungai Buloh, Selangor.

17.08 During the Seventh Plan period, the scope of the *family health programme* was expanded to promote and maintain the optimal health status for the individual, family and community through the promotion and provision of healthcare as well as appropriate health services for those with special needs. In addition, the introduction of the Family Medicine Specialist Services in 1997 helped to ensure the early detection of diseases and provision of appropriate management of patients at primary healthcare level and reduced unnecessary referrals to hospitals. The provision of a comprehensive healthcare at the primary healthcare level was further strengthened through the decentralization of outpatient departments from hospitals to health clinics.

17.09 The *programme on food and nutrition* was further strengthened through the implementation of the National Action Plan on Nutrition which emphasized food safety production from source to marketing and consumption as well as equitable access to nutritional food. The Action Plan also emphasized healthy eating habits, especially among school children and adolescents. In addition, beginning 1997, the *school health service programme* was further strengthened by integrating the roles of the Ministry of Education and Ministry of Health in promoting environmental health activities as well as nutritional balance and exercise to avoid obesity. By 2000, 1,960 health workers and teachers were trained to promote and implement the integrated school health service. The curriculum for health education was revised to emphasize and inculcate the practice of healthy lifestyles at an early age. In addition, special nutritional programmes for children in rural areas were also undertaken to supply nutritious supplementary food baskets, salt and adequate micro nutrients.

17.10 Under the *environmental health and sanitation programme*, full coverage of piped water supply was achieved for urban areas and 84 per cent for rural areas in 2000. Under the Water Supply and Environmental Sanitation Programme (BAKAS), more community wells were provided, while rain water collection

schemes and the tapping of groundwater sources for the supply of safe water were undertaken in the rural areas. This helped to achieve a coverage of 93.5 per cent by 2000. In order to maintain water quality, the National Drinking Water Quality Surveillance Programme was expanded and by 2000, covered 98 per cent of the public water supply system. The rural sanitation programme under BAKAS covered 99.0 per cent or 1,731,800 households in 2000, compared with 94.9 per cent in 1995. These efforts contributed to a reduction in the incidence of water-borne diseases from 3,500 in 1995 to 2,100 in 1999. In 1997, the National Clinical Waste Management System was implemented to provide clinical waste management needs of public and private health facilities. In addition, the completion of three public health laboratories further enhanced food and water quality testing.

17.11 Out of 146 local authorities, 52 transferred their functions on public health matters to the Ministry of Health. This helped to upgrade the quality of health care services through more effective inspection of cleanliness of food and market premises, introduction of efficient preventive methods on the spread of communicable and contagious diseases and reduction of environmental health hazards. Better detection methods also improved the screening and recording of infections, thereby controlling the spread of communicable and contagious diseases, particularly malaria where the incidence rate declined from 286.1 per 100,000 in 1995 to 60.8 in 1999.

17.12 The *occupational safety and health programme* was strengthened with a view to further reducing occupational accidents and diseases. The Department of Occupational Safety and Health (DOSH) reviewed and formulated new regulations and guidelines to strengthen its enforcement capability. In addition, the National Institute of Occupational Safety and Health (NIOSH) also intensified training and education sessions within factories and work sites to ensure the attainment of a high standard of occupational safety and health. The National Council for Occupational Safety and Health with the cooperation of DOSH also organized three national occupational safety and health campaigns in 1996, 1998 and 2000. In addition, employers also instituted measures which ensured safer working environment as provided under the Occupational Safety and Health Act 1994. These measures resulted in the decline of occupational and workplace incidents from 114,130 in 1995 to 92,100 in 1999. Accidents at the workplace also decreased from 99,410 in 1995 to 73,760 in 1999. In 2000, the Social Security Organization (SOCSO) provided medical benefits, disability allowances and pensions to 209,820 workers and their dependents compared with 182,760 in 1995. SOCSO's coverage was also expanded to include compensation for those involved in accidents while commuting to and from the workplace.

Medical Care Services

17.13 Medical care services, comprising primary, secondary and tertiary care were provided through a wide network of health clinics and hospitals. These included outpatient and inpatient care services ranging from primary care at the health clinics to the advanced medical care at tertiary care centres in the hospitals. During the Plan period, a total of 33 hospital projects was approved for construction. These included two IT-based specialist hospitals in Selayang, Selangor and Putrajaya, which were commissioned in 2000. Work also began on the construction of six hospitals incorporating the computerized Total Hospital Information System (THIS), namely in Ampang, Serdang and Sungai Buloh, Selangor; Alor Setar and Sungai Petani, Kedah; and Pandan, Johor. In addition, 25 small-and medium-sized hospitals, including 12 in Sabah and Sarawak with capacities ranging from 76 to 499 beds, incorporating the computerized Health Information System (HIS) were in various stages of planning and development. The distribution of the hospital projects under various stages of implementation is as shown in *Table 17-2*. A total of 11 hospitals was also upgraded and refurbished to provide better healthcare with clinical support facilities. As a result, public health facilities and coverage improved during the Plan period, benefiting the entire population, as shown in *Table 17-3*. To facilitate the development of IT in the health sector, the Telemedicine Act was enacted in 1997, which among others, made provision for the regulation and control of the practice of telemedicine, such as confidentiality of information of patients and the requirements of medical practitioners to obtain the consent of the patient before telemedicine is practised.

17.14 During the Plan period, the diagnostic and support facilities such as imaging, pathology and haematology services were further improved. In this context, the National Blood Centre was established in Kuala Lumpur in 2000, and Blood Transfusion Units were upgraded in all state hospitals. In addition, one Bone Densitometer in Hospital Pulau Pinang, four Magnetic Resonance Imaging (MRI) machines in hospitals in Kuala Lumpur, Ipoh, Johor Bahru and Selayang; 19 Computerized Tomography (CT) Scanners in all state hospitals as well as additional 14 mammography equipment were installed and commissioned in selected state hospitals and hospitals in large districts such as Muar, Sibul and Taiping.

17.15 Under the rural health programme, comprehensive coverage of basic health services for rural and remote areas was given priority. This included the construction of new primary healthcare clinics as well as the upgrading and

LIST OF HOSPITAL PROJECTS APPROVED DURING THE SEVENTH PLAN PERIOD

483

<i>State</i>	<i>Hospital</i>	<i>Number of Beds</i>	<i>Scope of Services</i>
Selangor	Ampang	562	Full secondary care with tertiary care on Respiratory Medicine and Endocrinology
	Cheras	150	Rehabilitative and Geriatric Care
	Selayang	960	Full secondary care with tertiary care on Hand and Micro Surgery, Hepatobiliary, Nephrology and Urology
	Serdang	620	Full secondary care with tertiary care on Cardiology and Cardiothoracic
	Shah Alam	500	Tertiary care
	Sungai Buloh	620	Full secondary care with tertiary care on Infectious Disease, Neurology, Neurosurgery, Plastic Surgery and Burns, and Maxillofacial
Terengganu	Setiui	76	Basic secondary care
Wilayah Persekutuan Putrajaya	Putrajaya	250	Full secondary care

Notes.

- 1 Primary care services comprise of outpatient department as the first point of contact, including maternal child healthcare, dental services, school health services and support services such as clinical and imaging facilities, pharmacy and registration.
- 2 Basic secondary care services comprise of General Medicine, General Surgery, Obstetrics and Gynaecology, and Paediatrics. The services are run by resident medical officers and visiting specialists.
- 3 Full secondary care services comprise of General Medicine, General Surgery, Obstetrics and Gynaecology, Paediatrics, Orthopaedics, Anaesthesiology, Psychiatry, Dermatology, Medical Rehabilitation, Pathology, Imaging, Dental, ENT, Ophthalmology and Geriatrics. The services are run by medical officers and resident specialists.
- 4 Tertiary care services are highly specialized care in areas such as Cardiology, Cardiothoracic Surgery, Geriatrics, Paediatric Surgery, Neurology, Neurosurgery, Respiratory Medicine, Urology and Nephrology, Plastic Surgery and Burns, Maxillofacial, Haematology, Radiotherapy and Oncology, and Endocrinology.

refurbishing of community and midwife clinics into health clinics. The health clinics were equipped with basic imaging and laboratory diagnostic facilities and teleprimary IT systems. A total of 172 new health and community clinics was in various stages of planning, development and construction during the Plan period, of which 12 were completed, while 304 existing health and community clinics, and midwife clinics cum quarters were renovated and upgraded to provide a comprehensive range of primary healthcare services. In addition, mobile dispensary services were provided with more equipment and medicine to better serve the remote areas. Ambulance services were also upgraded with new and well equipped vehicles to provide quick access for referral cases from clinics and hospitals in districts to specialist centres.

17.16 Systematic regulatory control of the pharmaceutical products and other medicines was continued with the implementation of the Control of Drugs and Cosmetic Regulation 1984 by the Drug Control Authority to ensure safe, efficacious

TABLE 17-3

PUBLIC HEALTH FACILITY AND COVERAGE, 1995 AND 2000

Category	Number		Facility Ratio to Population and Coverage (%)	
	1995	2000 ¹	1995	2000 ¹
Health Facilities				
Rural Health Facilities				
Community Clinics ²	1,987	1,992	1: 4,717	1: 4,758
Health Clinics	721	725	1: 12,998	1: 13,194
Mobile Units ⁴	284	194		
Urban Health Facilities				
Maternal & Child Health Clinics	102	107		
Health Clinics	51	54	1: 22,909	1: 25,853
Patient Care Services				
Hospitals	118	119		
Acute Beds ³	24,454	24,780 ⁵	1: 846	1: 495
Dental Units ⁶	2,327	2,597	1: 8,891	1: 8,540
Beneficiaries ('000)				
Outpatient Visits ⁷	24,290	27,039		
Inpatients ⁷	1,448	1,543		
Rural Water Supply	7,397	8,398 ²	85.8	93.5 ²
Sanitary Latrines (Rural)	8,132	8,761 ²	94.9	99.0 ²
School Dental Clinics	2,808	4,029	63.4	83.1
Supplementary Feeding	510	528	19.0	18.4
Immunization (Under one year)				
BCG	554	479	100.0	100.0
Diphtheria, Pertussis and Tetanus (3rd dose)	501	499	93.7	94.1
Hepatitis B (3rd dose)	485	483	90.7	91.1
Measles	458	457	85.5	86.2
Polio (3rd dose)	500	495	93.5	93.4

Notes:

¹ Figures for 1999² Figures for 2000³ Includes *klinik desa* and midwife clinics which were upgraded into community clinics.⁴ Refers to Dispensary Services, Village Health Teams, Flying Doctor Services and Mobile Dental Services.⁵ Refers to hospital beds under the Ministry of Health and does not include chronic beds.⁶ Refers to dental chairs in Government Clinics.⁷ Refers to attendances in public health facilities.

and quality products for consumption. The National Pharmaceutical Control Bureau was entrusted with the quality control assessment of the health products, licensing of manufacturers, importers and wholesalers as well as monitoring adverse reactions of drugs. The drug registration exercise included the registration of scheduled poison, non-poison as well as traditional medicine products.

17.17 The private health sector also expanded during the Plan period. The number of hospitals and beds increased from 197 and 7,192 in 1995 to 225 and 9,098, respectively in 1999, compared with the public sector which had 127 hospitals and 34,000 beds in 1999. However, 97.8 per cent of the private hospital beds were located in urban areas. In addition, these hospitals provided specialist services and were equipped with the latest diagnostic and imaging facilities. In 1999, 23 out of 27 MRI equipment, 67 out of 86 CT Scanners, 67 per cent of physicians, 66 per cent of surgeons and 80 per cent of obstetricians and gynaecologists were in the private sector. This created unequal distribution of medical services and difficult access for communities in rural areas. Consequently, the Private Healthcare Facilities and Services Act was enacted in 1998, among others, to improve access to healthcare, correct the imbalances in standards and quality of care as well as rationalize medical charges in the private health sector to more affordable levels.

17.18 The Quality Assurance Programme was given emphasis during the Plan period to improve quality, efficiency and effectiveness in the delivery of services, clinical training, research and development to meet the demand of patients seeking increasingly higher quality services. In this regard, the National Strategic Plan for Quality in Health was formulated in 1998, and the National Implementation Plan for Quality launched. The Plan included the development of life-long wellness management and care plans, the introduction of outcome assessment measures as well as accreditation of healthcare professionals and facilities.

17.19 In order to increase the efficiency of hospital services, five support services were privatized in 1996, which included hospital cleansing, clinical waste management, bio-medical equipment maintenance, facility maintenance, as well as linen and laundry services. In addition, the privatization of medical stores facilitated the local manufacturing of medical and pharmaceutical products, thereby increasing locally manufactured medicine from 250 to 320 and reducing the number of imported drugs from 372 to 309 in 1999. The medical screening of foreign workers was privatized in 1997 to ensure the employment of healthy workers. A total of 1,213,220 workers was screened during the Plan period. To

effectively supervise and monitor the privatized and corporatized medical and non-medical services, the Government developed regulatory guidelines and systems such as the computerized management information model and rapid feedback monitoring to manage and regularly evaluate the quality and cost of services.

17.20 With the increasing number of traditional medical practitioners and greater consumption of related medical products, the Ministry of Health undertook measures to monitor quality and safety to protect consumer interests. A standing committee was established during the Plan period to ensure the standard and quality of traditional/complementary medicine. In addition, all traditional practitioners were required to register their practices, credentials and products so that their operations could be monitored to ensure their products are safe for consumers.

Health Manpower

17.21 Manpower development was accorded high priority during the Plan period, to support the expansion and delivery of quality health services as well as address the acute shortage of various categories of health manpower. Six public universities and the three private medical colleges expanded their capacity to produce doctors, dentists and pharmacists. A total of 5,900 graduates was trained during the Plan period, compared with 3,250 in the Sixth Plan period. In addition, the Government also sent students for medical education abroad.

17.22 In spite of these efforts, there was still a shortage and unequal distribution of health manpower, which affected the quality of services provided. Although the doctor-population ratio improved from 1: 2,153 in 1995 to 1:1,465 in 1999, the disparities between the states remained high, with the Federal Territory of Kuala Lumpur at 1:372, compared with 1:4,120 in Sabah, as shown in *Table 17-4*. In 1999, 44 per cent of doctors, 59 per cent of dentists and 85 per cent of pharmacists were in the private sector compared with 55 per cent, 51 per cent and 74 per cent in 1995, respectively. In order to overcome the shortage, the public sector recruited 151 foreign doctors as well as 104 foreign specialists in various fields such as surgery, paediatrics, obstetrics and gynaecology, as a short-term measure to avert the shortage. In addition at the end of 2000, 41 retired specialists were employed on contract basis. The public sector also purchased medical services, such as radiotherapy and cardiothoracic surgery from the private sector in Pulau Pinang and Sabah. Private surgeons and anaesthesiologists were also engaged on a sessional basis to provide services in public hospitals.

17.23 There was also a shortage of various categories of allied health professionals such as nurses, medical assistants and radiographers. Therefore, 11 new nursing colleges and 16 allied health professional training centres were approved for construction while eight existing colleges and centres were expanded during the Plan period to cater for 1,080 trainees. In addition, as a short-term measure, the Ministry of Health outsourced training for additional allied health professionals with the cooperation of the private institutions. These efforts improved the manpower supply for the health sector, as shown in *Table 17-5*.

TABLE 17-4
NUMBER AND RATIO OF DOCTORS TO POPULATION
BY STATE, 1999

State	Public Sector			Private Sector		Ratio of Doctor to Population
	MOH	Non MOH	Total		Total	
Johor	725	7	732	745	1,477	1: 1,808
Kedah	457	4	461	364	825	1: 1,915
Kelantan	378	232	610	166	776	1: 1,962
Melaka	271	20	291	243	534	1: 1,111
Negeri Sembilan	326	4	330	245	575	1: 1,455
Pahang	389	2	391	221	612	1: 2,110
Perak	738	24	762	666	1,428	1: 1,483
Perlis	102	-	102	31	133	1: 1,701
Pulau Pinang	483	11	494	679	1,173	1: 1,063
Sabah	456	5	461	260	721	1: 4,120
Sarawak	465	25	490	281	771	1: 2,629
Selangor	704	55	759	1,469	2,228	1: 1,431
Terengganu	352	1	353	118	471	1: 2,194
Wilayah Persekutuan Kuala Lumpur	1,605	882	2,487	1,292	3,779	1: 372
Malaysia	7,451	1,272	8,723	6,780	15,503	1: 1,465

Note: Public sector includes Ministry of Health, other government agencies, local authorities and universities

TABLE 17-5

**SELECTED HEALTH MANPOWER DISTRIBUTION
AND REQUIREMENTS, 1995 AND 2000**

	1995		2000		2000	
	Number	Ratio	Number	Ratio	Requirement ¹	Deficit/ Surplus
Doctors ²	9,608	1: 2,153	16,468	1: 1,413	23,264	-6,796
Dentists ²	1,741	1: 11,881	2,001	1: 11,627	3,231	-1,230
Pharmacists ²	1,939	1: 10,667	2,801	1: 8,306	3,102	-301
Dental Technicians	362	1: 57,139	521	1: 44,656	598	-77
Dental Surgery Assistants	980	1: 21,106	1,463	1: 15,903	1,672	-209
Medical Laboratory Technologists	1,698	1: 12,181	2,399	1: 9,698	2,705	-306
Nurses & Medical Assistants	24,468	1: 845	39,890	1: 518	55,224	-15,334
Occupational Therapists	113	1: 183,046	148	1: 157,202	245	-97
Physiotherapists	217	1: 95,319	263	1: 88,463	394	-131
Public Health Inspectors	1,425	1: 14,515	1,549	1: 15,020	1,812	-263
Radiographers	422	1: 49,015	645	1: 36,071	791	-146

*Notes:*¹ Based on norms² Includes public and private sectors

Medical Research and Development

17.24 During the Plan period, there was increasing emphasis on medical research activities for the diagnosis, treatment, prevention and control of diseases and conditions such as HIV/AIDS, the hand, foot and mouth disease, the Nipah virus and the health effects of haze. In this regard, the Government established the Environmental Health Research Centre at the IMR, and the research capacities of the National Institutes of Health (NIH) were upgraded. The IMR achieved a major breakthrough with the discovery and commercialization of *Bacillus thuringiensis* which destroyed the larva of mosquitoes. The IMR also contributed significantly to the polio eradication efforts of the WHO in the Western Pacific Region.

17.25 During the Plan period, research activities under the Intensified Research in Priority Areas (IRPA) programme emphasized health implications associated with lifestyles and demographic changes, occupational safety and environmental health, vector-borne and other communicable diseases, new technologies in health, health care systems and industries as well as development of medical biotechnology. The universities concentrated their research on HIV/AIDS and its socioeconomic impact, food production and biotechnology. In addition, a major study covering the occupational safety and health of the self-employed, particularly those in the agricultural and forestry sector was launched by DOSH and NIOSH in 2000.

17.26 The Government also completed two major studies during the Plan period, namely the National Household Health Expenditure Survey (NHHS), 1996 and the Second National Health Morbidity Survey. The NHHS assessed household expenditures on health services. The findings, among others, showed that while private healthcare costs were higher, private facilities were the most frequently utilized sources of care for acute conditions. For inpatient care, consumers, particularly the low income group tended to utilize services provided by the public health sector. The Second National Health Morbidity Survey analyzed the major causes of morbidity arising from selected diseases amongst the population. It showed increasing incidences of non-communicable diseases such as hypertension, diabetes and obesity as well as mental disorders. There was also a possibility of undiagnosed cases among the population. Therefore, further health promotion and risk management activities were emphasized with the view to promoting wellness during the Plan period.

III. PROSPECTS, 2001-2005

17.27 During the Eighth Plan period, the focus of health sector development will be to further improve the health status of the population, particularly the low income and the disadvantaged groups and optimize utilization of resources in the delivery of healthcare. This will entail integrated planning to ensure equitable distribution of healthcare services between rural and urban areas and public and private sectors. The role, responsibility and regulatory functions of the Ministry of Health will be strengthened to improve the mechanism for effective governance of the health sector. Priority will be given to the recruitment and training of additional health professionals and allied health professionals in the public and private sectors. The regulations in the Private Healthcare Facilities and Services Act 1998 will be enforced to further improve quality as well as access to health services provided by the private sector.

17.28 The strategies for health sector development during the Eighth Plan period will include the following :

- ☐ *improving accessibility to affordable and quality healthcare;*
- ☐ *expanding the wellness programme;*
- ☐ *promoting coordination and collaboration between public and private sector providers of health care;*
- ☐ *increasing the supply of various categories of health manpower;*
- ☐ *strengthening the telehealth system to promote Malaysia as a regional centre for health services;*
- ☐ *enhancing research capacity and capability of the health sector;*
- ☐ *developing and instituting a healthcare financing scheme; and*
- ☐ *strengthening the regulatory and enforcement functions to administer the health sector, including traditional practitioners and medical products.*

Promotive and Preventive Health Services

17.29 The Government will continue to emphasize promotive and preventive health services as an important component of the health development programme. The focus will be more on addressing the changing pattern of diseases, from communicable to non-communicable, which are related to affluent lifestyles, accidents at the workplace and homes as well as the containment of new and re-emerging strains of communicable diseases. Health promotion, education and awareness programmes will be given priority in order to disseminate information to a wider audience. In this regard, the mass media and the internet will be utilized to disseminate current information on the health status of the population and health promotion activities. Increasing population, particularly in urban and industrial zones, will require environmental health programmes such as pollution control and indoor air quality maintenance to eradicate the prevalence of respiratory and circulatory diseases. In addition, the registration of traditional medical practitioners and the documentation of their medical products will be undertaken to ensure quality, safety, efficacy and affordability.

17.30 The *healthy lifestyle campaign* will be continued during the Plan period, with emphasis on promoting healthy behaviour, as well as prevention of diseases. This strategy will be in line with the wellness paradigm programme and will take into account the determinants of health such as environmental, occupational, structural, socioeconomic and behavioural factors in developing the annual thematic lifestyle campaign. In 2001, the theme will feature the promotion of healthy families, while in 2002 the theme is on environmental health. The PROSTAR will be continued and 20,000 more peer group tutors will be trained to cover 2.6 million adolescents in 2001.

17.31 The *immunization programme* will feature as an integral component of the preventive health programme. Under this programme, vaccination for BCG, whooping cough, poliomyelitis, and measles will continue to be made available for children, while yellow fever and hepatitis vaccinations for adults will be encouraged.

17.32 At the school level, the emphasis on general health, quality of life and nutritional supplementation will continue to be given priority. The integrated *school health service programme*, which includes regular medical check-ups, dental hygiene, nutritional improvement, promotion of sports and recreation, will be continued under the Plan period. Safety of children at homes and recreation grounds will also form an important component of the health agenda. More PROSTAR clubs will be formed and peer group tutors will be trained to promote healthy lifestyles, prevent the emergence of contagious diseases, particularly HIV/AIDS as well as prohibit smoking and drug abuse.

17.33 The *food and nutrition programme* will continue to emphasize the importance of improving the standard and quality of health. The National Council on Food Security will be established to serve as the coordinating body and one-stop centre to guide all agencies involved in food production as well as to implement and monitor the National Action Plan on Nutrition. In this regard, legislation and enforcement, including food labelling, testing and standards, will be strengthened. This will be supported by the upgrading of nine food quality laboratories and the construction of two additional laboratories in Kota Bharu, Kelantan and Johor Bahru, Johor. In addition, efforts will be taken to inculcate good eating habits through educational programmes as well as hygienic practices and quality cooking promoted through training sessions for the food handlers.

17.34 During the Plan period, the Ministry of Health will continue to take over the responsibilities of the remaining 94 local authorities in areas pertaining to public health such as inspection of food premises, food preparation and handling.

In this regard, the number of public health inspectors will be increased from 1,549 in 2000 to 4,109 in 2005 and more enforcement officers will be recruited. An additional three public health laboratories will be constructed in Kota Bharu, Kelantan; Kota Kinabalu, Sabah and Kuching, Sarawak to further enhance public health quality and safety.

17.35 The provision of *safe water* for rural and remote areas under the BAKAS programme will continue to be given priority through the development of infrastructure facilities to tap groundwater as well as rain water collection schemes. These sources of water supply will be gradually phased out as piped water is extended to rural areas. In addition, the National Drinking Water Quality Surveillance Programme will be expanded to cover all rural areas.

17.36 The *occupational safety and health* programme will continue to emphasize the creation of safer and healthier work culture and environment. The National Council for Occupational Safety and Health will also review and reformulate the National Policy on Occupational Safety and Health. The DOSH will expand occupational safety and health research to cover the fishery, transport and service sectors, with emphasis on small- and medium-scale enterprises. In addition, the NIOSH will set up more branches nationwide to intensify its training and extension activities.

Medical Care Services

17.37 Medical care services will continue to be improved to support primary healthcare services and meet the demand for quality care. It will focus on susceptible population groups and address diseases such as those related to cardiovascular conditions, diabetes mellitus and cancer. In addition, trauma management; maternal and perinatal health; diagnostic services in pathology and imaging services; and intensive care facilities, rehabilitative care and geriatric care will be upgraded. Efforts will also be taken to create centres of excellence in specialized areas such as cardiothoracic surgery; radiotherapy, oncology and nuclear medicine; and nephrology and urology services.

17.38 To cater for an increasing number of patients seeking treatment for heart diseases, an additional cardiac centre will be established at the Serdang Hospital in Selangor to cater for the central region while existing cardiac centres in Johor

Bahru, Johor, Kuching, Sarawak and Pulau Pinang will increase their bed capacity from 350 to 1,000. To improve the quality of treatment for cancer patients and enhance access to cancer care, radiotherapy facilities will be built in the Pandan Hospital, Johor and Alor Setar Hospital, Kedah. Psychiatric services will also be improved with the construction of two psychiatric hospitals in Sungai Petani, Kedah and in Tampoi, Johor to replace Permai Hospital, Johor and increase the bed capacity by 1,628. The Mental Health Act will also be amended to encourage the private sector to establish mental health treatment facilities to complement those of the public sector. To spearhead medical rehabilitation services, a new rehabilitation hospital will be built in Cheras, Kuala Lumpur. In order to further improve accessibility to medical care, two new hospitals will be constructed in Kluang, Johor and Shah Alam, Selangor. The new hospital projects will be IT-based to support the implementation of a telehealth network. The construction of 31 new hospitals, with additional 10,262 beds will be completed during the Plan period.

17.39 New multidisciplinary and self-contained ambulatory care centres will be built in selected hospitals to ensure the optimum utilization of diagnostic and therapeutic support services. These centres will further improve patient care services by providing day care and day surgery so that patients do not require to be warded in hospitals. To enhance the quality of care for patients with chronic debilitating diseases and terminal illnesses, extended medical care services, which included inpatient care, day care and services at homes, will be expanded.

17.40 During the Eighth Plan period, a total of 40 health clinics will be constructed to provide a comprehensive range of outpatient services, under the decentralized outpatient services concept. More rural and urban health clinics will continue to be constructed and the scope of services offered will also be expanded to include alternative birthing services, geriatric care, post operative care, rehabilitative medicine, community-based mental healthcare and health education. In addition, selected clinics and centres in Johor, Negeri Sembilan, Sabah, Sarawak and Wilayah Persekutuan Kuala Lumpur will be equipped with a teleprimary healthcare network connected to state and district hospitals. This will facilitate teleconsultation and access to specialized diagnostic services such as radiology and pathology as well as quick reference to pharmacology divisions in the hospitals.

17.41 The private health sector will be encouraged to expand its services to complement public sector efforts. In this regard, regulations under the Private Healthcare Facilities and Services Act 1998, will be enforced to improve the quality of and access to private health services. Among others, the Act will provide for equitable distribution of accredited facilities, the deployment of

qualified health and allied health professionals and the maintenance of affordable medical charges. In this regard, the role and responsibility of the Ministry of Health will be reviewed in order to increase its regulatory, licensing, quality assurance and standard setting functions so as to ensure that private medical institutions and clinics comply to the desired standards and deliver quality care.

17.42 Further development of the health sector, particularly tertiary medical care in private sector hospitals, will provide a conducive environment for the promotion of health tourism. In this regard, the use of telehealth network will also optimise the utilization of the various categories of specialist manpower in the health sector. The National Committee on Health Tourism will leverage on the health manpower and infrastructural development that are in place to further promote health tourism.

17.43 Cost sharing concepts through healthcare financing schemes will be introduced to provide consumers with a wider choice in the purchase of health services from both the public and private sectors. In this regard, a suitable mechanism to institute and manage a healthcare financing scheme will be implemented. This process will include the institution of a national health account for the health sector, as a whole, and the implementation of commercial accounting in all public hospitals.

Health Manpower

17.44 During the Plan period, efforts to address the severe shortage and unequal distribution of health manpower will be intensified, mainly through the expansion of public sector training institutions and the outsourcing of training. In addition, *Universiti Putra Malaysia*, *Universiti Malaysia Sarawak* and *Universiti Islam Antarabangsa* will expand their medical faculties and teaching hospital facilities. The *Universiti Sains Malaysia* will also establish a faculty of dentistry in Kubang Kerian, Kelantan. The public and private medical schools are expected to produce 5,374 graduates in medicine, 708 in dentistry and 1,855 in pharmacy, during the Plan period. About 200 students a year will continue to be sent overseas to complement training by local institutions.

17.45 Postgraduate specialization in speciality and subspecialty areas will be intensified under the Continued Medical Education (CME) programme through greater cooperation among public and private hospitals and medical schools. The

CME will also utilize Information and Communications Technology (ICT) to gain access and establish linkages with foreign universities and R&D institutions. A total of 500 medical officers will also be sent overseas to be trained in postgraduate fields such as paediatrics, orthopaedics and surgery.

17.46 A total of five new institutions to train allied health professionals will be established in Alor Setar, Kedah, Johor Bahru, Johor, Kota Kinabalu, Sabah, Kuching, Sarawak and Sungai Buloh, Selangor. Inservice training for the allied health professionals will be enhanced at the primary, secondary and tertiary care levels as well as in the teaching hospitals, during the Plan period. Private sector hospitals will also be encouraged to set up their own training facilities as well as expand existing ones to meet their manpower requirements. Greater emphasis will be given to the post-basic training of allied health professionals in areas such as anaesthesiology, paediatrics, oncology and radiotherapy.

17.47 Efforts will be undertaken to encourage all categories of health manpower to remain in the public sector. In this regard, the Government will further increase the supply of health manpower as well as continue to review and improve the terms and conditions of service for health and allied health professionals. In addition, a more conducive working environment will be provided by improving and upgrading the facilities in the hospitals and clinics. More accommodation facilities will be built in the rural and remote areas as well as in major towns where rental rates are high. In addition, greater opportunities will be provided for skills upgrading and postgraduate training, particularly in areas such as cardiothoracic surgery, rehabilitative medicine and neurosurgery.

Medical Research and Development

17.48 The focus of the R&D during the Plan period, will be to intensify quality research in public health including clinical health systems, health management and health promotion and epidemiology as well as biomedical technology. In biomedical research, the focus will be on eradication of infectious diseases including emerging and re-emerging infections, cancer, allergy, cardiovascular conditions and diabetes as well as herbal medicines, environmental health and nutrition. Research will also concentrate on areas relating to the ageing population and occupational safety and health.

17.49 The capacity of the five institutes under NIH will be further strengthened to undertake R&D. The IMR will expand its biomedical research capabilities, while the Centre for Clinical Research will further develop its capabilities in

clinical research and evidence-based practice. This will include the upgrading of the research centre to intensify research on traditional and herbal medicine to ensure their efficacy and safety, as well as better utilize the locally available herbal resources. The Public Health Institute will focus its research efforts on the health system and public health. The Institute of Health Management will focus on health management research, and the Institute of Health Promotion on behavioural research and health education.

IV. ALLOCATION

17.50 During the Eighth Malaysia Plan, a total of RM5.5 billion or 5.0 per cent of the social sector development budget will be allocated to further develop the health services, as shown in *Table 17-6*. This amount constitutes an increase of 47.3 per cent compared with the Seventh Plan allocation, reflecting the importance given to the development of the health sector. Medical care services development is accorded higher priority as 95 per cent of the allocation has been set aside for financing the ongoing construction and equipping of new hospitals and clinics. A total of RM714.5 million will be allocated for rural and environmental health.

TABLE 17-6
DEVELOPMENT ALLOCATION FOR HEALTH SERVICES, 1996-2005
(RM million)

Programme	7MP		8MP
	Allocation	Expenditure	Allocation
Patient Care Services	2,691.85	2,640.04	4,169.00
New Hospitals	1,510.86	1,447.39	2,284.60
Upgrading and Renovation	1,180.99	1,192.65	1,884.40
Public Health Services	889.32	917.91	1,020.60
Urban Health	375.15	456.37	306.10
Rural Health	500.17	447.54	708.30
Environmental Health	14.00	14.00	6.20
Other Health Services	155.93	167.55	310.40
Training	150.93	162.55	285.40
Research and Development (R&D) ¹	5.00	5.00	25.00
Total	3,737.10	3,725.50	5,500.00

Note: ¹ Excludes allocation under IRPA

V. CONCLUSION

17.51 While the Seventh Plan focused on an expansionary development programme, the Eighth Plan will concentrate on improving the quality of public health and curative services. Emphasis will be given to an equitable distribution in the delivery of services and better utilization of manpower and resources through greater cooperation between the public and private health sectors. A healthcare financing mechanism will also be put in place to ensure appropriate cost sharing, thereby ensuring maximum benefits to the consumers.

Chapter 18

Housing and Other Social Services



I. INTRODUCTION

18.01 Housing and other social services continue to be a priority of Malaysia's development programmes aimed at improving the quality of life and contributing towards the formation of a caring society. During the Seventh Plan period, various programmes for the development of housing were implemented in the urban and rural areas. The overall performance of the housing programmes was encouraging with achievement surpassing the Plan target. The implementation of other social services programmes, which included services in the local authorities, fire and rescue services, library services, information and broadcasting, sports, culture as well as family and community development, contributed towards improving the general welfare of the people and creating a well-informed and caring society.

18.02 During the Eighth Plan period, the objective of the housing development programmes will be to increase accessibility to adequate, affordable and quality houses for all income groups. Priority will continue to be given to the development of low- and low medium-cost houses. In this regard, both the public and the private sectors will intensify their efforts in the implementation of the housing programmes to meet increasing demand. The provision of other social services will be continued and expanded with a view towards improving the quality of life, inculcating positive values and encouraging self-reliance.

II. PROGRESS, 1996-2000

18.03 During the Seventh Plan period, various housing programmes were undertaken by both the public and private sectors. While the private sector focused more on overall market demand, the public sector continued to provide houses for sale or rent to the low-income group and housing for public sector

employees. Housing programmes continued to be implemented based on the human settlement concept, whereby housing estates were provided with communal and recreational facilities. With the provision of other social services, the quality of life of the population improved.

Housing

18.04 During the Plan period, a total of 800,000 units of houses was planned for construction to meet housing needs. A total of 859,480 units or 107.4 per cent of the Plan target was completed, as shown in *Table 18-1*. The private sector, which was targeted to build 570,000 units, completed 737,856 units or 129.4 per cent of the target. However, the distribution based on the type of houses was not in line with the target set, whereby the private sector mainly built medium- and high-cost houses. This was reflected by the completion of a total of 554,458 units of medium- and high-cost houses or 291.8 per cent of the Plan target.

18.05 In the low-cost housing category, the performance of both the public and private sectors was encouraging with a total of 190,597 units completed or 95.3 per cent of the target. Of this, 129,598 units were constructed by the private sector with the balance by the public sector including State Governments and State Economic Development Corporations (SEDCs). In an effort to increase the quality of low-cost houses, new designs with a floor area of 60 square metres incorporating three bedrooms as well as washing and drying areas, especially in high-rise buildings, were introduced. In the low-medium cost category, a total of 72,582 units or 20.7 per cent of the target set was achieved. The low performance was due to cautious investment decisions by housing developers.

18.06 Several measures were undertaken by the Government to accelerate the implementation of housing programmes, particularly low-cost housing. These included the extension of the Low-Cost Housing Revolving Fund (LCHRF) to the private sector to implement new projects, establishment of *Syarikat Perumahan Negara Malaysia Berhad (SPNB)* in 1997 and the introduction of a new pricing scheme. By the end of the Plan period, the construction of 3,294 units of low-cost houses, 360 units of low medium-cost, 1,299 units of medium-cost and 542 units of high-cost was financed under the LCHRF. SPNB was established with a capital of RM2.0 billion to increase the supply of houses costing RM150,000 and below, through the provision of bridging finance to housing developers. Since its establishment, SPNB approved RM732.8 million in bridging loans for the construction of 50,725 units of houses, ranging from low-cost to medium-

TABLE 18-1

PUBLIC AND PRIVATE SECTOR HOUSING TARGETS AND ACHIEVEMENTS, 1996-2000
(units)

Programme	Target						Achievement											
	Housing for the poor	Low cost	Low Medium cost	Medium cost	High cost	Total	Housing for the poor	% of Target	Low cost	% of Target	Low Medium cost	% of Target	Medium cost	% of Target	High cost	% of Target	Total	% of Target
Public Sector	35,000	60,000	110,000	20,000	5,000	230,000	17,229	49.2	60,999	101.7	18,782	17.1	21,748	108.7	2,866	57.3	121,624	52.9
Public Low-cost Housing	-	29,000	-	-	-	29,000	-	-	45,583	157.2	-	-	-	-	-	-	45,583	157.2
Housing Rehabilitation	23,000	-	-	-	-	23,000	13,626	59.2	-	-	-	-	-	-	-	-	13,626	59.2
Sites & Services	12,000	-	-	-	-	12,000	3,603	30.0	-	-	-	-	-	-	-	-	3,603	30.0
Housing by Commercial Agencies	-	23,000	16,000	10,000	5,000	54,000	-	-	11,693	50.8	16,002	100.0	9,048	90.5	2,866	57.3	39,609	73.4
Housing by Land Schemes	8,000	1,000	300	-	-	9,300	-	-	3,723	46.5	230	23.0	3,235	1,078.3	-	-	7,188	77.3
Institutional Quarters & Staff Accommodation	-	93,000	9,700	-	-	102,700	-	-	-	-	2,550	2.7	9,465	97.6	-	-	12,015	11.7
Private Sector	-	140,000	240,000	110,000	80,000	570,000	-	-	129,598	92.6	53,800	22.4	206,208	187.5	348,250	435.3	737,856	129.4
Private Developers	-	137,000	237,000	102,000	79,000	555,000	-	-	127,514	93.1	49,035	20.7	201,266	197.3	346,338	438.4	724,153	130.5
Cooperative Societies	-	3,000	3,000	8,000	1,000	15,000	-	-	2,084	69.5	4,765	158.8	4,942	61.8	1,912	191.2	13,703	91.4
Total	35,000	200,000	350,000	130,000	85,000	800,000	17,229	49.2	190,597	95.3	72,582	20.7	227,956	175.4	351,116	413.1	859,480	107.4

cost houses. Under the four-tier pricing scheme introduced in June 1998, the price of low-cost houses ranged from RM25,000 to RM42,000 depending on the location and type of houses. This was implemented as an incentive to housing developers to participate more actively in providing low-cost houses for the public.

18.07 A special low-cost housing programme, namely, *Program Perumahan Rakyat Bersepadu (PPRB)* was launched by the Government in December 1998, with the objective of resettling squatters in urban areas, particularly in the Federal Territory of Kuala Lumpur and other major towns. Of the 35,000 units which were planned to be built in the Federal Territory of Kuala Lumpur, a total of 34,148 units was under various stages of implementation. In addition, a total of 17,630 units was identified for implementation in other major towns where squatters were prevalent. Basic facilities such as electricity and water supply continued to be provided for existing squatter settlements pending their relocation to the new housing schemes.

18.08 The number of medium- and high-cost houses built by the private sector far exceeded the Plan target. The medium-cost category achieved 187.5 per cent and the high-cost category 435.3 per cent of their respective targets. Consequently, at the end of June 1999, the overall number of unsold residential properties was estimated at 93,600 units. To help reduce the stock overhang, the Government and the Real Estate and Housing Developer's Association Malaysia (REHDA) launched several home ownership campaigns. The first Home Ownership Campaign was launched on 12 December 1998, for a duration of one month and the second Home Ownership Campaign from 29 October to 7 December 1999. Incentives offered during the campaigns included exemption of stamp duties as well as a minimum price discount of 5.0 per cent for properties costing RM100,000 or less, and 10 per cent for properties costing above RM100,000. Financial institutions also offered incentives such as a higher margin of finance up to 95 per cent, waiver of processing fees and increased loan tenure up to 30 years. Legal fees were also lowered for sales and purchase as well as loan agreements. As at 30 June 2000, the number of unsold residential properties was reduced to an estimated 45,500 units, including 9,700 units of condominium and apartments.

18.09 *Housing Development in Rural Areas.* As part of the efforts to provide better housing and living conditions to the rural people, several housing programmes continued to be implemented in the rural areas, namely, the Site and Services, Traditional Village Regrouping as well as Rehabilitation of Dilapidated Houses Programmes. Of the 12,000 units targeted for implementation under the Site and

the quality of life of the people. Local authorities were also responsible for the regulation and enforcement of health standards and cleanliness in food premises, hawker centres and public places. During the Seventh Plan period, various programmes were undertaken including the construction and upgrading of wet markets, business premises, recreational centres and community halls to meet the increasing demand from their residents. While the principal aim of constructing hawker centres was to provide better access, well organized and hygienic environment for the urban population, it also provided opportunities for the low-income group to participate in business.

18.14 In line with the Government's effort to provide wider coverage and better quality services to the urban population, two municipal councils, namely, Kota Kinabalu Municipal Council and Shah Alam Municipal Council were conferred city status. In addition, three district councils in Selangor, four in Johor, and one in Kedah and Pahang, respectively, were upgraded to municipal councils, while the Bentong, Pekan and Rompin District Councils in Pahang, and the Kangar Municipal Council in Perlis expanded their area of administrative coverage. Two new local authorities established during the Plan period were Bera District Council and Ampang Jaya Municipal Council.

18.15 During the Plan period, the local authorities handled an estimated 16.2 million tonnes of municipal solid wastes throughout the country. In order to improve waste collection and disposal, the privatization of collection and disposal services was initiated and implemented under an interim arrangement. The appointed concessionaires took over the collection and disposal of solid waste from 26 of the 145 local authorities in the country. In addition, a nationwide recycling campaign was launched in December 2000 to promote greater awareness among the public on the need to recycle and reuse waste so as to reduce the amount of waste generated.

18.16 Through the recreation and beautification programmes, various public amenities continued to be provided by the local authorities such as public parks, sidewalks, sports facilities and recreational centres. A total of 24 new public parks was constructed and 109 existing parks were upgraded to meet the increased demand for better recreational parks and open spaces. In addition, a nationwide tree planting campaign was launched, whereby about three million trees were planted to enhance the greenery and quality of the living environment.

Fire and Rescue Services

18.17 The objectives of the fire and rescue services are to provide effective and professional fire prevention, fire protection, fire control and rescue services aimed at protecting life and property as well as ensuring the overall well-being of the people. In this respect, various measures were undertaken to strengthen and upgrade fire and rescue services during the Seventh Plan period. In meeting the objectives of the fire cover policy and increasing demand for fire safety requirements, a total of 54 new fire stations was constructed at strategic locations, particularly near housing estates, commercial areas and industrial zones. To cope with more challenging fire-fighting situations, particularly involving high-rise buildings, maritime, oil and gas, hazardous material incidents as well as forest fires, sophisticated and specialized vehicles equipped with fire-fighting, rescue and paramedic equipments were acquired.

18.18 Efforts were also undertaken to upgrade as well as enhance the skills and capabilities of fire and rescue personnel through in-service training, particularly in new areas of fire safety, industrial emergency response and disaster management. The fire-fighting services were further enhanced with the establishment of the Air Fire-Fighting and Rescue Unit (Air Unit) in September 1998 and the procurement of two helicopters for surveillance, rescue and emergency medical services. In addition, rapid intervention motorcycle teams were also established in fire stations situated in highly urbanized areas to provide quicker response.

18.19 Public education programmes were expanded during the Plan period as an avenue for promoting public awareness on fire safety. Seminars, conferences, dialogues, joint training programmes and fire drills were conducted by the Fire and Rescue Department with the collaboration of the private sector, non-government organisations (NGOs) and relevant professional bodies. As a result, there was a significant increase in the number of volunteers in community service involving fire safety and in the general public awareness in terms of their role in fire safety. By the end the Plan period, a total of 346 volunteer fire brigades was established with 10,179 volunteer fire fighters.

18.20 With the advancement in information and communications technology (ICT), and the need for rapid response to high-risk areas, a computerized monitoring system was introduced and installed in all strategic government and high-risk buildings throughout the country. This online network between the fire stations and the designated buildings expedited the notification of the fire occurrences. By the end of the Plan period, a total of 2,000 buildings was installed with the

system. In addition, telecommunication and information systems in fire and rescue services were upgraded, including the introduction of an Integrated Command and Control System in the Putrajaya Fire Station in 1999.

Library Services

18.21 Various measures were taken to inculcate and promote reading habits among the general public and to develop a well-informed and knowledgeable society. Library infrastructure was improved and sufficient as well as up-to-date reading and information materials were provided to communities. During the Plan period, the number of libraries increased from 487 in 1995 to 610 in 2000, of which 493 or 80.8 per cent were in the rural areas. The number of mobile units providing library services in rural areas also increased from 100 in 1995 to 123 in 2000. As a result of these facilities and various programmes including the *Kempen Gerakan Membaca*, the number of library users increased from 1.6 million in 1995 to 4.0 million in 2000. In addition, the number of reading and information materials also increased from 1.5 million in 1995 to 13.5 million in 2000.

18.22 To improve access to information nationwide, the national knowledge and information network infrastructure was further expanded to include the development of IT-based libraries. This was enhanced with the introduction of the *Sistem Perpustakaan Digital Nasional (Sistem PERDANA)*, which is a collaborative effort among the National Library of Malaysia, Multimedia Development Corporation (MDC) and *Telekom Malaysia Berhad* and supported by libraries at universities and various government departments as well as public libraries. Launched as *Mylib* on 29 June 2000, *Sistem PERDANA* aimed to enable users such as researchers and the general public to access more information through a wide spectrum of databases.

Sports

18.23 Besides achieving excellence in international competitions and promoting the country's image, sports is also an avenue to promote a healthy lifestyle as well as goodwill and rapport among Malaysians. Participation in sports activities also contributed towards the development of social competence, character and teamwork. The implementation of sports development programmes was guided by the National Sports Policy, adopted in 1988, which provided general guidelines

for the development of sports. To further promote and facilitate the development and administration of sports as well as to ensure effective coordination and management of sporting activities, the Policy was complemented with the Sports Development Act 1997.

18.24 Programmes for mass sports were continued to contribute towards the creation of a fit and healthy Malaysian society. To encourage and ensure the effective implementation of such programmes, facilitators were recruited and trained. In addition, programmes such as the National Fitness Programme, walking, and marathon runs, new sports and recreational programmes such as mountain climbing, martial arts and sailing were introduced. Through these efforts, a total of about five million people was involved in the mass sports programme.

18.25 An important prerequisite in the promotion of high performance sports is the availability of adequate and well-equipped facilities at the state and national levels. In this regard, the construction of the Indoor Stadium in Pulau Pinang, the Sports Complex in the Federal Territory of Labuan as well as the upgrading of various sports facilities were jointly undertaken by the Federal Government and the respective state governments. The availability of facilities at the state level assisted in the identification of potential athletes and the implementation of appropriate training programmes at an early stage as well as ensured the formation of a pool of athletes able to compete at the international level. In addition, the completion of the National Sports Complex at Bukit Jalil, equipped with modern facilities, provided a suitable venue for centralized training at the national level.

18.26 In preparation for Malaysia's participation in international competitions, and specifically for the Kuala Lumpur '98-XVI Commonwealth Games, the National Sports Council implemented various programmes aimed at building a pool of young talent with the calibre and potential of becoming champions. These included the Commonwealth Games Athletes Preparation Programme, the Southeast Asian (SEA) Games Athletes Preparation Programme and the Talent and Youth Development Programme, undertaken with the cooperation of sports associations. The implementation of these programmes contributed towards the commendable performance in the 1998 Asian Games during which the highest number of medals were obtained since 1954, as well as emerging fourth out of 70 countries in the XVI Commonwealth Games and second at the 1999 SEA Games. The importance of these long-term training programmes was also demonstrated when the highest number of athletes in the history of Malaysia's participation in the Olympics Games qualified for the Sydney 2000 Olympics. In addition, the *Program Pembangunan Sukan Pilihan* was introduced in 1999 to prepare athletes for the Asian Games in 2006 and the Olympic Games in 2008.

18.27 In recognition of the contributions of sportsmen and sportswomen and to further encourage the participation of youths in sports, the Government introduced various welfare and incentive schemes. The National Athletic Welfare Scheme provided compensation for loss of income during training, medical treatment and education allowances. The Group Insurance Scheme was introduced to cover expenses of athletes involved in accidents or injuries incurred during training. In appreciation of the contributions of athletes, coaches and sports officials in international competitions, the Sports Championship Scheme, the Youth Athletic Championship Scheme, the Coaches Incentive Scheme and the Sports Management Excellence Scheme were introduced.

18.28 In an effort to scout for new talents and nurture them to competitive standards, sports development programmes were implemented in schools with the cooperation of the Ministry of Education, National Sports Council and the respective state sports councils. Excellence and selective training centres were set up in schools to conduct specialized training programmes. In addition, two sports schools were established at Bukit Jalil, Selangor and Kota Tinggi, Johor for students aged 13–18 years. These fully residential schools were located in the vicinity of well-equipped sports facilities for easy accessibility as well as ensured optimum utilization of these facilities.

18.29 The experience and expertise gained in the organization and management of the Kuala Lumpur '98–XVI Commonwealth Games boosted Malaysia's capability and capacity to host other international sporting events. Malaysia hosted various international events including the Le Tour de Langkawi in 1998 and 2000, the Formula One Championships in 1999 and 2000, the Junior World Cup Hockey Competition in 1999, as well as the World Table Tennis Competition, Thomas Cup Finals, Asian Junior Basketball Championship, and the Asian Boat Regatta in 2000. These efforts provided an impetus to the development of the sports industry and contributed towards the growth of the tourism industry.

Information and Broadcasting

18.30 Recognizing the importance of the development of a well-informed society, information-rich programmes covering news, talk shows, documentaries, scientific and educational programmes were aired regularly through the electronic media. In addition, to ensure that society is imbued with strong moral and ethical values that are receptive to modernization, more locally produced dramas, movies

and religious programmes were transmitted. Broadcast media and face-to-face communication were also used as instruments to effectively disseminate information on Government policies and strategies.

18.31 Efforts to improve and upgrade the coverage of radio and television (TV) transmission were undertaken through replacing ageing transmitters with advanced equipment. A total of six new TV transmitters and two new frequency modulation (FM) radio transmitters was installed in Peninsular Malaysia, while 10 new TV transmitters and seven new FM radio transmitters were installed in Sabah and Sarawak. As a result, TV coverage in Peninsular Malaysia improved from 90 per cent in 1995 to 95 per cent in 2000 and from 85 per cent to 87 per cent in Sabah and Sarawak during the same period. Radio coverage in Peninsular Malaysia improved from 93 per cent in 1995 to 95 per cent in 2000 and from 85 per cent to 87 per cent in Sabah and Sarawak during the same period.

18.32 Better quality reception and wider coverage of radio and TV services were provided with the commencement of the Malaysian East Asia Satellite (MEASAT) operations in 1996. With MEASAT, consumers had access to a much wider choice of programmes through various private radio and TV stations, thus providing better quality transmission as well as a wider selection of programmes which included entertainment, culture, sports, education and information.

18.33 Various measures were undertaken in order to facilitate an orderly development of the information and broadcasting sector and to ensure compliance to Malaysian standards and norms. These included, among others, the restructuring of the Ministry of Energy, Telecommunications and Posts into the Ministry of Energy, Communications and Multimedia in November 1998 and the introduction of the Multimedia and Communications Act in 1998. All radio and TV programmes were continuously reviewed to ensure dissemination of values and principles consistent with the culture and beliefs of the country.

18.34 During the Plan period, the National Film Policy was launched in 1996 to provide direction for the development of the national film industry and making Malaysia the destination for offshore filming activities as well as the regional centre for the film industry. Towards this end, efforts were undertaken to make Malaysia a suitable location for the production of foreign films. As a result, a number of foreign movies were filmed in the country that generated revenue and provided spin-offs for the growth of related industries.

Culture

18.35 The implementation of cultural programmes contributes towards enhancing the national identity, promoting national integration and unity as well as maintaining racial harmony. The diversity of cultures in the country was utilized to support the development of the tourism industry. During the Plan period, major programmes were undertaken to conserve and preserve the country's cultural heritage, disseminate cultural information as well as promote the arts and cultural activities.

18.36 To further develop culture and arts at the state level and to encourage the participation of youths and communities in arts and cultural activities, facilities were provided during the Plan period. In this regard, the construction of the cultural centres in Alor Setar, Kedah, Ipoh, Perak, Georgetown, Pulau Pinang and Kuantan, Pahang was completed, while those in Seremban, Negeri Sembilan, Kangar, Perlis and Kuala Terengganu, Terengganu were under construction.

18.37 The completion of the internationally recognized National Theatre Complex or *Istana Budaya* in December 1998, with modern facilities, provided a new venue for the performing arts and an additional location for displays, exhibitions and educational workshops. Since its completion, 10 plays and 34 activities comprising music, theatre and dance were held, catering to an audience of about 52,000 people. The completion of the National Art Gallery in 1997 contributed towards the development and appreciation of fine arts in the country. A total of 55 exhibitions in visual arts from local and foreign artists was held at the Gallery. In addition, the National Arts Academy conducted diploma level and short courses in areas such as music, creative writing and theatre for 325 participants, out of which 155 had graduated.

18.38 Cultural activities in the country were also undertaken with the cooperation of the private sector. The completion of the PETRONAS Philharmonic Hall in 1998 and the formation of the Malaysian Philharmonic Orchestra (MPO) were evidence of the existing close cooperation between the public and private sectors. The Hall, with a seating capacity for 800 persons, further contributed towards the promotion of music and performing arts. In addition, under the MPO's Education and Outreach Programme, workshops, instrumental lessons and school concerts were conducted to educate, create and promote awareness and appreciation of classical music among Malaysian youths, thus providing the opportunity to nurture local talents.

18.39 During the Plan period, efforts were continued to preserve and conserve the historical and cultural heritage of the country as well as enhance and attract the interest of the public. A total of 21 monuments and historical sites was preserved. The completion of the Islamic Art Museum in 1999 further contributed towards the collection and preservation of local as well as foreign Islamic works of art. To provide better understanding of the history of the nation, efforts were undertaken to preserve and maintain historical sites in the country.

Community Development

18.40 During the Seventh Plan period, community development programmes were implemented in the urban and rural areas to foster harmonious living and nurture the spirit of caring among the various communities as well as to inculcate positive values towards development and self-reliance. A total of 471 *Rukun Tetangga* committees was established in urban locations, bringing the total to 2,000 committees with a membership of about 6.6 million people. Activities that promoted interaction, cooperation and the sharing of responsibilities such as *Tunas Jiran*, *Jiran Wanita*, *Jiran Muda*, *Jiran Usia Mas*, *gotong-royong*, work camps and sporting activities were undertaken. To facilitate the organization and implementation of these activities, the construction of eight *Rukun Tetangga* Centres was undertaken.

18.41 Efforts to instill patriotism and love for the country as well as inculcate positive values, mutual respect and tolerance at an early age were undertaken through the establishment of national unity pre-school classes. A total of 180 pre-school classes was set up, bringing the total to 1,165 classes, which benefited about 33,000 children from the urban areas. Besides preparing children for formal schooling, various activities such as *Tabikarama*, *Sukaneka* as well as participation in the celebrations of festive occasions were organized. To further encourage children to study together and intermingle, the Government introduced the vision school concept. Under this concept, the National, Chinese and Tamil medium schools were grouped together to share facilities and resources, thus allowing the inculcation of racial harmony and understanding among the younger generation.

18.42 Programmes were organized to further enhance integration and understanding of the various communities, cultures and traditions. These included exchange visits of representatives from the states in Peninsular Malaysia, Sabah and Sarawak to attend and participate in functions such as the birthday of the

Yang Dipertuan Agong, opening of Parliament, *Pesta Kaamatan* in Sabah, and *Hari Gawai* in Sarawak. For government officers from Peninsular Malaysia serving in Sabah and Sarawak and vice versa, orientation courses were continuously organized to enhance the understanding and practice of respective cultures and traditions.

18.43 In the rural areas, community development programmes were undertaken with the objective of uplifting the socioeconomic status of the rural population, including the *Orang Asli* community. An integral component of the programme was focused on attitudinal change and to create a progressive and self-reliant rural society. The rural community was also encouraged to participate actively in socioeconomic development projects in order to improve their quality of life. In addition, programmes were also directed towards fostering cooperation and solidarity among the rural population.

18.44 In line with the new rural development philosophy, which gave emphasis to human development and family well-being, efforts were undertaken to implement more courses, counselling and skills training for the rural population. This was to improve their capabilities in upgrading their standards of living, particularly through the implementation of the *Gerakan Desa Wawasan* which covered 1,831 villages. The rural community was also exposed to basic computer knowledge through computer literacy programmes. The new knowledge and skills acquired, facilitated the rural community in planning for their villages, thereby improving their capabilities to engage in income-generating activities as well as working in the manufacturing and services sectors. In addition, a total of 648 pre-school classes was established, benefiting about 19,950 rural children. With regard to the *Orang Asli* community, the Women Motivator Programme or *Penggerak Wanita* was introduced to inculcate awareness on the importance of education for the *Orang Asli* children. During the period, a total of 17 motivator groups was established to cater to about 350 children.

Family Development

18.45 The rapid economic development during the early Plan period and the recent economic downturn posed challenges for individuals and families. Inability to cope with these challenges, including changes in lifestyles and the family structure gave rise to increased social problems. These negative trends, if not addressed, will undermine social stability and negate the economic development achieved thus far.

18.46 To address these problems and ensure a more coordinated approach in tackling social problems, the Cabinet Committee on Alleviating Social Problems formulated a social action plan or *Pelan Tindakan Sosial* (PINTAS), to provide a framework for integrating the various components of social development in the country. PINTAS focused on the promotional, prevention, intervention and rehabilitation aspects of social issues. While the promotional component involved activities contributing towards the formation of a positive and healthy society, the prevention component focused on programmes needed to assist high-risk groups in maintaining healthier lifestyles and preventing involvement in undesirable behaviour. The intervention and rehabilitative components concentrated on activities undertaken to handle and cope with social problems as well as enabled those affected to regain their ability to be assimilated into society. A PINTAS pilot project, involving the Selangor State Government, non-governmental organizations (NGOs), and the community, was implemented in Ulu Langat, Selangor in 1999.

18.47 In view of the complexity of social problems and the need for trained and qualified personnel to address these problems, the Counsellors Act was enacted in 1998. This Act provided for the establishment of the Board of Counsellors to ensure professionalism and high standards among counsellors. With the implementation of the Act, 31 counsellors were registered with the Board.

18.48 Recognizing that the *family* unit forms the basis for social stability and building a caring society, efforts were undertaken to further strengthen the family unit through various mechanisms, namely, education and training, the mass media and the organization of campaigns. The family development programme, which focussed on education, training and parenting, was further implemented to help families cope with the challenges and demands arising from rapid development. This programme consisted of five training modules covering preparation for marriage and marriage enrichment, parenting skills for parents with young children and teenagers, fatherhood and adolescent development. In addition, counselling modules for families with human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) and training modules on the interrelationships between population, development and the environment were also developed. A total of 848 training sessions involving 30,165 trainers was conducted. These trainers comprised extension workers from the public and private sectors, representatives of NGOs and members of the public. On completion of the training sessions, these trainers conducted similar courses for their respective organizations and target groups. In addition, workshops and seminars on various subjects, such as development and family health, parenting skills for disabled children and adolescent health, were conducted for the benefit of the public. To

further educate and create awareness among families on their roles and responsibilities, books and pamphlets that provided guidance and knowledge to parents, adolescents and children were published for distribution.

18.49 A special programme, Campaign for Happy Families, was launched in November 1999 with the theme "Together with the Family into the New Millenium: With Unity, Solidarity and Harmony". The Campaign was aimed at reinforcing efforts to increase awareness in the society on the importance of the family unit in facing challenges of the new millenium. By the end of the period, this Campaign was launched in the Federal Territory of Kuala Lumpur, Kedah and Kelantan.

18.50 Efforts to ensure the survival, protection, rehabilitation and development of *children* were continued to ensure improvements in their quality of life. To provide better protection for the well-being of children, the Juvenile Courts Act 1947, the Women and Girls Protection Act 1973 and the Child Protection Act 1991, were reviewed and streamlined into the Child Act 2000, which covers all children under the age of 18 years. This Act, while ensuring the best interest of the child, recognizes the role and responsibility of the family as the source of care and support during the rehabilitation and development of the child.

18.51 In view of the increasing number of reported cases of child abuse and runaways as well as to assist parents in caring for and coping with children, child protection teams and child activity centres were established in high-risk areas. A total of 132 state and district-level child protection teams as well as 87 child activity centres was set up to provide locally-based services to parents and children. These services included counselling, welfare and the provision of shelter. In addition, to ensure that quality care is provided for children left in the care of child minders, a total of 120 training sessions involving about 3,850 child minders, was conducted throughout the country.

18.52 Care for *older persons* was expanded during the Plan period. In conjunction with the International Year of Older Persons in 1999, the Action Plan for the National Policy for Elderly was implemented to ensure the integration and participation of older persons in society. Through this Action Plan, collaborative activities were undertaken by the public and private sectors in areas such as health education, training as well as social and recreational activities.

18.53 With improvements in life expectancy and the increasing trend towards nuclear families, steps were undertaken to ensure that caring for older persons remained with the family. The Government approved the establishment of nine

day-care centres to provide care for older persons during the day in the absence of family members. In addition, a toll-free line was provided to enable older persons to have access to counselling and information services.

18.54 Programmes for the care of the *disabled* continued to be implemented and further strengthened during the Plan period. In an effort to undertake a more comprehensive approach to the planning of programmes for the disabled, campaigns were organized to educate and increase awareness on the need to register the disabled with the Government. As a result, a total of 95,489 disabled persons was registered with the Department of Social Welfare. To ensure the provision of education for children with special needs, in particular children with visual and hearing impairment or with learning disabilities, the Education Act 1996 required the Ministry of Education to provide schools for these children. Towards this end, a total of five schools benefiting about 2,700 students was constructed during the Plan period. In addition, to enable children with special needs to be taught in a normal school environment, a total of 1,766 classes was provided, benefiting about 12,230 children.

18.55 To enable the disabled to be independent economically, the Government continued to provide technical training programmes. With the completion of the Industrial Training Institute for the Disabled at Bangi, Selangor in 1998, training on residential and non-residential basis was provided to 65 trainees in areas such as tailoring and fashion design, electronics and computer maintenance.

18.56 Efforts to further integrate the disabled into society were continued during the Plan period. The public and private sectors were encouraged to provide employment for the disabled. As a result, a total of 3,489 disabled persons was employed by the private sector while 536 persons were employed by the public sector. With the amendment to the Building By-laws 1984, facilities and safety systems for the disabled were provided at public premises to make them more disabled-friendly. Under the integrated housing programme, housing developers are required to allocate 10 per cent of flats built to be fitted with features and facilities for the disabled. In addition, public transportation such as the light-rail transit and buses incorporated features that allowed the disabled to use these facilities.

18.57 During the Plan period, the community-based rehabilitation programme, which involved the sharing of responsibilities between the family and the community in the care and rehabilitation of the disabled, was introduced. Through this programme, 229 community-based rehabilitation centres catering to about 5,030 disabled and eight group homes for the disabled were established in housing areas with the intention of integrating them into the community.

18.58 NGOs continued to complement the efforts of the Government in the planning, organization and delivery of various social services. To support the work undertaken by NGOs in caring for the disadvantaged and to further improve the living conditions in institutions run by NGOs, the Government provided funds for the upgrading and maintenance of these facilities. In addition, recognizing the complexities of undertaking social work and the need to upgrade knowledge and skills, training was provided to about 850 volunteers during the Plan period.

III. PROSPECTS, 2001-2005

18.59 During the Eighth Plan period, efforts will continue to be undertaken to expedite housing development in order to meet the increasing demand of the population, particularly of the low- and low medium-cost houses. Emphasis will also be given to improving the quality of houses built as well as provide suitable locations and a conducive living environment. With regard to other social services, the focus of development will be to continuously improve the quality of services to enhance the well-being of the population.

18.60 The policy thrusts in the Eighth Plan for housing and other social services will be as follows:

- ❑ *providing adequate, affordable and quality houses for all income groups with emphasis on the development of low- and low medium-cost houses;*
- ❑ *improving the delivery and quality as well as expanding the coverage of urban services;*
- ❑ *fostering harmonious living among the various communities as well as building strong and resilient families towards creating a caring society; and*
- ❑ *enhancing the aesthetic aspects of life through greater participation in sports and recreation as well as the arts and cultural activities.*

Housing

18.61 During the Plan period, housing needs are estimated to reach a total of 782,300 units due to the growing number of population, formation of new households and the replacement of existing houses, as shown in *Table 18-2*. Of

the total, 93.6 per cent will be for new requirements and the balance will be for replacement. The majority of the housing needed will be in Selangor with 13.6 per cent, followed by Sabah with 12.8 per cent, Johor 11.5 per cent and Perak 9.8 per cent. However, only 615,000 units of houses are expected to be built during the Plan period, taking into account the stock overhang in the country and the capacity to supply houses, as shown in *Table 18-3*.

18.62 The Government will continue to provide the necessary support policies and programmes to ensure adequate, affordable and quality housing. This will include the expansion of infrastructure facilities, introduction of appropriate incentives and instituting regulatory measures to ensure efficient housing development. To address the issue of squatters, the findings of the National

TABLE 18-2
HOUSING NEEDS BY STATE, 2001-2005
(units)

<i>State</i>	<i>Total Needs</i>	<i>New Requirement</i>	<i>Replacement</i>
Johor	90,174	85,656	4,518
Kedah	55,514	51,247	4,267
Kelantan	54,272	49,051	5,221
Melaka	20,591	19,035	1,556
Negeri Sembilan	30,753	27,088	3,665
Pahang	44,642	41,730	2,912
Perak	76,569	68,085	8,484
Perlis	7,672	7,321	351
Pulau Pinang	41,421	40,266	1,155
Sabah	100,034	93,709	6,325
Sarawak	69,223	65,157	4,066
Selangor ¹	106,055	102,492	3,563
Terengganu	36,940	33,677	3,263
Wilayah Persekutuan Kuala Lumpur	46,093	45,390	703
Wilayah Persekutuan Labuan	2,347	2,196	151
Total	782,300	732,100	50,200
%	100.0	93.6	6.4

Note: ¹ Includes Wilayah Persekutuan Putrajaya

Study on the Control and Resettlement of Squatters will be used to formulate appropriate policies and guidelines. During the Plan period, the public sector is expected to construct about 312,000 units of houses or 50.7 per cent of the total target compared with 230,000 units or 29.8 per cent in the previous Plan, as shown in *Table 18-3*. Of the total units to be constructed by the public sector, 66.7 per cent will be low-cost houses and houses for the poor. The construction of low-cost houses under PPRB will be expedited to enable all squatters to be relocated by the end of the Plan period.

TABLE 18-3
PUBLIC AND PRIVATE SECTOR HOUSING TARGETS, 2001-2005
(units)

<i>Programme</i>	<i>Total</i>	<i>Housing for the Poor</i>	<i>Low-cost</i>	<i>Low Medium-cost</i>	<i>Medium-cost</i>	<i>High-cost</i>
Public Sector	312,000	16,000	192,000	37,300	46,700	20,000
%	50.7	5.1	61.5	12.0	15.0	6.4
Public Low-cost Housing	175,000	-	175,000	-	-	-
Housing Rehabilitation	15,000	15,000	-	-	-	-
Site & Services	1,000	1,000	-	-	-	-
Housing by Commercial Agencies	56,000	-	15,000	10,000	16,000	15,000
Housing by Land Schemes	3,000	-	2,000	1,000	-	-
Institutional Quarters & Staff Accommodation	62,000	-	-	26,300	30,700	5,000
Private Sector	303,000	-	40,000	94,000	64,000	105,000
%	49.3	-	13.2	31.0	21.1	34.7
Private Developers	289,000	-	39,000	90,000	60,000	100,000
Cooperative Societies	14,000	-	1,000	4,000	4,000	5,000
Total	615,000	16,000	232,000	131,300	110,700	125,000
%	100.0	2.6	37.7	21.3	18.0	20.3

18.63 The development of low-cost housing will be expedited to ensure that those who are eligible will be provided houses, either for rent or sale. In this regard, there will be a change in the implementation strategy, whereby the Federal Government will be involved directly in the selection of suitable locations to expedite construction and to reduce the problem of mismatch between supply and demand for houses. The state governments will handle the sales as well as the arrangements for end-financing with the financial institutions and will continue to be responsible for the selection of buyers or renters. A revolving fund will be established to finance the project.

18.64 In tandem with the revised price for the low-cost houses implemented by the private sector, the price under the Public Low-Cost Housing (PLCH) programme will be reviewed to take into consideration increasing development costs, especially land, infrastructure, construction materials and labour. However, the price will be lower compared with prices for low-cost houses provided by the private sector since the cost of land and infrastructure will continue to be subsidized by the Government. In order to encourage housing developers to construct more low medium-cost houses and to reduce demand pressure on the low-cost category, appropriate policy guidelines will be introduced. These will include guidelines on prices, specifications and design as well as instituting better planning and control mechanisms. In addition, a proper system of maintenance of high-rise buildings, particularly, the low- and low medium-cost categories will be instituted to ensure that buildings and common facilities as well as other public amenities are well maintained, clean and safe.

18.65 Measures will be undertaken to strengthen the selection system and procedures to ensure proper distribution of low-cost units to the target groups. The centralized database control system at the Ministry of Housing and Local Government will be enhanced to ensure proper monitoring of such activities. The system will have access to all information in the registries maintained by state governments with regard to the applications for houses provided under the public as well as the private low-cost housing programmes. Steps will also be taken to improve accessibility to end-financing from commercial and financial institutions, particularly for those in the low-income group and the informal sector.

18.66 *Housing Development in Rural Areas.* The provision of housing in the rural areas including basic infrastructure facilities aimed at improving the quality of life of rural people will be continued. In this respect, various housing programmes in rural areas for the low-income group and hardcore poor will be reviewed to ensure the effectiveness of delivery and implementation including the mode and quantum of assistance. In line with these efforts, the allocation for the construction and rehabilitation of dilapidated houses will be increased. In addition, within the Regional Development Authority (RDA) areas, low-cost houses will continue to be provided to the rural population by the respective RDAs.

18.67 *Housing for Public Sector Employees.* The Government will continue to provide housing for public sector employees, particularly those in the essential services and those who are working in major towns, border areas as well as in remote areas. Provision of housing to the uniformed personnel will be given priority. During the Plan period, 62,000 units of various housing categories will be provided by the Government throughout the country.

18.68 *Housing for Estate and Industrial Workers.* Efforts will be undertaken to encourage employers to provide housing for estate and industrial workers. The Government will also ensure that they conform to the minimum standards set under the Workers' Minimum Standards of Housing and Amenities Act 1990.

18.69 *Housing Technology, Research and Development.* The Government will establish the Malaysian Human Settlement and Urbanization Research Institute (MAHSURI) to conduct R&D on issues related to human settlement and urbanization. This will include housing design and technology, especially technical research on alternative building materials as well as industrialized building systems. In addition, studies will also be carried out to formulate a comprehensive policy on housing to ensure sustainable housing development.

Other Social Services

Services in the Local Authorities

18.70 The major thrust of local authority development programmes will continue to focus on improving the delivery and provision of urban services. Socioeconomic programmes and projects, which include the construction and management of markets and commercial premises such as arcades, bazaars and stalls for petty traders as well as maintenance of cleanliness and beautification programmes will be continued. Emphasis will also be placed on upgrading basic infrastructure and amenities such as roads, proper drainage system, markets, community halls as well as undertaking beautification and cleanliness programmes for villages, formerly known as new and traditional villages in the urban areas. During the Plan period, a detailed study will be carried out on these villages in order to provide better services.

18.71 Measures will also be taken to strengthen the capacity and management capability of the local authorities through increasing the number of personnel, greater use of information technology and reviewing related legislation. Under

the cleanliness and beautification programme, efforts will continue to be taken towards quality landscape development to create a progressive, clean and attractive garden nation by 2005. Local authorities will be encouraged to implement projects through smart partnerships with the private sector and NGOs. In addition, greater public participation will be promoted.

18.72 Efforts will also be stepped-up to reduce urban problems such as traffic congestion, flash floods, pollution and poor sanitation. In this regard, various programmes such as the upgrading and expansion of radial roads, construction of access roads to housing estates, and improvement and maintenance of rivers as well as drainage system will be undertaken. Under the integrated solid waste disposal system, transfer stations, sanitary landfills and incinerators will be built, while public campaigns will be intensified to encourage the public to participate in recycling activities. The construction of the transfer station at Taman Beringin, Kuala Lumpur with a capacity of 1,700 tonnes of solid waste per day will be completed during the Plan period. In addition, incinerators will also be built in the Federal Territory of Kuala Lumpur and Labuan, Pulau Pinang and Cameron Highlands, while a sanitary landfill will be built in Selangor. In order to ensure proper management and disposal of solid waste throughout the country, a strategic study on solid waste management at the national level will be carried out during the Plan period.

Fire and Rescue Services

18.73 Efforts to further improve and upgrade the capability and professionalism in fire prevention, protection, and control as well as rescue work will be continued. During the Plan period, RM800 million will be provided for the development of new fire stations and facilities in strategic locations, upgrading of existing amenities, procurement of more specialized equipment, training of multi-skilled personnel and intensification of research and development. The construction of a new Fire and Rescue Academy at Wakaf Tapai, Terengganu will be completed during the Plan period. The academy will be equipped with the latest technology and sophisticated fire and rescue training simulation system. Additional operating bases for the Air Unit will be built in strategic locations to provide comprehensive air service coverage in fire-fighting and rescue works throughout the country. The use of ICT in fire and rescue service will be expanded with the installation of the Integrated Command and Control System in all major towns. R&D activities will be intensified with the development of a R&D centre for fire safety and fire engineering.

18.74 Efforts to instill and inculcate fire safety awareness and education among the general public and owners of residential, commercial and industrial premises will be enhanced through various programmes under fire prevention campaign. This is to ensure that more Malaysians are educated and aware of fire safety requirements and preventive measures. Community and volunteer fire-fighting brigades will continue to be established, especially in suburban and rural areas as well as squatter settlements.

Library Services

18.75 Library infrastructure and services will continue to be developed with the objective to inculcate and promote reading habits among the general public. In this regard, the library service network will be expanded to all districts, *mukim* and villages so that more people have access to reading materials. Relevant agencies will cooperate to facilitate in the setting up of these libraries at the community centres. Efforts to promote reading habits through the *Kempen Gerakan Membaca* will continue to be implemented. During the Plan period, more libraries including new state, district and rural libraries will be built, while additional multimedia mobile libraries will be acquired. To increase IT literacy and information seeking skills, especially among rural communities, *Pusat Siber Ilmu* will be established in public libraries. In order to upgrade the quality of library services, training programmes for the library staff and officers will be intensified, particularly with respect to IT application and maintenance. Greater efforts will be undertaken to encourage wider utilization of *Sistem PERDANA* to improve access to information sources.

18.76 In line with the objective of promoting the National Library as the national reference and resource centre, efforts will be stepped-up to increase its collection and acquisition of books, journals and other materials in various subjects, particularly in science, technology and business. Measures will also be taken to strengthen the enforcement of the Deposit of Library Material Act 1986 to ensure that all national publications will be systematically documented and available for reference and research. In order to enhance access to locally published information, efforts will be undertaken during the Plan period to digitize selected local publications. In this regard, steps will be undertaken to encourage all libraries to undertake this digitization programme to enrich their information databases.

Sports

18.77 Recognizing the importance and contribution of sports towards enhancing national unity, inculcating the spirit of patriotism and solidarity as well as building a disciplined and competitive society, efforts to promote mass and high

performance sports will continue to be undertaken. Concerted efforts to further implement the Sports Development Act 1997 will be continued to ensure the effective coordination and management of sports activities by both the public and private sectors. In this regard, the organization and management of sports associations will be reviewed and upgraded to ensure a more professional approach towards sports development.

18.78 Various sports programmes and recreational activities will continue to be organized at the district, state and national levels to promote mass sports with a view towards creating a healthy, active and productive society. In addition to implementing existing programmes, traditional sports will be reinforced, while a new programme known as extreme sports, which will include skate boarding, motorized paragliding and motor sports, will be introduced to attract greater participation, especially among youths. To promote the importance and benefits of maintaining a healthy lifestyle, more awareness campaigns as well as fitness education programmes will be organized. Public and private sector organizations will be encouraged to introduce callisthenics at the workplace to improve health and increase the productivity of their workers. The Government will also ensure the availability of adequate facilities for the implementation of the mass sports programme during the Plan period.

18.79 In order to establish the foundation for participating in high performance sports, emphasis will be given towards adopting a more systematic approach for the identification and preparation of athletes at the primary and secondary school levels. This approach will involve the inclusion of athletics and gymnastics in the school curriculum, increasing the number and expanding the scope of mini sports events as well as increasing the number of physical education teachers, especially at the primary level. Students showing potential for competing in high performance sports will be given preference to be placed in fully residential schools with training facilities. In addition, sports facilities will be provided and upgraded in all schools, especially in primary schools. Institutions of higher learning will implement specialized training programmes to enable promising athletes to continue training while pursuing their education at the tertiary level. Inter-university competitions will be increased and their scope expanded to be more competitive and enjoyable. Towards this end, the role and functions of the Malaysian Universities Sports Council, as the prime mover of sports in universities and organizer of inter-university competitions, will be reviewed. At the same time, to prepare athletes for participation in forthcoming international meets, the implementation of comprehensive training programmes at the central and regional levels will be further intensified.

18.80 Efforts will also be made to overcome the lack of qualified coaches through the implementation of more training programmes at the certificate, diploma and degree levels. In view of the available pool of knowledgeable and experienced former athletes who could be used for training younger athletes, efforts will be made to encourage them to undergo the necessary training to qualify as coaches.

18.81 With the hosting of SEA Games XXI in 2001, a total of 35 venues throughout the country will be upgraded and sports equipment based on international specifications will be purchased. Intensive training programmes will be implemented to ensure Malaysia's success in the Games. In addition, the hosting of the Far East and South Pacific Paralympic Games in 2006 will further contribute towards the development of sports among the disabled. For this purpose, specific facilities for the disabled will be built and specialized training programmes organized to ensure the successful participation of Malaysia. In view of the large investment in the construction of sports facilities of international standards, concerted efforts will be undertaken to maximize its utilization and ensure its proper maintenance.

18.82 With the establishment of world-class sports facilities, efforts to make Malaysia an international sports destination as well as a venue for training coaches and athletes will be further continued through collaboration with international sports organizations and associations. Efforts will also be made to encourage athletes from temperate countries to utilize facilities available in the country for the purpose of training in tropical conditions. These initiatives will facilitate the growth of the sports industry in the country, while simultaneously contributing towards the development of the tourism industry.

Information and Broadcasting

18.83 During the Plan period, the Government will continue to upgrade and enhance radio and TV coverage in line with the development of information technology (IT) to provide quality transmission and greater access to the population. In addition, with the merging of computer and communication technologies, Malaysians will have access to a wide range of multi-media opportunities with a number of value-added services such as video-on-demand and interactive entertainment. Programmes covering science and technology, IT, business and finance, sports, and culture based on the concepts of infotainment and edutainment as well as enhancement of moral and ethical values will continue to be emphasized. In order to meet the challenges in the broadcasting industry and to further improve effectiveness and efficiency in the delivery of services, the corporatization of Radio Television Malaysia will be undertaken.

18.84 Efforts to further improve the quality of transmission, especially in rural and remote areas in Sabah and Sarawak, will be continued. Broadcasting infrastructure will continue to be improved with the acquisition of new equipment and the construction of additional transmitter stations. To provide the public with higher quality radio and TV coverage, plans are underway to convert transmission into the digital mode. The utilization of digital TV terrestrial transmission together with the existing digital satellite transmission will further contribute towards the development of an information-rich society.

18.85 The dissemination of accurate information on government policies and strategies as well as providing timely explanations about developments and issues confronting the country will contribute towards the creation of a well-informed society. Towards this end, information officers will be trained and equipped with more effective communication skills and the latest technologies.

18.86 Taking cognizance of the rapid development and the vast potential in the broadcasting and film industry, the National Film Policy 1996 will be reviewed. The developments in information and communications technology, the emergence of private TV stations, satellites and cable systems provide opportunities to develop the film industry as a large-scale industry that can contribute towards economic growth. Towards this end, the roles and functions of the National Film Development Corporation and the National Film Department will also be reviewed to further facilitate the development and promotion of the film industry. In providing the requisite support for the development of the industry, training of relevant manpower at the Tun Abdul Razak Institute for Broadcasting will be further upgraded and strengthened.

18.87 Private sector involvement in the film industry will be further enhanced with the establishment of a world-class entertainment centre or *e-village* at Dengkil, Selangor. This centre, equipped with sound and virtual studios, provides a venue for the shooting of films by both local and foreign film producers. The latest and sophisticated facilities available at the *e-village* will further contribute to the development of the film industry in the country. Discussions will be held with foreign film producers from Europe, Hong Kong and India to utilize these facilities for their respective film productions. Small film producers and production houses will be encouraged to merge and consolidate their position to become more competitive and viable. The implementation of the *e-village* project will result in spillovers in terms of facilitating the hiring of skilled local expertise, developing new technologies and advertisement of the country's natural resources to potential tourists.

18.88 Recognizing the importance of cooperation among ASEAN countries, the Indonesia-Malaysia-Thailand Growth Triangle Television (IMTGT-TV) Station at Langkawi will be established. The IMTGT-TV will transmit programmes of common interests to further promote regional solidarity as well as local culture and values. At the same time, the International Broadcasting Centre will continue to be the major regional broadcaster, providing quality coverage and transmission of regional events and conferences.

Culture

18.89 Culture as a medium to enhance national unity and integration as well as an instrument to improve quality of life will be given greater emphasis during the Plan period. Involvement in arts and cultural activities will also contribute towards the wholesome development of the individual and enhance the aesthetic aspects of life. Focus will be given to arts and cultural development, conservation and preservation of cultural heritage and the dissemination of cultural information. In addition to providing the synergy with the tourism industry, these programmes will enhance national identity and national pride, harmonize positive and moral values as well as counter the spread of negative aspects of foreign culture.

18.90 While efforts to strengthen cultural understanding and consciousness among Malaysians will continue, greater emphasis will be given to encouraging the participation of youths and communities in arts and cultural activities. Towards this end, arts and cultural activities, which include traditional and modern dance, drama, and music, will be promoted through the organization of campaigns, exhibitions and performances at the district and state levels, to increase appreciation of the nation's rich cultural heritage. To facilitate the implementation of these activities, districts will be provided with the necessary physical facilities and support. Activities to foster and enhance national integration and instill racial harmony, such as dance festivals and cultural camps, will continue to be organized. In addition, the completion of a new campus for the National Arts Academy in the Federal Territory of Kuala Lumpur in 2003 will further promote the development of the creative and performing arts as well as provide an avenue for nurturing talents in these areas, especially among youths.

18.91 Emphasis will be given to the development and promotion of performing and fine arts in institutions of higher learning. Existing courses and programmes

in performing arts conducted in these institutions, will be expanded and courses in new areas introduced to provide more opportunities to students and the general public to develop their talents in these areas.

18.92 To inculcate greater awareness among the public of Malaysia's history and national heritage, the preservation and conservation of historical places, monuments and artifacts will be continued. Consistent with the provisions in the Antiquities Act 1976, measures will continue to be undertaken to control the outflow of antiquities and historical objects of national importance.

18.93 During the Plan period, the Malay World Ethnology Museum will be constructed at Bangi, Selangor. This Museum, when completed in 2003, will collect, preserve, undertake research and disseminate knowledge on Malay culture and heritage, thus becoming a repository of Malay cultural heritage. To preserve and exhibit the uniqueness of the *Orang Asli* heritage, an *Orang Asli* Arts and Craft Museum will be built in Sungai Buloh, Selangor and will be operational in 2004.

18.94 In order to achieve international recognition for the conservation of historical monuments, efforts will continue to ensure that conservation activities are undertaken according to the United Nations Educational, Scientific and Cultural Organization (UNESCO) Guidelines for the Conservation of Historical Monuments. To allow for a more coordinated and integrated approach towards conservation, areas that contain specific features of historical importance such as buildings and monuments, will be identified and designated as historical zones. These zones will be developed to provide the necessary facilities as tourist destinations. In addition, to enhance the country's image, efforts will be undertaken to preserve Malaysian architectural heritage in its original form or showcased in public buildings.

18.95 During the Plan period, a National Automobile Museum will be built as a source of historical knowledge and information through the exhibition of vehicles used for historical events as well as to showcase Malaysia's achievement in the automotive industry. Exhibits in this museum will include vehicles used by dignitaries or for specific historical events, locally produced automobiles as well as engine components, mechanical equipment and petroleum products, which reflect the technologies used for the development of the automotive industry.

18.96 Steps will be taken to make Malaysia the centre of excellence in arts and culture for the Asia-Pacific region. Towards this end, efforts will be made to improve the quality of cultural performances through training of artistes and identification of new talents. The availability of world-class facilities such as the *Istana Budaya* and the PETRONAS Philharmonic Hall will allow for the hosting of more international arts and cultural events in the country, including well-known musicals. The organization and presentation of such events will promote the development of performing arts in the country as well as provide exposure and be a source of inspiration for talented Malaysians to strive for international recognition.

Community Development

18.97 The rapid pace of globalization will have an impact on the integrity of the family structure and traditional communities, as well as influence cultural values and norms in social integration and nation building. Efforts will thus be undertaken to ensure that society is resilient to withstand negative influences that may affect social harmony and tolerance. Towards this end, community development programmes will be intensified in the urban and rural areas to focus on fostering neighbourliness and harmonious living among the various communities as well as inculcating the spirit of self-reliance.

18.98 Recognizing the importance of ensuring that the young are imbued with values of tolerance and mutual respect, while at the same time preparing for formal schooling, pre-school classes will continue to be established. In addition, vision schools will be established to facilitate intermingling among children from different ethnic backgrounds. Schools will also be encouraged to introduce additional co-curricular activities, such as the establishment of unity clubs, to further promote and strengthen inter-racial understanding.

18.99 The scope of *Rukun Tetangga* programmes will be expanded to include social outreach efforts that will focus on specific target groups, such as the disabled, single mothers, and former drug addicts. Resident associations as well as social and recreational clubs established in areas without *Rukun Tetangga* committees will also be encouraged to extend their social outreach programme to promote mutual respect and tolerance among the various communities.

18.100 Efforts to further promote national integration will be undertaken during the Plan period. In particular, celebrations of the *Pesta Gawai* and the *Pesta Kaamatan* will simultaneously be undertaken in the Federal Territory of Kuala

Lumpur to display the rich cultural heritage and traditions of various ethnic minority groups in Sabah and Sarawak. Orientation courses for officers from Peninsular Malaysia serving in Sabah and Sarawak and vice versa will also be expanded to include uniformed personnel and those in the private sector.

18.101 In line with the new rural development philosophy, community development programmes will be further strengthened to create a modern and self-reliant rural society. Emphasis will be given to expanding activities, providing more opportunities for pre-school education, strengthening the *Gerakan Desa Wawasan* programme, restoring good values and ethics as well as exposing rural communities to ICT. For the *Orang Asli* community, more efforts will be undertaken to provide education and skills training, especially among youths through greater cooperation and coordination with existing skills training institutes.

Family Development

18.102 While it is clear that economic development will have profound consequences on the nation's social and cultural circumstances, it is important to ensure that the population is able to cope with social changes that arise as a consequence of development. In this regard, action will be taken to diagnose, predict and manage these consequences. Greater emphasis will be given to social science research, the findings of which will be used to formulate relevant policies and social development programmes. In addition, social impact assessments for major projects will also be undertaken.

18.103 To ensure that social development programmes are implemented in an integrated and systematic manner and to obtain maximum benefits and results, PINTAS will be implemented nation-wide. Towards this end, the commitment and cooperation of all state governments, the private sector, NGOs, the local community and individuals is necessary to ensure prevention and professional management of social problems.

18.104 During the Plan period, emphasis will continue to be given to strengthening the *family* unit that forms the basis for social stability and building a caring society. Efforts will thus be undertaken to prepare families to face the challenges arising from rapid economic development as well as ensuring the maintenance of stability and harmony within the family unit. Research into the inter-relationships and dynamics of the family unit will be given priority and will be used as input in the formulation of policies and programmes to further strengthen the family.

18.105 The family size, which was 4.7 persons in 1995 decreased to 4.52 in 2000, is forecasted to further decrease to 4.3 in 2005, while the number of older persons is expected to increase from 0.9 million in 2000 to 1.04 million in 2005. This concurrent phenomena of decreasing family size and increasing number of older persons, as well as other demographic and social factors affecting the family structure, such as the diminishing role of the extended family, will require the establishment of formal institutions to share or take over the traditional responsibilities of families. Support systems for the care of the young and older persons will have to be strengthened. Towards this end, the involvement of the private sector and NGOs in forming smart partnerships with the Government will be encouraged.

18.106 Efforts will be undertaken to ensure the provision of quality services at care centres. Enforcement of the Care Centre Act 1993 will be further strengthened to ensure that a certain standard of care and service is provided for the welfare of residents at these centres. The private sector as well as NGOs will also be encouraged to provide facilities to care for the disadvantaged. To enable working mothers to breastfeed and care for their young children, employers will be further encouraged to provide nurseries at the workplace. In addition, more intensive efforts will be undertaken to educate the Malaysian public on the benefits to the family and society when both men and women share family responsibilities.

18.107 With increasing urbanization, there is the need to ensure that urban centres have the necessary social facilities, such as adequate housing, educational and recreational facilities, as well as amenities for the disabled and the elderly. Efforts will be undertaken to ensure that new urban centres are properly planned to provide for these facilities to ensure a more comfortable, friendly and healthy environment. During the Plan period, programmes for *children* will focus on the provision of proper care and protection in order to contribute to their healthy and wholesome development. To ensure that children left in the care of child-minders receive quality care, efforts will be undertaken to conduct appropriate training for child-minders throughout the country. Homes established for children in need of protection and rehabilitation will be further upgraded and equipped with more up-to-date facilities such as educational and recreational facilities to enable these children to have access to and develop in a normal environment. To enable disabled children to grow and develop within a family environment, more group homes will be established with the cooperation of the private sector.

18.108 With the increasing population of *older persons* there is a need to ensure their integration and continued active participation in society. Towards this end, awareness and education campaigns to highlight the implications of ageing and the need to practise a healthy and productive lifestyle will continue to be undertaken. In line with the caring society concept, the family will continue to be encouraged to take care of older persons. For families that are unable to care for older persons during the day, 19 day-care centres will be built and operated in collaboration with NGOs. Through this programme, traditional values such as filial piety and respect for older persons will be upheld, while at the same time making it possible for families to take advantage of the experience and wisdom of older persons.

18.109 Programmes to integrate the *disabled* into society and enable them to lead a normal life will be further intensified. To allow for proper planning of programmes and facilities for the disabled, a database of all the disabled in the country will be established. In order to provide the necessary training and rehabilitation for the disabled, the Government will ensure the adequate supply of trained manpower in areas such as physio, speech and occupational therapies. Efforts will also be undertaken to identify children with disabilities at the pre-school and primary level to ensure that appropriate treatment and care is provided early. To enable the disabled to be economically independent, training on a residential and non-residential basis, will continue to be provided at various institutions in the country.

18.110 Recognizing the importance of training in the handling of social problems and undertaking social work, the completion of the Social Institute of Malaysia in 2001 and the implementation of various training programmes will contribute towards providing a more professional perspective to social work and social development. The Institute, which will have a training capacity for 300 trainees, will provide training in areas such as family development, psychology, sociology, social work, and counselling for volunteers and members of NGOs as well as provide retraining and in-service training for social workers.

18.111 In the spirit of cooperation and partnership, NGOs will continue to play important roles in complementing the efforts of the Government in the provision of social services for the family, children, older persons and the disabled. Towards this end, the Government will continue to provide the necessary assistance to ensure that programmes undertaken by NGOs will contribute towards further improving the quality of life of the disadvantaged.

IV. ALLOCATION

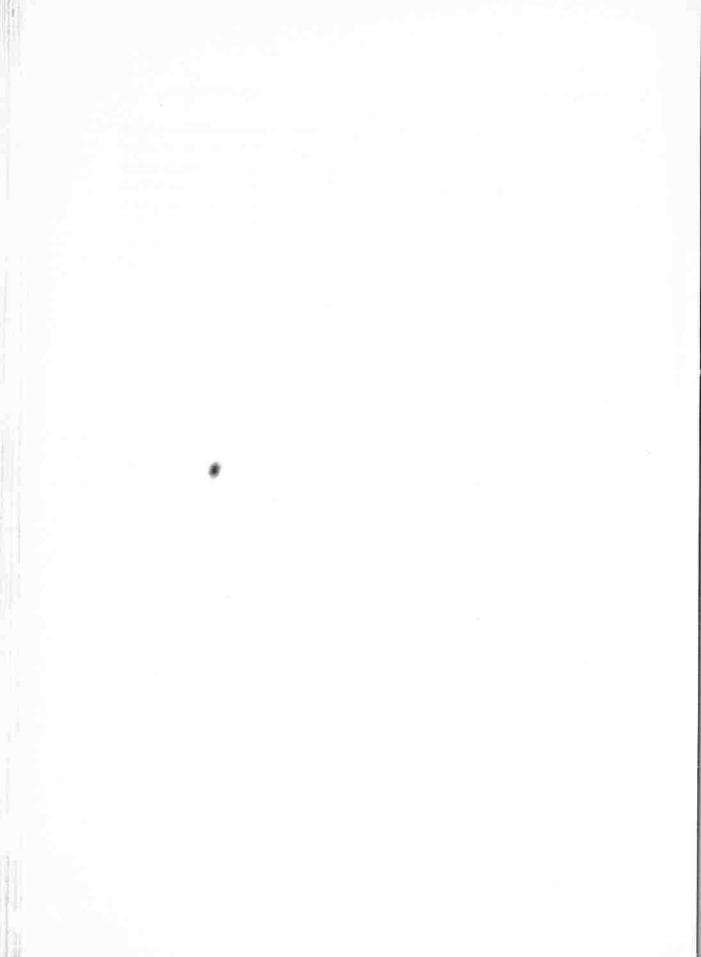
18.112 During the Eighth Plan period, the development allocation for housing and other social services amounted to RM8.7 billion, as shown in *Table 18-4*. In line with the Government's efforts to expedite housing development, particularly for the low-income group, an allocation of RM4.2 billion will be provided for public and rural housing development programmes. Of the total allocation for public housing programmes, RM2.0 billion or 47.8 per cent will be utilized to provide housing for public sector employees and RM2.2 billion or 52.2 per cent for public low-cost housing and housing for the poor. A sum of RM4.5 billion will be allocated for other social services including RM598 million for community and family development programmes.

TABLE 18-4
**DEVELOPMENT ALLOCATION FOR HOUSING AND OTHER
SOCIAL SERVICES, 2001-2005**
(RM million)

Programme	7MP		8MP
	Allocation	Expenditure	Allocation
Housing	3,372	3,331	4,223
Public Housing	3,190	3,165	4,018
Low-cost Housing	1,208	1,204	1,980
Site & Services	21	19	20
Government Quarters & Other Staff Accommodation	1,961	1,943	2,018
Rural Housing	183	166	205
Rehabilitation of Dilapidated Housing	100	84	100
Traditional Village Regrouping & Rural Growth Centres	83	82	105
Other Social Services	3,914	3,543	4,454
Local Authorities	1,092	1,047	1,942
Fire & Rescue Services	496	496	800
Sports	1,097	980	540
Culture	354	297	220
Library Services	86	69	100
Information & Broadcasting	246	192	254
Community & Family Development	542	462	598
Total	7,286	6,874	8,677

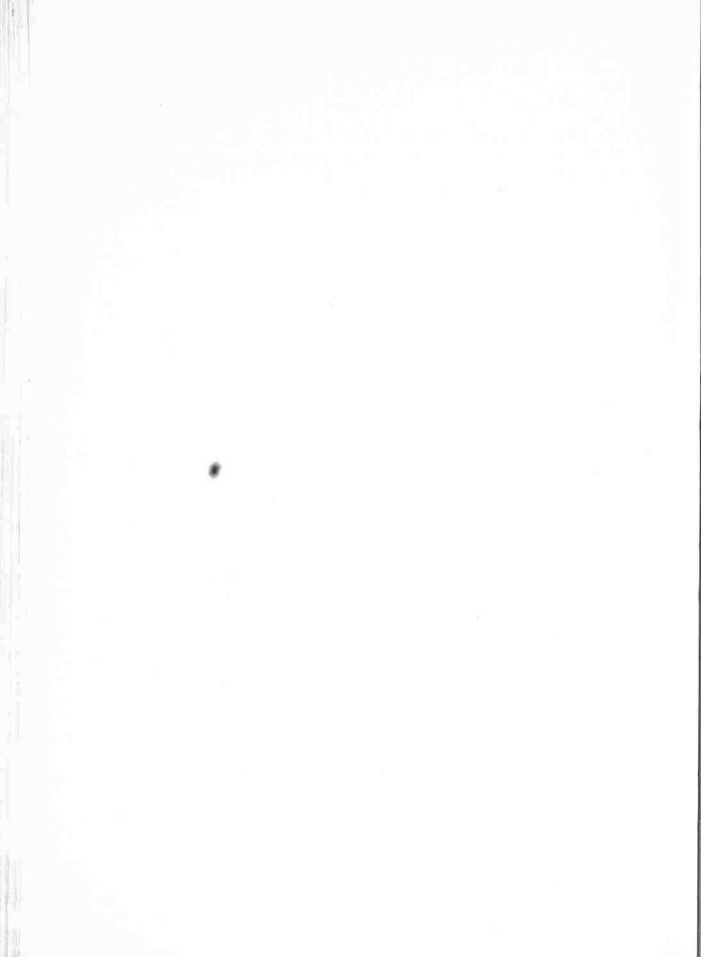
V. CONCLUSION

18.113 During the Seventh Plan period, the overall performance of the housing development programme showed remarkable progress. With regard to other social services, the programmes implemented resulted in an improvement in the quality of life, particularly for the rural population. During the Eighth Plan period, priority will be given to the provision of adequate, affordable and quality houses, particularly low- and low medium-cost houses. With rapid development and the ensuing rural-urban migration, efforts will be undertaken to expand and upgrade the quality of urban services to ensure a more conducive living environment and improved quality of life. The implementation of various programmes aimed at strengthening family ties and greater participation in sports and cultural activities will also bring about a united and caring society as well as enhance the aesthetic aspect of the individual and the community.



Chapter 19

Environment and Sustainable Resource Management



19

ENVIRONMENT AND SUSTAINABLE RESOURCE MANAGEMENT

I. INTRODUCTION

19.01 During the Seventh Plan period, environmental and natural resource issues continued to be addressed to ensure that development was balanced and sustainable. Efforts to integrate environmental considerations into development planning were intensified, and the relevant institutional, legislative and regulatory mechanisms were strengthened. In addition, the use of cleaner technologies was promoted and a market-based approach to address environmental and resource issues was introduced. Environment education and awareness campaigns were also launched to foster an environment-friendly society.

19.02 During the Eighth Plan period, emphasis will be placed on addressing environmental and resource management issues in an integrated and holistic manner. Steps will be taken to identify prudent, cost-effective and appropriate management approaches that yield multiple benefits in order to ensure that development is sustainable and resilient. Efforts will be continued to address air pollution, mitigate degradation of rivers, improve marine and groundwater quality, as well as deal with waste in a comprehensive manner. The management of natural resources will be enhanced by strengthening land use planning, extending the Biodiversity Action Plan to the various states, expanding the sustainable management of forests and addressing multiple-use issues in marine areas. Efforts will also be channelled at promoting environmental performance measurements and market-based instruments as well as engaging communities in addressing environmental and natural resource issues.

II. PROGRESS, 1996-2000

Environmental Management

19.03 *Air Quality.* During the Plan period, the overall air quality remained stable at good to moderate levels as indicated by the Air Pollution Index (API).

The status of air quality was closely monitored by the Department of Environment (DOE) through 50 air-quality monitoring stations throughout the country. The three main sources of air pollution were mobile sources, namely, vehicles, and stationary sources such as factories and thermal-power generation plants as well as the burning of municipal and industrial wastes, each contributing 74 per cent, 22 per cent and 4.5 per cent, respectively in 1998, as shown in *Table 19-1*. Efforts were focused on reducing the emissions from motor vehicles and two new regulations on motor engines were introduced in 1996, namely the Control of Emissions from Diesel Engines Regulations and the Control of Emissions from Petrol Engines Regulations. In addition, enforcement efforts by the DOE, Royal Malaysian Police and the Road Transport Department were stepped up to reduce black smoke emission from diesel-powered engines. A review of the Environmental Quality (Clean Air) Regulations 1978, was also initiated to improve control over emissions from industrial sources.

19.04 The air quality deteriorated between September and October 1997, mainly due to the formation of haze from transboundary sources. The Government initiated action to coordinate efforts at the regional level to control the transboundary sources of haze, while the DOE started programmes to control local sources that worsened the haze situation. These included airborne surveillance by the Royal Malaysian Police and other relevant agencies and stricter enforcement on open burning, which resulted in a reduction in the number of cases of open burning by 1998. The increased use of unleaded petrol, from 31 per cent in 1992 to 84 per cent in 1998, resulted in a significant decrease in airborne lead in urban areas. As a measure to coordinate the efforts of the various agencies involved in controlling local sources of air pollution and to initiate remedial plans for recurring haze episodes, a Management and Disaster Relief Committee was established in 1998.

TABLE 19-1
EMISSION OF POLLUTANTS TO THE ATMOSPHERE BY SOURCE, 1995-1999
('000 tonnes)

Source	1995	%	1996	%	1997	%	1998	%	1999	%
Mobile	3,385.97	84.3	2,722.90	81.8	2,905.80	81.1	2,402.80	73.8	1,852.90	76.3
Stationary	477.57	11.9	577.87	17.4	573.06	16.0	706.50	21.7	461.40	19.0
Burning of Wastes	153.14	3.8	29.78	0.8	104.08	2.9	146.50	4.5	114.20	4.7
Total	4,016.68	100.0	3,330.55	100.0	3,582.94	100.0	3,255.80	100.0	2,428.50	100.0

19.05 *Water Quality.* During the Plan period, based on samples from 900 monitoring stations in 120 rivers, the DOE classified 32 rivers as clean, 75 as slightly polluted and 13 rivers as highly polluted, as shown in *Table 19-2*. The main sources of river water pollution were from the discharge of domestic sewage, manufacturing, pig farming, agricultural production and land clearing and earthworks. A Groundwater Monitoring and Reporting Network was established in Peninsular Malaysia in 1996, followed by Sarawak in 1999 and Sabah in 2000. This helped in the evaluation of the status and extent of groundwater contamination, and in instituting measures to protect groundwater from being contaminated.

19.06 To provide a more efficient and cost-effective management system in the handling of *domestic wastewater* and to reduce the discharge of inadequately treated wastewater into the rivers, multipoint sewerage systems were constructed and upgraded, while existing ones were refurbished. By the end of 1998, *Indah Water Konsortium* took over the running of sewerage facilities in 84 out of the 145 local authorities and managed 5,373 treatment plants and 770,570 septic tanks, of which 266 treatment plants were refurbished and 352,090 septic tanks desludged. Consequently, there was an improvement in the quality of raw water in some states as shown from the overall decline in the total coliform count in raw water from 28.1 per cent in 1995 to 15.7 per cent in 1998. In addition, pig farms were relocated, and more effective pig waste treatment techniques were introduced to mitigate the discharge of animal waste into waterways.

19.07 With regard to *marine water* monitoring, samples collected from 237 stations indicated that the main contaminants of the coastal waters of all states were oil and grease, total suspended solids (TSS) and the bacteria *Escherichia*

TABLE 19-2
RIVER WATER QUALITY, 1995-1999

Category	1995		1996		1997		1998		1999	
	No.	%	No.	%	No.	%	No.	%	No.	%
Very Polluted	14	12.2	13	11.2	25	21.4	16	13.3	13	10.8
Slightly Polluted	53	46.1	61	52.6	68	58.1	71	59.2	75	62.5
Clean	48	41.7	42	36.2	24	20.5	33	27.5	32	26.7
Number of Rivers Monitored	115	100.0	116	100.0	117	100.0	120	100.0	120	100.0

coli (*E. coli*). Almost 94 per cent of the samples were polluted by oil and grease, 73 per cent by TSS and 30 per cent contained *E. coli*. Joint airborne surveillance operations were carried out by the DOE, the Police Air Wing and the Air Force Unit of the Ministry of Defence, to detect illegal dumping of oil and waste in the Straits of Malacca and the South China Sea. In 1999, 48 cases of oil spillage were reported in Malaysian waters, of which illegal discharging was responsible in 32 cases. Five of these cases were successfully prosecuted and fined.

19.08 *Solid Waste*. The rapid growth in the urban population due to rural-urban migration and natural growth as well as changing consumption patterns contributed to an increase in the generation and composition of solid waste, as shown in Table 19-3. The estimated amount of waste generated by the urban population in 2000 was 11,940 tonnes per day or 0.8 kilogram per capita per day. This large amount of solid waste strained existing landfill sites, and the majority of disposal grounds were considered unsanitary landfills or merely open dumps. The problem was compounded by cases of open burning being reported at dumpsites.

19.09 To ensure a more efficient waste management system, the privatization of solid waste management was started on an interim basis. Two of the four consortia involved started collection of solid waste in 26 of the 145 local authorities by the end of the Plan period. Overall, a total of 23 municipal disposal sites was upgraded to ensure proper disposal. The Government also conducted awareness campaigns to encourage the reduction, reuse and recycling of waste materials.

19.10 *Toxic and Hazardous Waste*. During the 1995-1999 period, there was a marked increase in the generation of toxic and hazardous waste due to rapid industrialization. Over the Plan period, an average of 431,000 tonnes of scheduled waste was generated per annum, mainly from the metal finishing, electronics, textile, chemical and chemical-related industries, as well as from agricultural and domestic activities, and clinical waste from hospitals, as shown in Chart 19-1.

19.11 Comprehensive legislation was promulgated to regulate the use, storage, handling, transport and labeling of hazardous substances as well as for the safe disposal and treatment of toxic and hazardous waste. A National Contingency Plan was developed to deal with accidental spillage of toxic and hazardous waste. The Government also launched the Malaysian Agenda for Waste Reduction (MAWAR) Programme to encourage industries to formulate strategies to reduce waste. A fully integrated toxic waste treatment and disposal facility was also

TABLE 19-3

SOLID WASTE GENERATED, 1996-2000
(¹000 tonnes)

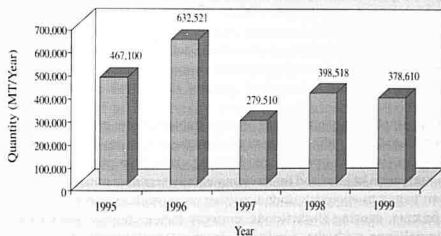
Area	1996	1997	1998	1999 ¹	2000 ¹
Kuala Lumpur	n.a.	n.a.	1,058	1,070	1,082
Selangor	n.a.	n.a.	1,169	1,204	1,240
Pahang	n.a.	n.a.	202	206	210
Kelantan	n.a.	n.a.	123	126	129
Terengganu	n.a.	n.a.	119	122	125
Negeri Sembilan	245	250	267	278	291
Malacca	192	200	208	216	225
Johor	854	890	927	956	1,005
Perlis	26	27	28	28	29
Kedah	507	538	569	560	631
Pulau Pinang	570	591	611	630	648
Perak	672	696	719	741	763
Total	3,066	3,192	6,000	6,137	6,378

Note: ¹ Estimates

n.a. = not available

CHART 19-1

QUANTITY OF SCHEDULED WASTE GENERATED, 1995-1999



established in Bukit Nanas, Negeri Sembilan. The facility, which is managed by a private company, was operational in 1998. The establishment of this facility has to some extent, relieved industries of the need to store hazardous waste within their compounds. By end 2000, the facility received 216,500 tonnes of toxic and hazardous waste for treatment and disposal from 1,002 companies.

Natural Resource Management

19.12 During the Plan period, natural resources continued to be important for the nation's development. With the increase in demand and pressure upon natural resources, the Government monitored and managed the utilization of natural resources to ensure sustainable development. Steps were also taken to further integrate environmental aspects into land use planning and management.

19.13 *Land Resources.* The management of land resources was improved through more integrative land use planning and the increased use of remote sensing technology. The *Doktrin Perancangan dan Pembangunan Sejangat* (DPPS), which stresses development that is balanced and sustainable from the economic, social, spiritual and environmental aspects, was made the basis of land use planning and development activities, and served as the foundation for the planning and development of Putrajaya and Cyberjaya. A guideline for the implementation of the DPPS was issued to guide all future development. In addition, the Town and Country Planning Department (TCPD) applied the Integrated Resources Planning and Management (IRPM) system, whereby the environmental impacts of a proposed land use are assessed at the planning stage and strategic environmental assessments conducted, as was the case for the Paya Indah Wetlands Sanctuary in Selangor. During the Plan period, nine Structure Plans were amended and 78 Local Plans that took into account conservation and environmental aspects were prepared. Steps were also taken to prepare a National Spatial Plan for the country, to provide strategic guidelines on development, use and conservation of land by integrating socio-economic and sectoral policies into physical planning.

19.14 Physical planning guidelines were established to ensure sustainable development. A total of 32 guidelines was issued by the TCPD, covering development of coastal areas, islands, open space, housing, retention ponds, solid waste disposal, conservation of trees and for environmentally sensitive areas. Nevertheless, development began to encroach upon sensitive areas such as forest reserves and water catchments, causing flash floods, periodic water scarcity and landslides. The non-compliance with the conditions in the Development, Structure and

Local Plans, the lack of enforcement and weaknesses in delineating clear buffer zones resulted in the horizontal sprawling of development into new areas for which development was not earlier planned. Steps were taken to adopt a more comprehensive and coordinated approach to land use planning to address these issues.

19.15 *Water Resources.* During the Plan period, several states experienced periodic water scarcity. This was caused by extended dry spells, and was compounded by the increasing demand for water, polluted water sources and the encroachment of development into water catchments. In this regard, the Government formed a National Water Resources Council in 1998 to provide a forum for a holistic approach for the planning and management of water resources. A National Water Resources Study for Peninsular Malaysia was completed in 2000 to determine the availability of water resources and water demand up to 2050. The river-basin approach to water management in Malaysia was initiated with the establishment of *Lembaga Urus Air Selangor* (LUAS) in 1999. In addition, various awareness campaigns were held with the cooperation of the relevant non-governmental organizations (NGOs) to promote the wise use of water and river conservation in general, especially through the annual *Cintailah Sungai Kita* campaigns.

19.16 *Biodiversity.* The National Biodiversity Policy, which provides a framework for integrating and consolidating biodiversity programmes and projects in the country, was launched in April 1998. In line with the Policy, the capacity of several conservation agencies were strengthened and management plans were drawn-up for a number of protected areas. These included the preparation of a masterplan to reinforce the protected area system of Peninsular Malaysia, a capacity building project for the Wildlife Department in Sabah, improving the management of totally protected areas in Sarawak and collaboration between universities in Malaysia and Denmark on conservation education and training. A Nature Education and Research Centre was also established in the Endau-Rompin National Park in Johor, and management plans are being prepared for the Krau Wildlife Reserve in Pahang, the Perlis State Park, the Maliau Basin in Sabah, as well as biodiversity conservation projects in the Tabin Wildlife Reserve and the Kinabatangan area in Sabah. The Management Plan for Malaysia's first site established under the RAMSAR Convention on Wetlands of International Importance Especially as Waterfowl Habitat, at Tasek Bera in Pahang, was completed in 1999 and a study to promote the sustainable development of the Main Range highlands in Peninsular Malaysia was launched in 2000. In addition, Kinabalu Park in Sabah and Gunung Mulu National Park in Sarawak were declared World Heritage Sites in 2000.

19.17 *Forest Resources.* Efforts to manage forests sustainably were intensified and multiple-use forestry was promoted. In 2000, the permanent forest reserve totaled about 14.33 million hectares, compared with 14.29 million hectares in 1995. The Government continued to manage its forest resources sustainably, including expanding the role of timber certification, and was actively engaged in fulfilling Malaysia's commitment towards achieving the International Tropical Timber Organization's Year 2000 objective, when all timber traded in the international market must be produced from forests that are sustainably managed.

19.18 Management emphasis shifted from mainly timber production to the simultaneous sustainable production of desirable outputs encompassing water, non-timber forest produce such as rattan, bamboo, medicinal plants, resins and dyes, as well as the enhancement of the protective functions of forests. Apart from stabilizing the environment, the forest was an increasingly popular attraction for local and foreign tourists, as a valuable source of recreation with natural resources such as waterfalls, rapids, unique rock formations, flora, fauna, wetlands, and scenic panorama. A total of 95 forest recreation areas was developed by the various state forest departments. Several bilateral projects with various international agencies such as the Danish Cooperation on Environment and Development (DANCED), the Japanese International Cooperation Agency (JICA) and the German Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) were successfully completed. The projects included the preparation of an Integrated Management Plan for Sustainable Use of Johor Mangrove Swamp Forests; Sustainable Management of Peat Swamp Forests in Selangor and Pahang; Extraction and Processing of Forest Residues and Small Dimension Logs in Terengganu; a Multi-Storied Forest Management project in Perak; and the establishment of a Forest Mobile-Training unit.

19.19 *Energy and Mineral Resources.* During the Seventh Plan period, the Government gave due emphasis to the sustainable development of depletable resources in energy production and use as well as on the diversification of energy sources. The renewable energy (RE) potential in the country was assessed, including a consideration of the legal, regulatory and financial frameworks needed to encourage RE. The model State Mineral Enactment, which provides for the orderly, efficient and environment-friendly exploration and mining of minerals as well as ensuring that post-mining activities are undertaken to convert ex-mining land to other economic uses, was adopted by the States of Sabah and Selangor.

19.20 *Coastal and Marine Resources.* During the Plan period, integrated coastal zone management plans were prepared for the States of Sabah, Sarawak and Pulau Pinang to reconcile conflicting use and to ensure sustainability of coastal resources. A pilot study to develop an integrated shoreline management plan for north Pahang was also conducted. Based on the input and outcome of these plans, steps were taken to prepare a National Coastal Zone Policy to identify and provide for uniform and minimum standards for the replication of the integrated coastal zone management plans to the other states.

Other Initiatives

19.21 During the Plan period, the Government continued to implement programmes to increase the level of *environmental awareness* among Malaysians as well as to disseminate environmental information to a wider spectrum of the population. These efforts were complemented by activities carried out by the private sector and NGOs. In addition, several of the larger corporations began to display greater environmental awareness, including adopting ISO 14001 to ensure that their processes were environment-friendly.

19.22 In the area of *environmental health*, an Environmental Health Research Centre was established in the Institute of Medical Research in September 1997. The Centre's efforts contributed to an improved understanding of the needs for a safe and healthy environment. It established networks with institutions of higher learning and served as a clearing house for researchers and policy makers, environmental health and occupational health practitioners as well as the community.

19.23 On the industrial front, SIRIM Berhad established a Cleaner Technology Extension Service and a Cleaner Technology Information Service, which offered services in *cleaner technology* audits, contract research, consultancy and on the technical aspects of waste management, occupational safety and health as well as risk assessments. SIRIM implemented six full-scale cleaner technology demonstration projects in selected companies and established a database on cleaner technology. It also completed cleaner technology audits for 40 companies, of which more than 90 per cent were small- and medium-scale industries (SMIs) in the food, electroplating, textile and rubber products industries.

19.24 Malaysia continued to participate in *international environment initiatives* and fora to safeguard its interests and to contribute towards sustainable development. Malaysia was an active participant in several important multilateral environmental

negotiations such as the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change (UNFCCC). In these fora, Malaysia stressed the common but differentiated responsibilities of developed and developing countries; the principle of fair and equitable sharing of benefits from the use of biological resources; as well as the role of developed countries in taking the lead in reducing their emissions, providing financial resources and facilitating the transfer of technologies. Malaysia actively implemented its commitments to international initiatives and Conventions, particularly, by integrating the critical action programmes of Agenda 21 into its development plans. A pilot Local Agenda 21 project involving four local authorities was also launched to integrate environmental considerations into their development planning and management, through consensus building and a participatory approach by mobilizing relevant stakeholders.

III. PROSPECTS, 2001-2005

19.25 During the Eighth Plan period, the Government will continue to place emphasis on the proper management of the environment and natural resource base. A major challenge will be to attain the nation's environmental and natural resource goals efficiently and to reduce the negative environmental impact of development activities. Steps will be taken to identify and implement prudent, cost-effective and appropriate management approaches that yield multiple benefits in order to ensure an economically competitive, sustainable and resilient future. Specifically, the major environmental and natural resource challenges include ensuring access to clean air and water; providing adequate food without excessive use of chemicals; providing energy services without environmental degradation; developing healthy urban environments; and conserving critical natural habitats and resources.

19.26 The Government will adopt early preventive measures and will apply the precautionary principle to address environment and natural resource management issues. In this regard, the strategic policy thrusts for environment and sustainable resource management will be as follows:

- ❑ *reducing the energy, materials, pollution and waste intensity of urban-industrial activity to address air pollution, mitigate deterioration in water quality and waste disposal;*

- ❑ *increasing the use of fiscal policy in pursuit of environmental objectives and promoting the use of appropriate market-based instruments and self-regulatory measures among industries;*
- ❑ *promoting environmental performance measurement and strengthening the database for environmental decision-making;*
- ❑ *empowering local authorities and engaging communities in addressing environmental issues; and*
- ❑ *enhancing land use planning, intensifying biodiversity conservation and the sustainable management of forests as well as improving the management of maritime affairs.*

Environmental Management

19.27 *Air Quality.* Efforts will be continued to address air pollution, particularly that caused by mobile sources. This will include the strict control of emissions from motor vehicles, especially motorcycles; the use of more efficient engines and efficient exhaust systems; and promoting the use of public transportation and electric vehicles in urban areas. The usage of leaded petrol will be phased out and efforts will be continued to further reduce the sulphur content in diesel. The natural gas distribution network will be expanded to increase the use of natural gas, particularly in the transport sector. The greater use of natural gas and the adoption of clean coal technology will also be encouraged to reduce emission from power plants. In terms of air quality management, new approaches based on the concepts of air quality zones or air shed management will be introduced. The approach entails the management of air quality based on a particular locality or region and will enable the authorities to identify the factors affecting air quality more accurately and facilitate the implementation of mitigating measures.

19.28 *Water Quality.* The Government will step-up efforts to mitigate the deterioration of rivers, marine and groundwater quality. New approaches for river system management and rehabilitation will be introduced, including an integrated river-basin management system. With regard to marine water quality, the DOE together with the Police Air Wing will increase the frequency of airborne surveillance to monitor the illegal dumping of oil and waste by vessels.

19.29 In order to further reduce and improve the discharge of wastewater, the Government will continue to upgrade existing sewage treatment plants and build 10 new plants and three central sludge treatment facilities to supplement the plants to be constructed by the private sector. Standards that are more stringent will also be introduced, including the imposition of fees for wastewater discharge, to induce industries to install better wastewater treatment facilities. In tackling water pollution originating from the agriculture sector, focus will be given to promoting sound cultivation practices and the use of advanced agricultural methods including precision farming. The Pesticides Board and related agencies will be strengthened and legislation will be reviewed to control the field application of pesticides as well as the proper disposal of pesticide containers. Programmes to train and educate pesticide users on the safe handling of pesticides, including environmental aspects, will be intensified.

19.30 *Solid Waste.* During the Eighth Plan period, the collection and disposal of solid waste will be improved with the completion of the solid waste privatization process. As part of the efforts to implement an integrated waste management system, a solid waste transfer station and incinerator will be constructed in the Federal Territory of Kuala Lumpur. In addition, the Government will consider the adoption of a comprehensive waste management policy to address issues of waste reduction, reuse and recycling. Relevant studies and demonstration projects will be carried out to ascertain the viability and the acceptability of a waste recycling industry. Local authorities will be encouraged to introduce various initiatives and appropriate economic approaches such as incentives and collection charges to reduce the amount of household waste. With regard to industrial wastes, industrial parks will be encouraged to build waste disposal sites for improved management and proper disposal of their waste. A clearing house mechanism to facilitate industrial symbiosis, whereby one industry's waste could be another's resource, will also be established.

19.31 *Hazardous Waste and Toxic Chemicals.* Measures will be taken to improve the response from industries, particularly the SMIs, to use the existing toxic waste treatment facility at Bukit Nanas, Negeri Sembilan. In addition, more transfer stations will be built at strategic locations to support and facilitate the collection and storage of toxic and hazardous waste.

19.32 Existing environmental protection measures, laws, regulations, and guidelines will be reviewed to improve their effectiveness in controlling *toxic chemicals*. These will be complemented by the provision of appropriate incentives

for the proper management of hazardous chemicals, promotion of cleaner technology processes, training of relevant personnel and instilling greater awareness among relevant industries and the public.

19.33 *Noise Pollution.* The DOE will continue to monitor noise pollution by assessing noise exposure levels at premises that are regarded as sensitive noise receivers, such as hospitals, schools and residential areas. Appropriate measures, including the formulation of guidelines, will be taken to ensure that the level of noise exposure is within permissible limits.

Natural Resources Management

19.34 *Land Resources.* The Government will intensify on-going efforts as well as introduce new approaches to strengthen land use planning. This will include the identification of integrated planning for environmentally sensitive areas or *Kawasan Sensitif Alam Sekitar* (KSAS). All states will be encouraged to identify, map and gazette environmentally sensitive areas as State KSAS, to prevent inappropriate development from encroaching into these areas. In addition, new physical planning guidelines will be developed to improve environmental quality and conserve natural resources. Among others, these guidelines will cover urban regeneration, "brownfield" development in urban areas, optimal land development and development in catchments. In addition, the Town and Country Planning Act 1976, will be reviewed to enhance the role of the relevant authorities, strengthen enforcement and clearly delineate buffer zones to control urban sprawl.

19.35 *Water Resources.* Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment. To ensure adequate and safe water, as well as clean rivers and minimal flooding, a National Water Policy will be formulated to provide the framework for water conservation and management. The Policy will address several challenges, including managing water resources efficiently and effectively, flood occurrences, and emphasizing the need to keep development to a level that is within the carrying capacity of river basins while protecting and restoring the environment. It will also emphasize the integrated river-basin approach, the protection of catchments and reservoirs and addressing issues of inter-state and inter-basin water transfers. In addition, state governments will be encouraged to establish water management bodies such as LUAS to ensure proper planning, monitoring, enforcement and management of water resources on a river-basin basis.

19.36 To reduce exploitation of new water sources, emphasis will be given to demand-side management of water instead of concentrating on water supply. This will include measures to improve the efficiency of supply and use, and recycling water, including studying the feasibility of rainwater harvesting. The use of market-based instruments such as rebates, tax credits, and disincentives such as charging actual costs, penalties and fines, will be considered to help convey to users the true value of water and reduce wastage. In addition, awareness campaigns and public education programmes will stress the critical importance of water in daily life and the need for conservation even in non-crisis times. A crucial challenge will be to reduce the amount of water leakages and wastage. Aging facilities will be refurbished or replaced to enable utilities to save water. Industries will also be encouraged to recycle and reuse water and wastewater in their own plants.

19.37 Groundwater exploration will be conducted in the main river basins, to identify potential aquifers and outline protection zones to conserve groundwater resources. Guidelines and relevant regulations will be formulated to control activities that can pollute groundwater resources. Groundwater research will be intensified and better coordinated to provide a unified database.

19.38 *Biodiversity.* During the Eighth Plan period, the Government will implement the Biodiversity Action Plan in the various states. Regulations will be introduced to control access to biological resources and to address biosafety issues relating to genetically modified organisms. Management plans will be formulated for all protected areas to ensure their integrity and to promote them as conservation, research and eco-tourism areas. Critical habitats that need protection will be identified and the national biological database will be further developed to facilitate implementation of the Biodiversity Action Plan.

19.39 *Forest Resources.* The sustainable management of forests will be continued to conserve biodiversity, protect watersheds and water catchments, improve water quality as well as ensure a sustainable supply of forest products. Sustainable logging practices will be expanded, multiple-use forestry encouraged and timber certification established. In this regard, Malaysia's sustainable forest management system, based on the Malaysian Criteria and Indicators system, is expected to be fully operational during the Eighth Plan period. In addition, state governments will be encouraged to adopt a development-oriented concession system for natural resources in order to encourage private sector participation in the rehabilitation of forests.

19.40 *Energy and Mineral Resources.* Environmental considerations will continue to be given due importance in the sustainable development of the energy sector. RE and energy efficiency programmes will be promoted, particularly in the industrial and commercial sectors. The exploration, extraction and utilization of mineral resources will be optimized while emphasizing the need for environmental protection. Steps will be taken to ensure that mineral deposits are not sterilized by other development. In line with the provisions of the Mineral Development Act 1994, states will be encouraged to adopt the model State Mineral Enactment by legislating their own State Mineral Enactments before the end of the Plan period. This will facilitate the full implementation of the National Mineral Policy, which is intended to develop the domestic mineral-based industry.

19.41 *Coastal and Marine Resources.* The overall management of maritime affairs will be reviewed to address multiple-use conflicts in marine areas, alleviate pressure on the marine environment from pollution and enhance marine and coastal biological diversity. An Integrated Shoreline Management Plan will be prepared for the entire shoreline of the country as part of efforts in enhancing beach conservation and restoration. A coordinating mechanism for oceanographic research will also be established. The Environmental Quality, Fisheries and Exclusive Economic Zone Acts, will be streamlined and reconciled to better manage offshore fishing efforts and strengthen maritime enforcement.

Other Initiatives

19.42 The creation of a sustainable future depends in part, on the knowledge and involvement of the people, as well as an understanding of the consequences of individual actions. Towards this end, the Government will continue efforts to enhance the level of *environmental awareness* and *civic consciousness* among the people. The DOE will step-up its efforts to promote and enhance public understanding of environmental issues through the publication of environment information booklets, pamphlets and posters. The operation and services of DOE's enviro-library will be expanded. Environmental education courses and environment-based co-curricular activities under the Ministry of Education will be strengthened. The private sector, NGOs and the media will also be encouraged to continue their active role in the protection and maintenance of the environment, especially through the promotion of a community-based approach.

19.43 Industries, particularly the SMIs will be encouraged to adopt *cleaner technologies* in their production processes. In this regard, SIRIM Berhad will intensify efforts to collect and disseminate information on cleaner technologies

to increase the general environmental awareness in the industrial sector. SMIs will be encouraged to take advantage of the funding facilities available at the Small and Medium Industries Development Corporation (SMIDEC) to undertake environmental related activities. To enhance overall environmental management, training programmes will be conducted to encourage firms to adopt company-wide environmental management practices, including environmental costing, auditing, reporting and life cycle assessments, as well as ISO 14001.

19.44 To ensure improved planning in addressing environmental and resource issues, the Government will initiate a *sustainable development indicators* system. The system will include natural resource accounting, environmental auditing and environmental costing. Efforts will be directed at collecting data in an integrated manner to facilitate analysis on the sustainability of a sector or state. These indicators of sustainability will enable the Government to ascertain the impact various sectors have on the environment, making it easier to plan remedial action.

19.45 The Government will continue to monitor and participate in *international environmental negotiations*. This is to ensure that policies and measures proposed at these fora do not impose restrictions on Malaysia's development or discriminates against products from developing countries based on their environmental characteristics. Appropriate common positions and approaches will be developed with ASEAN and other like-minded developing countries to address these issues. Domestically, Malaysia will take steps to fulfil its Convention obligations and to ensure that its programmes and projects are in line with its commitments.

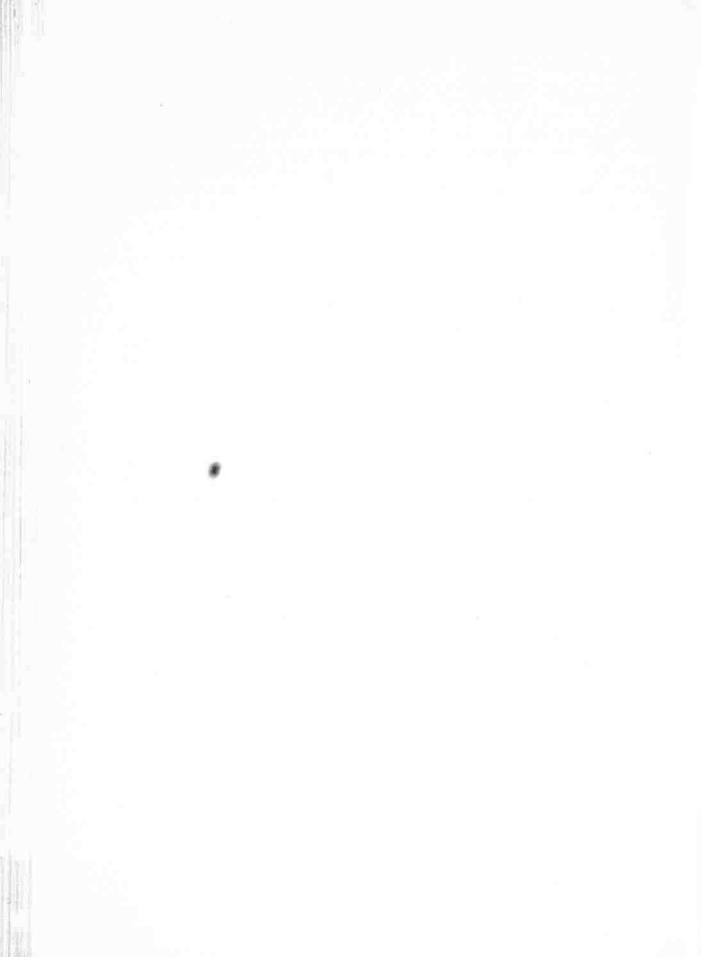
IV. CONCLUSION

19.46 During the Seventh Plan period, the Government intensified efforts to integrate environmental considerations into development planning and strengthened the relevant institutional, legislative and regulatory mechanisms. The thrust during the Eighth Plan period will be to reach the nation's environmental and natural resource goals efficiently and to reduce the negative environmental impact of development activities. Consequently, the Government will strive to ensure that the environment is clean, healthy and productive, capable of sustaining the nation's needs and aspirations. An appropriate mix of policies, practices and technologies, will be put in place to ensure socially and environmentally sustainable economic development.

Chapter 20

Women and Development

Malaysia: Part 1
Part 2
Part 3
Part 4
Part 5
Part 6
Part 7
Part 8
Part 9
Part 10
Part 11
Part 12
Part 13
Part 14
Part 15
Part 16
Part 17
Part 18
Part 19
Part 20
Part 21
Part 22
Part 23
Part 24
Part 25
Part 26
Part 27
Part 28
Part 29
Part 30
Part 31
Part 32
Part 33
Part 34
Part 35
Part 36
Part 37
Part 38
Part 39
Part 40
Part 41
Part 42
Part 43
Part 44
Part 45
Part 46
Part 47
Part 48
Part 49
Part 50
Part 51
Part 52
Part 53
Part 54
Part 55
Part 56
Part 57
Part 58
Part 59
Part 60
Part 61
Part 62
Part 63
Part 64
Part 65
Part 66
Part 67
Part 68
Part 69
Part 70
Part 71
Part 72
Part 73
Part 74
Part 75
Part 76
Part 77
Part 78
Part 79
Part 80
Part 81
Part 82
Part 83
Part 84
Part 85
Part 86
Part 87
Part 88
Part 89
Part 90
Part 91
Part 92
Part 93
Part 94
Part 95
Part 96
Part 97
Part 98
Part 99
Part 100



I. INTRODUCTION

20.01 Women constitute an important pool of resource that can be mobilized to achieve the national development agenda. Through the continuous efforts of the Government in providing an enabling environment during the Seventh Plan period, women continued to participate in and contribute towards the social and economic development of the country.

20.02 During the Eighth Plan period, efforts will continue to be undertaken to enhance the role, position and status of women to ensure their participation as equal partners in national development. Women will be provided with the skills and knowledge to cope with the challenges of globalization and fulfil the needs of the knowledge-based economy.

II. PROGRESS, 1996-2000

20.03 During the Seventh Plan period, women continued to make significant contributions in various fields of national development through greater participation in the economy. This was made possible through the further operationalization of the National Policy for Women and its Plan of Action for the Advancement of Women, which included the implementation of gender-sensitive and awareness training programmes. In addition, the removal of legal and institutional constraints that inhibited the participation of women in the development process further facilitated the involvement of women.

Population, Labour Force and Employment

20.04 Based on the 2000 Population Census, about 48.9 per cent or 11.4 million of the total population were women. The age-structure of the female

population was similar to that of the male, with 52.4 per cent of the female population in the age-group 24 years and below. The Census also revealed that due to the improved female life expectancy, the proportion of the female population in the 65 to 74 years age-group increased from 3.0 per cent in 1991 to 4.3 per cent in 2000.

20.05 Although 48 per cent of women were in the working age population of 15-64 years, they only accounted for a third of the labour force. Female labour force participation registered an increase, from 43.5 per cent in 1995 to 45.8 per cent in 1997, but declined to 44 per cent in 1998 due to the economic downturn. With the economic recovery, this rate subsequently increased to 44.5 per cent in 2000.

20.06 Female employment in the mining and quarrying sector experienced the largest decline of 4.9 per cent, between 1995 and 2000, followed by the agriculture, forestry, livestock and fishing sector, which recorded a decline of 1.8 per cent during the same period, as shown in *Table 20-1*. Various efforts were undertaken to assist these women to re-enter the job market, including the implementation of training programmes to encourage them to venture into small businesses as well as retraining, and the identification and placement of these women in alternative jobs.

20.07 Overall, the manufacturing sector absorbed the largest share of employed women accounting for 27.3 per cent in 2000, consistent with the expanding opportunities in the sector. Another sector that recorded high female employment is the wholesale and retail trade, hotel and restaurants, as shown in *Table 20-2*.

20.08 Improvements were recorded in the occupational structure, with more women moving into higher-paying occupations during the Plan period. The proportion of women in the professional and technical category increased from 12.7 per cent in 1995 to 13.5 per cent in 2000, while the proportion of women in the administrative and managerial category recorded an increase of 0.4 per cent during the same period, as shown in *Table 20-3*. The share of women employed as agriculture workers declined from 16.6 per cent in 1995 to 14.8 per cent in 2000, consistent with the overall decline in total employment in the sector. Women were mainly employed as production and related workers, which accounted for 22.6 per cent of total female employment in 2000.

TABLE 20-1

**EMPLOYMENT DISTRIBUTION BY GENDER WITHIN
SECTORS, 1995 AND 2000**

(%)

Sector	1995		2000	
	Male	Female	Male	Female
Agriculture, Forestry, Livestock & Fishing	71.4	28.6	73.2	26.8
Mining & Quarrying	82.1	17.9	87.0	13.0
Manufacturing	57.2	42.8	58.9	41.1
Construction	93.5	6.5	94.0	6.0
Electricity, Gas & Water	90.4	9.6	90.5	9.5
Transport, Storage & Communications	87.9	12.1	86.9	13.1
Wholesale & Retail Trade, Hotel & Restaurants	61.3	38.7	60.7	39.3
Finance, Insurance, Real Estate & Business Services	60.1	39.9	60.1	39.9
Other Services	60.0	40.0	54.7	45.3
Total	66.1	33.9	65.5	34.5

TABLE 20-2

**EMPLOYMENT DISTRIBUTION BY SECTOR AND GENDER,
1995 AND 2000**

(%)

Sector	1995		2000	
	Male	Female	Male	Female
Agriculture, Forestry, Livestock & Fishing	21.6	16.9	20.2	14.1
Mining & Quarrying	0.5	0.2	0.4	0.1
Manufacturing	20.2	29.4	20.6	27.3
Construction	11.3	1.5	12.1	1.5
Electricity, Gas & Water	0.9	0.2	0.7	0.1
Transport, Storage & Communications	6.2	1.7	6.1	1.7
Wholesale & Retail Trade, Hotel & Restaurants	16.6	20.5	18.1	22.3
Finance, Insurance, Real Estate & Business Services	4.3	5.6	4.5	5.7
Other Services	18.4	24.0	17.2	27.1
Total	100.0	100.0	100.0	100.0

TABLE 20-3
**EMPLOYMENT DISTRIBUTION BY OCCUPATION AND GENDER,
1995 AND 2000**
(%)

Occupation Category	1995		2000	
	Male	Female	Male	Female
Professional, Technical & Related Workers	8.4	12.7	8.9	13.5
Administrative & Managerial Workers	3.9	1.8	4.7	2.2
Clerical & Related Workers	7.5	17.5	7.1	17.5
Sales & Related Workers	10.5	11.6	11.1	12.1
Service Workers	9.4	14.4	9.5	17.4
Agriculture Workers	21.9	16.6	20.4	14.8
Production & Related Workers	38.3	25.4	38.4	22.6
Total	100.0	100.0	100.0	100.0

20.09 Various measures were undertaken to improve female participation in the labour market. The Employment Act 1955 was amended in 1998, which among others, provided for flexible working hours and empowered the Minister of Human Resources to make rules on statutory benefits to be paid to part-time workers proportionate to that of full-time employees. This amendment permitted women, especially housewives, to be gainfully employed in part-time employment, while allowing them the flexibility to meet their family obligations. In an effort to allow women in the public sector to care for their newborn and to encourage breast-feeding, as of May 1998, maternity leave up to 60 days was allowed for a maximum of up to five children. In addition, provisions for tax deductions were provided to employers for the establishment of child-care centres near or at the workplace. Employers were also encouraged to provide facilities such as proper housing, transport and healthcare for the benefit of rural migrants, the majority of whom were women.

Educational Attainment

20.10 An important factor that contributed towards the social and economic advancement of women was the huge investments in educational facilities

accompanied by the provision of equal access to educational opportunities. Female primary and secondary school enrolment in local public institutions reflected the gender ratio in the country. At the primary and secondary levels, enrolment of female students was about half of the total enrolment, while at the upper secondary level, female students accounted for about 66 per cent of total enrolment in 2000. Intake of female students into public universities expanded significantly from 50 per cent in 1995 to 55 per cent in 2000.

20.11 With regard to preference for courses, female dominance in the arts streams continued to be prevalent accounting for 65 per cent of total enrolment in the arts and humanities courses in 2000. Females also made further inroads into science and technical courses. Female enrolment in the sciences in institutions of higher learning accounted for 60 per cent, while in the technical field it was 30 per cent in 2000.

Skills and Entrepreneur Development

20.12 Specific skills and entrepreneur training programmes were implemented to enable women to improve themselves and take advantage of the opportunities in the job market. In this regard, courses in areas such as business, organizational and financial management were implemented. Skills training programmes provided by the Centre for Instructor and Advanced Skills Training were expanded, resulting in an increase of 19.4 per cent in the female enrolment between 1995 and 2000.

20.13 With improved literacy and the changing needs of the rural community, courses that contributed towards the involvement of women in income-generating activities were also undertaken. Towards this end, extension services in the form of the provision of equipment, initial capital grants, advisory services and training in areas such as product processing, as well as leadership and motivation courses were conducted.

20.14 Measures were undertaken to facilitate the involvement of women in business through the provision of easy access to capital. The Women Entrepreneurs Fund was established in 1998 with an allocation of RM10 million. A total of 12 projects amounting to RM9.5 million was approved under the Fund. Through the Small Entrepreneur Fund, a total of about 6,000 women entrepreneurs obtained loans amounting to RM65 million.

20.15 Various women entrepreneur and industry associations were formed, generally to serve as a platform for women entrepreneurs to establish networks and exchange information and experiences as well as to conduct training programmes, seminars, and workshops on motivation, leadership and entrepreneur development. The Women's Institute of Management (WIM) offered skills training courses, particularly in the area of entrepreneurship as well as operated an on-line network called WIMNET that provided database search facilities to businesswomen around the world. In addition, the Institute of Women's Advancement, the Federation of Women Entrepreneurs Association and the Association for Bumiputera Women Entrepreneurs conducted courses and seminars in skills and entrepreneur development. A total of about 10,000 women benefited from these courses.

Research and Development

20.16 Women were actively involved in research and development activities during the Plan period. According to the 1998 National Survey of Research and Development, which covered research undertaken by government research institutions, institutions of higher learning and the private sector, women accounted for about a third of the total number of researchers with masters and bachelor degree qualifications, as shown in *Table 20-4*. In terms of research fields in the public sector, females were predominantly found in the medical and health and information sectors.

TABLE 20-4

R&D PERSONNEL BY GENDER AND QUALIFICATION, 1998 (%)

	<i>Phd</i>		<i>Masters</i>		<i>Bachelor</i>		<i>Non-Degree</i>	
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>
GRI ¹	29.2	8.0	38.0	16.4	14.6	8.5	11.8	9.2
IHL ²	39.8	15.0	15.0	14.0	9.7	9.0	14.0	19.6
Private Sector	7.0	1.0	13.0	3.6	43.2	15.0	36.8	8.6
Total	76.0	24.0	66.0	34.0	67.5	32.5	62.6	37.4

Notes:

¹ Refers to Government Research Institutions

² Refers to Institutions of Higher Learning

Health Status

20.17 Women were equal recipients of the benefits of developments in the health sector. As such, the health status of women continued to register improvements during the Plan period. The average female life expectancy continued to improve from 74 years in 1995 to 74.7 years in 2000 compared with 69.3 years and 69.9 years, respectively, for males. The maternal mortality rate, which is an indicator of the health status of women, remained low at 0.2 per 1,000 live births during the Plan period.

20.18 With the introduction of the Family Health Programme in 1996, women's health was given emphasis from two perspectives, namely, the health of the family comprising maternal and child health, immunization, family planning, early detection of cancers and nutrition, as well as diseases affecting women with specific attention to human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS). The maternal and child health programme, aimed at reducing maternal and infant mortality and morbidity, improving prenatal and antenatal healthcare and providing health and nutrition education continued to be implemented. In addition, increased accessibility to safe delivery services contributed towards the achievement of a satisfactory maternal mortality rate. As a result, deliveries in the public sector health facilities increased from 85.1 per cent in 1985 to 95.3 per cent in 1999. Concerted efforts were also undertaken to widen the coverage of antenatal health care services resulting in 72 per cent of pregnant women having access to such services. The Government introduced the Nutrition Rehabilitation Programme for Pregnant Mothers in 1997 to further improve the health status of women through the provision of adequate nutrition, particularly women in the low-income group.

20.19 With longer life expectancy and to ensure that women are healthy and remain healthy in their old age, health education programmes, seminars and workshops on healthy lifestyles, nutrition and the importance of regular medical examinations were introduced by the public and private sectors. In view of the fact that women, especially young women, are in the high-risk category in terms of vulnerability to AIDS, greater emphasis was given towards providing information on AIDS awareness and education. Despite these efforts, the percentage of women with HIV infection increased from 4.3 per cent in 1995 to 5.1 per cent in 1999. A programme, specifically for pregnant mothers infected with HIV, was also introduced at all antenatal clinics.

Poverty among Female-headed Households

20.20 Recognizing that increasing poverty among women is a world-wide phenomenon, various efforts were undertaken by the Government and non-governmental organizations (NGOs) to reduce the incidence of poverty among women. These included the provision of micro-credit facilities to about 22,850 women through *Amanah Ikhtiar Malaysia* to facilitate their involvement in small businesses and training programmes to assist single mothers to obtain employment. Despite these efforts, the incidence of poverty among female-headed households increased from 15.1 per cent or 585,688 households in 1997 to 16.1 per cent or 588,554 households in 1999.

Supportive Legislation

20.21 During the period, efforts to further enhance the status of women continued to be undertaken. Existing regulations were reviewed and new ones enacted to protect the rights and dignity of women in both public and private life. In recognition of the importance of women's contribution to the labour force, the amendment of the Employment Act 1955 encouraged more women to join the labour force. With the increased participation of women in the labour force, the existence of a healthy working environment is crucial. Towards this end, in 1999 the Government introduced a code of ethics for the prevention of sexual harassment at the workplace. This code, although applicable to both men and women, contains specific provisions to protect women in the workplace. In addition, women taxpayers, whose husbands had no taxable income, were provided taxable relief similar to that available to a male taxpayer whose wife had no taxable income.

20.22 To enhance the capability and capacity of syariah courts, including in the handling of issues pertaining to Muslim women, the Government initiated a review of the organization of syariah courts in the country. Consequently, the Department of Syariah Judiciary was established in 1997, among others, aimed at ensuring uniformity among states in the judgement of cases pertaining to Islamic Family Law. During the period, five states, namely, Melaka, Negeri Sembilan, Perlis, Pulau Pinang and Selangor as well as the Federal Territory of Kuala Lumpur implemented the Islamic Family Law. With this implementation, Muslim women were provided with better protection.

20.23 Various efforts were undertaken to further protect the rights and dignity of women. The Women and Girls Protection Act 1973 and the Child Protection Act 1991 were reviewed and streamlined into the Child Act 2000. In addition, recognizing the role of women in caring for their families, the Guardianship of Infants Act 1961 was amended in 1999 to allow joint guardianship of children in matters relating to immigration and registration. In implementing this amendment, the Government, in 2000, also allowed mothers to sign all documents involving their underage children.

National Machinery for the Advancement of Women

20.24 The national machinery for the advancement of women in Malaysia comprises the Government, the private sector and NGOs, working in tandem towards the common objective of improving the status of women. Recognizing the need to further enhance the effectiveness of the national machinery, the Women's Affairs Department at the Ministry of National Unity and Social Development was transferred to the Prime Minister's Department in 1999. To enable more effective implementation of the National Policy for Women, the Plan of Action for the Advancement of Women was introduced to all public and private sector agencies to be used as a guide in the planning and implementation of development programmes. In addition, gender sensitization training programmes continued to be implemented in the public sector and similar programmes were initiated in the private sector.

20.25 During the period, the National Advisory Council on the Integration of Women in Development (NACIWID) continued to function as the coordinating, consultative and advisory body on women's affairs by highlighting to the Government issues and concerns pertaining to women. Measures were also undertaken to institute links with the grassroot through the establishment of women service centres at the state level and women's affairs consultative committees at the state and district levels. During the Plan period, centres were established in the States of Kedah, Kelantan, Pahang, Sabah and Selangor, which provided various services such as counselling, legal assistance and temporary shelter for women in need. The consultative committees monitored the implementation and impact of programmes and projects for women and provided the necessary feedback for improved project formulation and implementation.

20.26 NGOs played an important role in complementing the efforts of the Government in advancing the status of women. In addition to organizing courses in family health, legal literacy, entrepreneurial development and parenting skills,

NGOs also implemented various activities to increase the knowledge and skills of women in the vocational and technical fields. Specific programmes were also introduced to assist single mothers in obtaining employment and caring for their families. NGOs also played the catalytic role in highlighting issues to further improve the status and rights of women.

III. PROSPECTS, 2001-2005

20.27 During the Eighth Plan period, efforts will continue to be undertaken to further enhance the role, position and responsibilities of women so as to increase their participation and involvement in the social and economic life of the country. In implementing the Plan of Action for the Advancement of Women, the Government will continue to ensure that strategies and programmes implemented are consistent with Malaysian values, religious beliefs and cultural norms.

20.28 Taking cognizance of the changes in the global environment and the need to adjust to these changes, efforts will be undertaken to provide women with the skills and knowledge to cope with the twin responsibilities of family and career. Towards this end, the strategic thrusts for the future advancement of women will be:

- ☐ *increasing female participation in the labour market;*
- ☐ *providing more education and training opportunities for women to meet the demands of the knowledge-based economy and improve their upward mobility in the labour market;*
- ☐ *enhancing women's involvement in business;*
- ☐ *reviewing laws and regulations that inhibit the advancement of women;*
- ☐ *improving further the health status of women;*
- ☐ *reducing the incidence of poverty among female-headed households;*
- ☐ *strengthening research activities to increase participation of women in development and enhance their well-being; and*
- ☐ *strengthening the national machinery and the institutional capacity for the advancement of women.*

Increasing Female Participation in the Labour Force

20.29 Although women account for nearly half of the working age population, their participation in the labour force is relatively low. Various efforts will be undertaken to mobilize this available pool of resource, thus increasing the supply of labour and contributing towards enhancing the nation's output. The private sector, being the largest employer, will be further encouraged to introduce the necessary support facilities such as establishing child-care centres as well as providing transportation and housing facilities for their women employees. In addition, the Employment Act 1955 will be amended to include new and flexible working arrangements such as teleworking, part-time work and job sharing, to enable women to integrate career with household duties.

Providing More Education and Training Opportunities

20.30 Women will be provided with more education and training opportunities to meet the demands of the knowledge-based economy as well as to facilitate their upward mobility into higher-paying occupations. To encourage more women to pursue non-traditional fields of study such as science, engineering and vocational and technical education, career counselling programmes will be implemented to provide information and instill greater awareness among female students and parents regarding career opportunities in the professional and technical fields.

20.31 With the need to increase knowledge and skills as well as move towards higher capital intensity, there will be a greater demand for highly and multi-skilled workers. Women will thus be provided with more training opportunities to acquire new and advanced skills relevant to the needs of the industry. In addition, in response to the rapid changes in technology that requires constant upgrading of skills, women will be provided with increased opportunities for retraining. The private sector will also be encouraged to complement the efforts of the Government in providing more skills training opportunities for women, including in new technologies.

20.32 Efforts will be undertaken to improve women's access to information and communications technology (ICT). Formal and non-formal training in areas such as computer literacy and applications of ICT will be conducted jointly by the Government and NGOs, with special emphasis given to rural women. In addition, to enhance the effectiveness of the training programmes, efforts will be taken to ensure that software development is gender sensitive.

Enhancing Women's Involvement in Business

20.33 Efforts to enhance women's involvement in business will continue to be undertaken. Training in business-related areas such as marketing, accounting, budgeting and planning will be implemented by the Government and NGOs. Programmes will be implemented to enable women entrepreneurs to be more competitive in terms of production, product quality and design as well as packaging and labelling. In addition, the utilization of ICT in business will be emphasized. The Government will also continue to provide funds under the Women Entrepreneurs Fund to enable more women to participate in business. Through the implementation of gender sensitive strategies, more opportunities will be provided to women to increase their participation and involvement in business ventures.

Reviewing Laws and Regulations

20.34 Existing laws and regulations will be reviewed to eliminate provisions that discriminate or have adverse effects on women. Legislation that will be reviewed includes those pertaining to family law and the distribution of property for non-Muslims. The Government will study the feasibility of establishing family courts with a view towards ensuring that issues pertaining to the family are discussed and decisions made in a more conducive environment. Efforts will also be undertaken to ensure the effective enforcement and speedy implementation of court decisions, including decisions of syariah courts, so as to provide for the protection and welfare of women. In addition, steps will continue to be taken to ensure the implementation of Islamic Family Law in the remaining states.

Improving the Health Status

20.35 Emphasis will continue to be given to promoting women's health and that of their families. Through the family health programme, special attention will be given to HIV and sexually-transmitted infection prevention, family planning, as well as the identification of factors causing non-communicable diseases such as cancers, mental illnesses and cardiovascular diseases. In view of the fact that women have longer life expectancy and to ensure that women remain healthy in their old age, specific health education programmes including the promotion of healthy lifestyles and nutrition will continue to be implemented.

Reducing the Incidence of Poverty among Female-headed Households

Strengthening Research Activities

Strengthening the National Machinery and the Institutional Capacity

Chapter 20

Consistent with the goals of the National Policy for Women, efforts will be undertaken to improve and strengthen the national machinery for the advancement of women. Towards this end, measures will be instituted to ensure greater coordination and collaboration in the implementation of activities for women. In addition, links with the grassroots will continue to be strengthened with the establishment of women service centres in the remaining 10 states.

20.40 During the Plan period, various mechanisms will be instituted to enable women to participate in decision-making processes at all levels. This is to ensure the incorporation of the needs of women in the formulation of policies and the development of strategies and programmes for the further advancement of women. Gender analysis training and sensitization for policy-makers and planners and programme implementors will continue to be implemented in the public and private sectors. Greater efforts will also be undertaken to ensure the systematic collection and compilation of gender disaggregated data to facilitate analysis, create awareness and formulate appropriate and effective follow-up action on gender issues.

IV. CONCLUSION

20.41 With the provision of equal access to healthcare as well as educational and training programmes and improved employment opportunities, women made advancements in various fields of development. During the Eighth Plan period, efforts will continue to further enhance the status of women as equal partners in development. Towards this end, the Government will provide the enabling environment and supportive mechanisms, including the implementation of gender sensitive programmes, to enable women to reach their full potential in the social and economic fields of development.

Chapter 21

Youth in Development

Malaysia Pionier

Malaysia Pionier

Malaysia Pionier

Malaysia Pionier

Malaysia Pionier

Malaysia Pionier

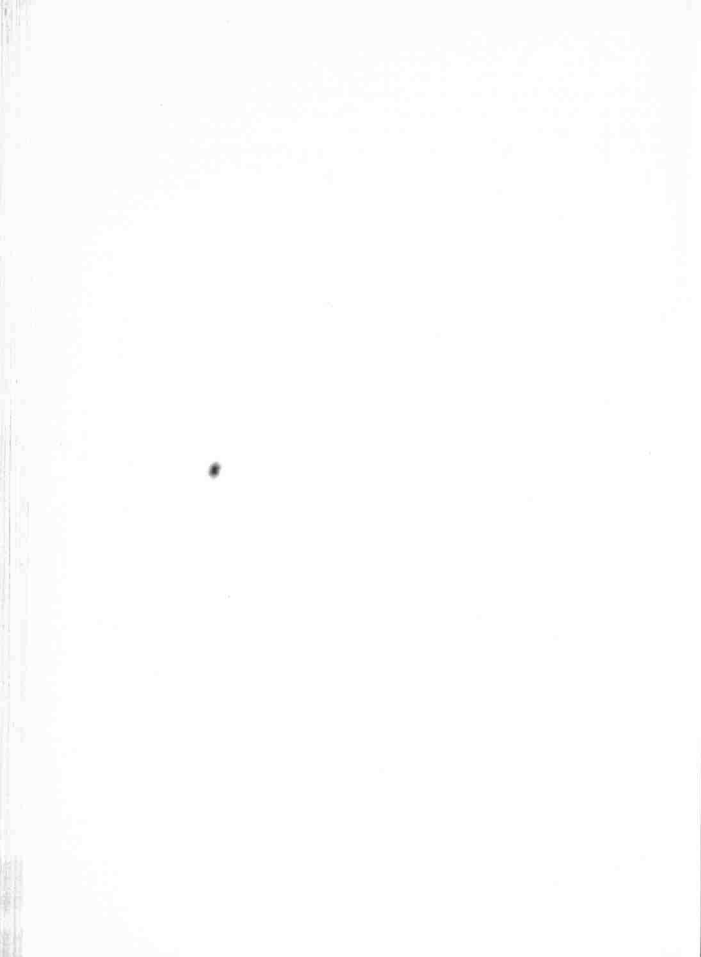
Malaysia Pionier

Malaysia Pionier

Malaysia Pionier

Malaysia Pionier

Malaysia Pionier



21

YOUTH IN DEVELOPMENT

I. INTRODUCTION

21.01 The youth population is a valuable asset, as they are the successors upon whom a country depends for the continuity of development. During the Seventh Plan period, youth development programmes were implemented with the objective of moulding and developing a resilient youth community that is able to contribute positively towards nation building.

21.02 During the Eighth Plan period, the thrust of youth development will be to equip youths with the necessary attitudes, knowledge and skills to enable them to rise to the challenges and cope with the effects of rapid economic development and globalization. Greater attention will be given to ensure that youths recognize their critical responsibility and contribution towards national development as well as in enhancing national unity.

II. PROGRESS, 1996-2000

21.03 Various youth development programmes were undertaken during the Seventh Plan period to promote the active participation of youths in nation building. Emphasis was given to strengthening youth capability in leadership, skills training and entrepreneurial development as well as instilling positive traits and right attitudes.

Youth Population and Employment

21.04 The youth population, comprising those in the 15-24 age-group increased by 1.6 per cent per annum, from 4.03 million in 1995 to 4.37 million in 2000, as shown in *Table 21-1*. Of the total youth population in 2000, 52.6 per cent or

2.3 million youths were employed. The balance comprised those who had just graduated from educational and training institutions, job applicants and students in secondary, preparatory and tertiary-level courses. When compared with the total labour force, youths comprised 67.5 per cent of the unemployed or 7.8 per cent of the youth labour force in 2000.

TABLE 21-1
POPULATION BY AGE GROUP, 1995-2005
(million)

<i>Age Group</i>	<i>1995</i>	<i>%</i>	<i>2000</i>	<i>%</i>	<i>2005</i>	<i>%</i>
Less than 15	7.18	34.7	7.71	33.1	8.15	31.3
15-24	4.03	19.5	4.37	18.8	4.98	19.1
25-39	4.98	24.1	5.4	23.3	5.83	22.4
More than 39	4.49	21.7	5.79	24.8	7.07	27.2
Total	20.68	100.0	23.27	100.0	26.03	100.0

21.05 Youths were mainly employed in the manufacturing sector that accounted for 34.1 per cent, as shown in *Table 21-2*, indicating the expanding opportunities in the sector. This was followed by the agriculture, forestry, livestock and fishing sector that accounted for 29.9 per cent and the wholesale and retail trade sector at 14.5 per cent in 2000.

21.06 The pattern of youth employment by occupational category changed during the Plan period, as shown in *Table 21-3*. Youths employed in the professional and technical category increased from 7.1 per cent in 1995 to 7.4 per cent in 2000. In addition, the proportion of youths employed in the administrative and managerial category increased by 0.2 per cent, while that in the clerical and related workers category declined by 0.2 per cent during the same period, indicating the higher educational attainment of youths. The proportion of youths in the sales category increased from 10.5 per cent in 1995 to 11.7 per cent in 2000, while that in the services category increased from 9.1 per cent to 11 per cent during the same period, indicating the brighter prospects in these sectors. Employment in the urban areas was more attractive to youths with 52.4 per cent being employed in 2000, compared with 47.6 per cent being employed in the rural areas.

TABLE 21-2

YOUTH EMPLOYMENT BY SECTOR AND ETHNIC GROUP, 1995 AND 2000
(%)

<i>Sector</i>	<i>1995</i>					<i>2000</i>				
	<i>Bumiputera</i>	<i>Chinese</i>	<i>Indians</i>	<i>Others</i>	<i>Total</i>	<i>Bumiputera</i>	<i>Chinese</i>	<i>Indians</i>	<i>Others</i>	<i>Total</i>
Agriculture, Forestry, Livestock & Fishing	16.0	4.2	6.3	34.9	13.8	24.4	11.0	15.5	60.0	29.9
Mining & Quarrying	0.4	0.2	0.2	0.1	0.3	0.2	0.2	—	0.3	0.2
Manufacturing	39.0	28.0	51.8	26.7	36.2	36.0	32.4	55.3	24.0	34.1
Electricity, Gas & Water	0.3	0.1	0.2	—	0.2	0.2	—	0.2	—	0.1
Construction	6.3	10.3	4.0	7.5	7.0	6.3	10.0	3.0	3.0	5.8
Wholesale & Retail Trade, Hotels & Restaurants	16.0	31.5	15.0	14.2	19.7	16.3	24.9	9.0	5.5	14.5
Transport, Storage & Communications	3.3	2.4	6.1	1.4	3.4	2.9	1.9	3.9	0.9	2.5
Finance, Insurance, Real Estate & Business Services	4.7	8.7	4.6	1.2	5.4	2.0	3.5	3.2	0.2	2.0
Other Services	14.0	14.6	11.8	14.0	14.0	11.7	16.1	9.9	6.1	10.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 21-3

YOUTH EMPLOYMENT BY OCCUPATION AND ETHNIC GROUP, 1995 AND 2000
(%)

Occupation Category	1995					2000				
	Bumiputera	Chinese	Indians	Others	Total	Bumiputera	Chinese	Indians	Others	Total
MALAYSIA										
Professional, Technical & Related Workers	7.7	7.0	6.6	3.1	7.1	8.3	9.4	8.7	1.0	7.4
Administrative & Managerial Workers	0.5	1.4	0.9	0.2	0.7	0.5	2.3	0.7	0.4	0.9
Clerical & Related Workers	13.7	19.6	13.8	3.7	14.4	14.6	20.6	14.5	3.9	14.2
Sales & Related Workers	7.1	19.9	7.9	8.5	10.5	10.1	21.0	7.2	6.7	11.7
Service Workers	9.3	8.9	6.3	11.4	9.1	11.0	8.9	8.7	15.0	11.0
Agriculture Workers	16.1	3.8	6.0	34.0	13.7	14.4	3.0	6.2	37.0	14.9
Production & Related Workers	45.6	39.4	58.5	39.1	44.5	41.1	34.8	54.0	36.0	39.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Urban										
Professional, Technical & Related Workers	47.0	80.0	67.0	39.3	56.2	44.4	79.2	67.3	37.8	52.4
Administrative & Managerial Workers	9.4	7.8	7.3	4.2	8.3	10.9	10.1	9.8	1.8	9.5
Clerical & Related Workers	0.8	1.5	1.3	0.5	1.1	0.9	2.7	0.8	1.0	1.5
Sales & Related Workers	21.6	21.3	18.3	6.5	20.3	22.1	22.0	17.0	7.5	20.0
Service Workers	9.1	20.7	9.3	12.7	13.5	11.4	22.2	8.6	12.8	14.7
Agriculture Workers	12.1	9.1	7.0	21.6	11.1	14.6	9.3	10.3	31.1	14.4
Production & Related Workers	1.8	1.0	0.7	3.0	1.5	2.2	1.2	1.7	3.0	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Rural										
Professional, Technical & Related Workers	53.0	20.0	33.0	60.7	43.8	55.6	20.8	32.7	62.2	47.6
Administrative & Managerial Workers	6.3	4.0	4.8	2.5	5.5	6.2	6.9	6.4	0.3	5.1
Clerical & Related Workers	0.2	0.8	-	-	0.2	0.2	0.8	0.2	0.2	0.2
Sales & Related Workers	6.6	13.0	4.8	1.8	6.8	8.5	15.3	9.5	1.7	7.8
Service Workers	5.3	16.8	5.0	5.6	6.7	9.0	16.9	4.7	3.0	8.3
Agriculture Workers	6.8	7.8	5.2	4.8	6.5	8.2	6.6	5.6	5.3	7.3
Production & Related Workers	28.9	15.0	16.9	54.3	29.4	24.2	10.1	15.4	57.7	29.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Youth Development Programmes

21.07 In an effort to further streamline and mobilize youth potential, the National Youth Policy, formulated in 1985 to guide the implementation of the youth programmes, was reviewed in 1997 and replaced with the Youth Development Policy. Although this new policy maintained the definition of youths as those in the 15-40 age-group, the development and implementation of strategies and activities for youth development was targeted towards youths between the ages of 18-25 years. Youth development was based on six strategies namely, increasing efforts to broaden knowledge; undertaking continuous efforts to instill good values and positive attitudes; equipping youths with vocational and entrepreneur skills; strengthening appropriate facilities to promote healthy social interaction; promoting healthy lifestyle as well as developing the spirit of cooperation and partnership among Government agencies, private sector and non-governmental organizations (NGOs).

21.08 *Leadership Training.* During the Plan period, priority was given to the development of leadership qualities among youths. Leadership courses were conducted at the district, state and national levels. Aspects such as negotiation skills, communication and social interaction techniques, organizational and event management as well as the inculcation of positive character traits were also included in these courses.

21.09 In 1996, the prime leadership programme was implemented with the objective of instilling effective leadership qualities such as confidence, discipline and ethics as well as nurturing positive values. Under this programme, a total of 296 courses was conducted at the district, state and national levels, benefiting about 46,340 youths. This programme was also restructured and introduced at all national youth skills training institutes.

21.10 During the Plan period, the Government also implemented the national social service programme, known as *Program Khidmat Sosial Negara*, aimed at instilling the spirit of patriotism and volunteerism among youths. This programme, which combined the elements of leadership training and recreation, provided opportunities for involvement in healthy activities. A total of about 3,100 youths participated in this programme. In addition, the implementation of the *Program Jalur Gemilang* in 1999 contributed towards strengthening the spirit of endurance and resilience as well as inculcating patriotism among youths. This programme, which involved the implementation of a series of motivational sessions hosted by renowned personalities, benefited about 22,000 youths. In order to educate youths on the factors that caused the financial crisis in mid 1997, and increase

awareness on the role of youths in helping to overcome this crisis, the *Program Bela Negara* was implemented in 1998 by the Government in partnership with NGOs and youth associations. This programme was aimed at providing youths with information as well as instilling pride in using locally grown and manufactured products.

21.11 To complement the efforts of the Government, youth development programmes were also implemented nationwide by youth associations. In order to strengthen the capability of these associations in planning, developing and managing various programmes and activities, training in the form of workshops, seminars, talks and management skills courses were implemented. A total of 145 associations involving 54,600 participants benefited from such training programmes.

21.12 At the international level, initiatives were undertaken to develop networking with Commonwealth and ASEAN countries as well as Japan and South Korea, whereby youths were given the opportunity and exposure to enhance their leadership qualities and skills. Youth exchange programmes such as the Asia Youth Ship programme and bilateral programmes were organized. During the period, a total of 550 youth leaders participated in these international networking programmes. In addition, the leadership capabilities of Malaysian youths continued to be given recognition through their appointments in international youth organizations such as the Asian Youth Council, World Assembly of Youth and the World Assembly of Muslim Youth.

21.13 *Skills Training.* To ensure that youths are able to contribute productively to the economy, formal skills training was undertaken by both the public and private sectors. Formal training in various fields at the secondary vocational level was undertaken. In addition, skills training was also conducted at the national youth skills training institutes and industrial training institutes. Skills training programmes for school leavers were also implemented in various areas, including advanced technology and soft skills, to enhance their employability. Youths were trained in various technical fields such as mechanical, electrical and civil engineering as well as in motor mechanics. As a measure towards ensuring that youths have basic skills in information technology, computer literacy courses were also conducted.

21.14 In order to enable youths to acquire skills, non-formal training courses and workshops were conducted during weekends and for short duration. These were in areas such as motor mechanics, culinary and fashion designing. During the Plan period, a total of about 7,500 youths benefited from various non-formal training courses. In addition, on-the-job training and workshops were organized

at the district, state and national levels to enable youths to enhance their skills and improve their employability. To encourage youths to venture into agricultural activities, training in the utilization of modern techniques of agriculture was provided. This programme, which was implemented with the cooperation of 150 youth associations nationwide, benefited about 137,510 youths.

21.15 The private sector complemented the efforts of the Government in implementing skills training programmes. Private skills training institutes offered a wide range of courses ranging from basic to higher level skills such as information and manufacturing technologies. During the Plan period, these private institutes trained a total of 40,000 youths. In addition, collaboration with private sector entities such as Malaysia Airlines System Berhad and hotels was established to provide wider opportunities for youths to gain exposure and training in areas such as in the hospitality and tourism industry as well as in food management and catering.

21.16 *Entrepreneurial Development.* Efforts were undertaken to nurture the entrepreneurial potential of youths and encourage participation in business enterprises as well as promote self-employment. Towards this end, initiatives were undertaken to develop entrepreneur programmes, conduct research and training as well as provide advisory services to young entrepreneurs. Entrepreneurial development programmes, which were implemented at the district and state levels, benefited about 16,970 youths.

21.17 Measures were also undertaken to facilitate the involvement of youths in business through the provision of easy access to capital. During the Plan period, soft loans totaling RM44.65 million were provided to 2,668 youths through the Youth Economic Trust Fund to assist young entrepreneurs venturing into business. To further enhance the management of this Fund, the Government collaborated with *Bank Simpanan Nasional*, which also provided advisory services.

21.18 To further promote entrepreneurship among youths, measures were undertaken to increase youth participation in entrepreneur programmes such as the vendor and franchise schemes. About 2,800 youths participated in these programmes. Efforts were also undertaken to encourage youths to venture into new areas that involved the use of appropriate technology as well as local resources, particularly from rural areas, for the production of goods such as handicraft and food products.

21.19 *Healthy Lifestyle Programmes.* Recognizing the need to equip youths with positive values and right attitudes necessary to meet the new challenges and expectations brought about by rapid development and the increasing exposure to the global environment, the implementation of the *Rakan Muda* programme was continued. The programme focused on the physical, spiritual, social and intellectual development of youths through the practice of healthy and productive lifestyles. During the period, nine lifestyles, namely, *Rakan Sukan, Rakan Wajadiri, Rakan Rekreasi, Rakan Cinta Alam, Rakan Senibudaya, Rakan Rekacipta, Rakan Kecergasan, Rakan Masyarakat and Rakan Wiramahir-Wirusaha* continued to be implemented. To undertake these activities, the Government approved the establishment of 19 *Rakan Muda* centres, of which 11 were under construction. A total of about 2.3 million youths participated in about 216,000 lifestyle activities, which were implemented with the cooperation of NGOs and the private sector.

21.20 *Sports Programmes.* In line with the objective of creating an active and healthy nation, various activities were organized through the implementation of the mass sports programme. Among others, the Sports For All carnival, motor sports and adventure sports were implemented. To further boost the participation of youths, more challenging activities such as hill climbing, martial arts and water sports were organized. These activities received tremendous response, with the participation of about 3.5 million youths. In addition, to ensure the proper organization and coordination of mass sports programmes, special training programmes for facilitators were also carried out. A programme aimed at promoting participation in high performance sports was also implemented. A total of about 239,190 youths participated in 10 categories of sports organized nationwide which included, tennis, badminton, bowling, hockey, *sepaktakraw*, basketball, volleyball and football.

21.21 Youths played a major role in the successful hosting of various international sporting events such as the Kuala Lumpur '98 – XVI Commonwealth Games and the Formula One Championship. The success achieved was not only in terms of organizing these events, but also in mobilizing the capabilities of youths to perform in world-class sporting events and instilling the commitment as well as the spirit of cooperation and volunteerism among more than 15,000 youths.

21.22 *Cultural Programmes.* The Government continued to promote the active participation of youths in arts and culture during the Plan period. Various activities such as cultural workshops, arts education, fine arts performances as well as music and drama were carried out. Arts and cultural activities were also promoted through the *Rakan Senibudaya* lifestyle programme, aimed at inculcating in

youths the appreciation of their cultural heritage. Youths were exposed to local arts and cultural activities and participated in activities of their choice. A total of 3,200 activities involving about 100,000 youths, was implemented in collaboration with youth associations and institutions of higher learning.

21.23 *Other Programmes.* Rapid economic development, with ensuing rural-urban migration, changing lifestyles and negative influences from peer groups and the mass media posed new challenges for youths. To ensure that youths were able to cope with these challenges, preventive and rehabilitative programmes were implemented by the public and private sectors.

21.24 Various programmes to mould youths to be balanced in spiritual, physical and mental aspects as well as ensure the inculcation of good moral and ethical values were implemented. Among others, the character-building programme based on the inculcation and dissemination of moral, religious and positive values, the *Program Khas Ramadhan* for Muslim youths, as well as courses, workshops and seminars were conducted. A total of about 375,000 youths participated in these programmes.

21.25 Other preventive and rehabilitative programmes, such as crime prevention, social activities and counselling were also implemented with the support and cooperation of NGOs. Rehabilitation of youths who were drug addicts was undertaken jointly by the Government and voluntary organizations, including the National Association for the Prevention of Dadah (PEMADAM). To address the issue of criminal activities among youths, the Government and the Malaysian Crime Prevention Foundation jointly implemented programmes. Other voluntary bodies such as youth associations as well as religious and social organizations also played active roles in resolving social problems. Emphasis was also given to ensure the involvement of families, teachers and peer groups in the implementation of preventive and rehabilitative activities.

III. PROSPECTS, 2001-2005

21.26 During the Eighth Plan period, youth development will continue to focus on developing the right attitudes and nurturing positive values as well as equipping youths with knowledge to ensure continuity of the development process. Emphasis will also be given to providing youths with the necessary skills to enable them to cope with the challenges of rapid development and globalization. In addition,

efforts will be undertaken to enhance youth participation in various programmes so as to ensure greater representation and integration as well as instill the spirit of solidarity, comradeship and *esprit de corps* among the various ethnic groups. Emphasis will also be given to inculcating the culture of volunteerism among youths.

Youth Population and Employment

21.27 During the Plan period, the youth population is expected to increase by 2.6 per cent per annum, from 4.37 million in 2000 to 4.98 million in 2005, as shown in *Table 21-1*. To meet the demands of the knowledge-based economy, youths will be encouraged to continuously acquire a higher level of knowledge as well as develop thinking and entrepreneurial skills. Youths will also be required to be more talented, creative and innovative as well as pursue excellence. More youths will thus be required to attain higher levels of education. Consequently, the proportion of youths in the professional and technical occupational category will increase, while the entry of youths into the labour market is expected to be delayed.

21.28 Youth employment in the manufacturing and services sectors is expected to increase, consistent with the expanding employment opportunities in these sectors. However, youth employment in the agriculture sector is expected to be lower, due to the more attractive opportunities in other sectors and the migration of youths from the rural to urban areas.

Youth Development Programmes

21.29 Programmes to ensure that youths will contribute effectively to nation building will continue to be implemented. Measures will also be undertaken to provide greater accessibility to education and training through the establishment of new institutions, expansion and upgrading of existing facilities as well as the implementation of distance education programmes. In addition, the provision of non-formal training will be expanded to ensure that more opportunities are available to youths to improve themselves.

21.30 Youth development programmes during the Plan period will be implemented by the Government, the private sector and the NGOs. The Government will accord priority to research activities to ensure the formulation of effective and relevant youth development strategies and programmes. Research, with the objective of enhancing the participation of youths from various ethnic groups and which

will contribute towards improved integration and unity as well as the creation of a national identity, will also be undertaken. In this regard, research will continue to be undertaken in collaboration with institutions of higher learning.

21.31 The role of youth associations, which operate at the grass-root level, will continue to be reviewed and expanded, while concerted efforts will also be undertaken to reactivate dormant youth associations as well as to improve their effectiveness and management. Through these initiatives, it is targeted that a total of 2,000 youth associations will be reactivated while existing associations will be strengthened. Youth development programmes undertaken by these associations will also be restructured to be more proactive and relevant to the needs of youths.

21.32 *Leadership Training.* During the Plan period, efforts will continue to be undertaken to mould a dynamic generation of young leaders who are able to mobilize youths to contribute productively to national development. Through the implementation of leadership training programmes, youths will be provided with skills and techniques to be effective leaders inculcated with positive values and qualities such as discipline, confidence as well as good ethics. A total of 200,000 youth leaders will be trained at the district, state and national levels.

21.33 *Skills Training.* To meet the manpower requirements of the country, a more comprehensive human resource development programme for youths will be implemented. Since skills training programmes are implemented by various agencies, a mechanism to ensure better coordination and utilization of resources will be introduced. Efforts will be undertaken to diversify the range of skills training programmes so as to expand job opportunities for youths. Emphasis will also be given to providing training in soft skills such as finance, banking, accounting, hospitality and computer literacy. In addition, existing training programmes will be upgraded to comply with the requirements of rapid development. Special programmes, aimed at enabling youths who are drop-outs to gain access into the formal skills training institutes as well as to upgrade their skills, will also be implemented.

21.34 New facilities will be established by the Government to increase the number of training places. Community colleges that offer skills training on a full-time and part-time basis as well as branch campuses and centres of excellence in the existing youth skills training institutes will be established. Through these initiatives, the Government will provide training to approximately 6,300 youths in areas such as electrical and mechanical engineering, computer-aided design/computer-aided manufacturing, automotive mechanics and plastic technology.

21.35 The Government will continue to encourage the private sector to provide skills training for youths through the establishment of strategic alliances. Through this approach, courses relevant to the industry will be identified and implemented. In addition, youths will be provided with hands-on experience that will further increase their employability.

21.36 *Entrepreneurial Development.* Entrepreneurial development programmes for youths will be enhanced to achieve the objective of establishing a commercial and industrial youth community. The objective and role of the Youth Economic Trust Fund will be reviewed to facilitate the provision of financial assistance to young entrepreneurs. To ensure that training provided is relevant to meet the needs of the industry, entrepreneurial training programmes will be reviewed and upgraded. Efforts will also be undertaken to ensure better coordination and integration in formulating entrepreneur development programmes.

21.37 The Government will continue to provide more business opportunities for existing and new entrepreneurs under the vendor and franchise schemes. The Computer Entrepreneur Programme will be implemented with the objective of establishing approximately 700 small-scale youth entrepreneurs in computer-related businesses. These entrepreneurs will provide computer literacy courses to other youths, particularly those in the rural areas, and is expected to benefit a total of about one million youths.

21.38 *Healthy Lifestyle Programmes.* The development of a healthy lifestyle among youths will continue to be an important agenda in youth development. During the Plan period, new approaches to the *Rakan Muda* programme will be implemented to improve its effectiveness and increase youth participation in healthy activities. In this regard, youths will be consulted and be involved in the formulation of activities to ensure that the expectations and needs of youths are met. Emphasis will be given to enhancing the coverage of youths, particularly unemployed youths. To facilitate the implementation of these activities, the Government will continue to provide the necessary facilities.

21.39 To increase community participation in promoting healthy lifestyles among youths, the private sector, NGOs and social institutions such as religious organizations and village development committees will be encouraged to implement the *Rakan Muda* programme in collaboration with the Government. The private sector will be encouraged to participate in the implementation of the programme and to provide facilities. With the involvement of these entities, youths will be provided with wider opportunities to participate in healthy and productive activities.

21.40 *Sports Programmes.* Various programmes will be undertaken to encourage and increase participation of youths in sports, especially in schools and institutions of higher learning. The implementation of existing programmes will be intensified. To develop activities related to mass sports, greater efforts will be made to provide sufficient trainers and facilitators as well as the necessary facilities. Measures will also be undertaken to diversify sporting activities through the introduction of traditional sports. This initiative will provide more options for youths to cultivate new interests. In addition, volunteerism among youths will continue to be encouraged and promoted through their involvement in the organization and participation of various sporting events.

21.41 *Cultural Programmes.* Cultural programmes for youths will be enhanced and promoted to contribute towards national integration. At the same time, these programmes will be instrumental in reducing the undesirable influences and the negative effects of foreign cultures. Arts and cultural programmes, aimed at strengthening the interest of youths in the country's rich traditional and cultural heritage, will be implemented. Programmes implemented will cover areas such as traditional and modern performing arts, script writing, arts and music. The active participation of youths in arts and cultural programmes; will strengthen national unity, racial harmony and at the same time increase appreciation of Malaysia's rich cultural heritage.

21.42 *Other Programmes.* The Government will continue to give emphasis to the implementation of preventive and rehabilitative programmes to curb undesirable behaviour among youths. Focus will be given towards developing new approaches to programme implementation to ensure greater effectiveness. Towards this end, social and religious institutions as well as the private sector will also be encouraged to increase their participation in the development and implementation of these programmes.

21.43 Concerted efforts will be undertaken to develop and implement programmes that contribute towards the development of youths imbued with positive values and equipped with adequate religious knowledge to obviate negative influences. In this regard, efforts will be undertaken to strengthen the family unit that forms the basis for healthy child and youth development. The implementation of family development programmes, which include parenting skills, child and youth development and understanding adolescent behaviour, will be further strengthened to ensure that parents are equipped with appropriate knowledge and techniques in handling youths. In addition, programmes to inculcate good ethics and high moral values among youths will be incorporated into the curriculum of all youth training institutions.

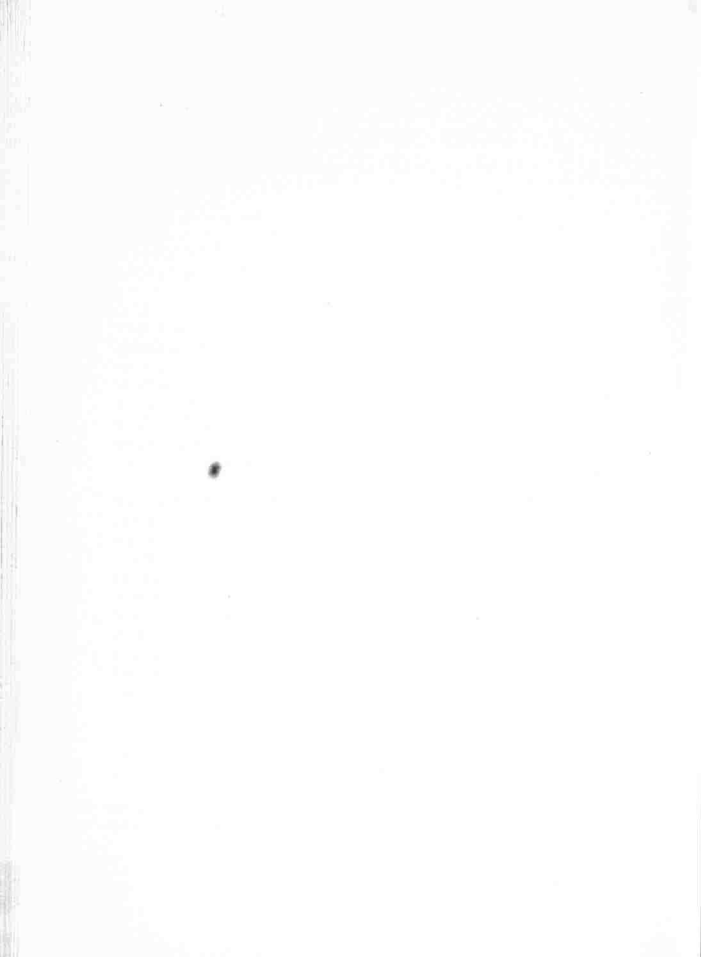
IV. CONCLUSION

21.44 Youth development programmes during the Seventh Plan period focused on developing a resilient youth community that is able to contribute positively towards nation building. The thrust of youth development programmes during the Eighth Plan period will be to ensure that youths recognize their important role and responsibility in the achievement of the national development agenda. Towards this end, youths will be equipped with the necessary tools to facilitate their increased involvement and participation in nation building as well as in meeting the challenges of globalization.

Chapter 22

Development Through International Cooperation

Malaysia Plan M
aysia Plan Mala
sia Plan Malaysi
Plan Malaysia P
ia Malaysia Plan
Malaysia Plan M
aysia Plan Mala
sia Plan Malaysia
Plan Malaysia P
an Malaysia P
Malaysia



I. INTRODUCTION

22.1 During the Seventh Plan period, Malaysia continued to actively participate in international cooperation in line with the strategy to promote the realization of greater collective self-reliance among developing countries. Efforts were intensified towards strengthening international cooperation at the bilateral, regional and multilateral levels, in line with the common goal of economic development. Development cooperation contributed towards the promotion of stronger regional and inter-regional, economic, social and cultural relations as well as the strengthening of the internal capacity and resilience of cooperating countries.

22.2 Efforts will continue to be undertaken to promote international cooperation at all levels to foster a more equitable global relationship where South countries participate in a meaningful manner in the decision-making process on issues which affect them. During the Eighth Plan period, initiatives to enhance regional self-reliance and cooperation as well as efforts to restructure the international financial architecture will be pursued. Technical cooperation will continue to focus on human resource development through the provision of training and fielding of experts. The Malaysian Technical Cooperation Programme (MTCP) will be expanded to build institutional capacities of the South countries as a group, towards the goal of collective self-reliance. At the same time, Malaysia will continue to cooperate with development partners for capacity-building, especially in the development of a knowledge-based economy.

II. PROGRESS, 1996-2000

22.3 Malaysia cooperated closely with the international community during the Seventh Plan period in the sharing of development experiences, particularly with

other developing countries in the spirit of South-South cooperation. Cooperation continued with bilateral partners in enhancing institutional and human resource development as well as in the promotion of sustainable development. This cooperation strengthened political and economic relations, especially in regional groupings such as the Association of South-East Asian Nations (ASEAN), Asia-Europe Meeting (ASEM) and Asia-Pacific Economic Cooperation (APEC).

Bilateral Cooperation

22.4 Malaysia intensified its efforts to enhance existing cooperation with all friendly countries. Twelve diplomatic missions were established with other countries and bilateral cooperation was further enhanced through visits of the Heads of State and Government, conclusion of various bilateral agreements and the establishment of Joint Commissions. Agreements on Economic, Scientific and Technical Cooperation were concluded with 19 countries during the Seventh Plan period, bringing the total number to 92. These Agreements helped to facilitate cooperation and collaboration in many areas including human resource development, science and technology (S&T), trade and investment and tourism. Joint Commission Meetings (JCMs) were held to discuss and facilitate the implementation of activities including trade and investment.

22.5 The framework of bilateral cooperation was further expanded during the Plan Period with the signing of 16 air services agreements, bilateral trade agreements with 22 countries, five bilateral payment arrangements (BPAs) with four countries, five Palm Oil Credit Payment Arrangements (POCPAs) with five countries, investment guarantee agreements (IGAs) with 22 countries and the avoidance of double taxation agreements (DTAs) with 10 countries. Under these agreements, trade-related procedures were streamlined for improved market access and fiscal instruments such as tariffs, taxes and financial regulations were revised and export payments were guaranteed by the central banks of participating countries, thus contributing to increased trade and investment between Malaysia and these countries. Of the new BPAs signed, two were with Bosnia-Herzegovina and one each with the Philippines, Cuba and Sudan.

22.6 *Bilateral Official Development Assistance.* As a developing country, Malaysia continued to be a recipient of official development assistance (ODA) in the form of capital and technical assistance. The total amount of loans received by Malaysia from bilateral sources during the Plan period was USD4.12 billion equivalent in Japanese Yen, for projects in energy, education, industry and infrastructure.

These loans were under the New Miyazawa Initiative announced in October 1998, which provided various initiatives and windows to actively support Asian countries affected by the financial crisis in 1997. These loans were provided by the Japan Bank for International Cooperation (JBIC) since 1998 for projects in priority sectors such as energy, human resource, small- and medium-scale industries (SMIs) and infrastructure as well as projects under the Untied Two Step Loans to *Bank Industri dan Teknologi Malaysia Bhd.* (BITMB) and Development and Infrastructure Bank Malaysia Bhd. (BPIMB). Malaysia also received assistance in the form of a commercial bank loan amounting to USD635 million from Sumitomo Bank, guaranteed by the Ministry of International Trade and Industry (MITI) Japan, mainly for infrastructure projects. This timely support assisted Malaysia's quick economic recovery.

22.7 *Technical Assistance.* Malaysia continued to receive technical assistance from development partners, of which Japan was the largest donor, providing USD291.1million or 66.6 per cent of the total, as shown in *Table 22-1*. This assistance was provided through project-type cooperation, development studies, supply of equipment, dispatch of experts and volunteers, counterpart training and grants for cultural activities. Malaysians were trained in Japan in various fields through the Look East Policy programme and technical assistance programmes under the Japan International Cooperation Agency (JICA).

22.8 During the Plan period, Malaysia also cooperated with Denmark under the Danish Cooperation for Environment and Development (DANCED), which provided technical assistance amounting to USD51.1 million. Under this programme, the focus of technical assistance was on natural resources and environment. This programme included projects to promote cleaner technology in the industrial sector, river basin management, renewable energy and energy efficiency, improvements in national parks management and sustainable urban development. Germany also provided technical assistance to Malaysia amounting to USD47.7 million. The areas of cooperation included projects in environment, sustainable forest management and human resource development, especially in advanced skills training. Under this programme, the German-Malaysia Institute (GMI) expanded its skills development training to include part-time training programmes.

22.9 Traditional donors continued to provide technical assistance to Malaysia in the establishment of new advanced skills training institutes, namely the Malaysia-French Institute (MFI), the Japan-Malaysia Technical Institute (JMTI) and the British-Malaysia Institute (BMI). The courses offered by these institutes included, among others, advanced skills in the area of computer engineering, manufacturing

TABLE 22-1

TECHNICAL ASSISTANCE RECEIVED BY SOURCE, 1996-2000
(USD million)

Source	1996	1997	1998	1999	2000	7MP
Bilateral	90.47	87.18	92.15	82.19	85.41	437.40
Australia	0.55	0.40	0.40	0.40	0.35	2.10
Canada	3.50	4.50	4.00	4.00	4.20	20.20
Denmark	10.42	6.68	19.25	6.89	7.86	51.10
Germany	10.50	10.00	9.00	9.00	9.20	47.70
Japan	58.50	59.60	55.00	58.00	60.00	291.10
United Kingdom	6.00	5.00	3.50	3.00	3.00	20.50
Other Countries	1.00	1.00	1.00	0.90	0.80	4.70
Multilateral	6.37	11.3	11.3	11.78	4.44	45.19
UN Organizations						
Food & Agricultural Organization	0.87	0.60	0.60	0.16	-	2.23
Global Environmental Facility Fund	0.60	0.13	0.13	0.47	0.08	1.41
International Atomic Energy Agency	0.51	0.40	0.40	0.32	0.37	2.00
Montreal Protocol	0.80	3.33	3.33	2.46	0.30	10.22
United Nations International Drug Control Programme	0.43	0.54	0.54	0.30	-	1.81
United Nations Development Programme	0.80	1.43	1.43	3.30	1.32	8.28
United Nations Educational, Scientific & Cultural Organizations	0.24	0.67	0.67	0.10	0.08	1.76
United Nations Population Fund	0.30	0.25	0.25	0.24	0.20	1.24
United Nations Children's Fund	0.75	0.90	0.90	0.95	1.00	4.50
World Health Organization	0.30	1.46	1.46	0.87	0.89	4.98
Other UN Specialized Agencies/ International Organizations	0.63	0.29	0.29	0.22	0.20	1.63
Development Banks / Financial Institutions						
Asian Development Bank	0.14	1.30	1.30	0.00	0.00	2.74
Islamic Development Bank	-	-	-	0.20	-	0.20
World Bank	-	-	-	2.19	-	2.19
Total	96.84	98.48	103.45	93.97	89.85	482.59

technology and aircraft technology. Technical assistance programmes were also continued in the field of agricultural research with Australia and for the development of private sector linkages with Canada.

Regional Cooperation

22.10 Malaysia continued its commitment to open regionalism which promoted economic cooperation among member countries without reducing cooperation with countries outside the region. This was expressed through Malaysia's active role in regional groupings such as ASEAN, APEC and the Growth Triangle Initiatives as well as inter-regional groupings, particularly ASEM.

22.11 *Association of South-East Asian Nations.* Malaysia's membership in ASEAN contributed towards increasing closer relations between Malaysia and member countries. During the Plan period, ASEAN membership was expanded to include Vietnam, Laos, Cambodia and Myanmar. With the participation of these new member countries, regional cooperation was further enhanced through various initiatives in areas such as tourism, human resource development, gas and coal development as well as agriculture. A Strategic Plan of Action of ASEAN Cooperation in Agriculture and Forestry was approved in 2000 to enhance cooperation in these sectors. Several major agreements were concluded including the Framework Agreement in ASEAN Investment Area and the ASEAN Framework Agreement on Mutual Recognition Arrangements. In the wake of the financial crisis in 1997, ASEAN Heads of Government in their ASEAN Vision 2020 Statement agreed to cooperate towards greater regional cohesion and economic integration. At the Sixth ASEAN Summit in December 1998, the Hanoi Plan of Action was launched in order to implement the Vision. This Plan included measures to be taken in response to globalization and to spur the region's economic recovery as well as ASEAN's development. In addition, the ASEAN Surveillance Process (ASP) was established in October 1998, to strengthen policy-making capacity and promote financial stability as well as to prevent a recurrence of the financial crisis through the monitoring of national, regional and global developments.

22.12 The financial crisis also affected the implementation of projects agreed under the ASEAN Mekong Basin Development Cooperation Initiative. These projects which were subsequently delayed in their implementation include cooperation in training in ground water management and the Trans Asian Railway.

22.13 During the Plan period, Malaysia benefited from ASEAN's continuing relationship with its dialogue partners, namely Australia, Canada, the People's Republic of China, the European Union, India, Japan, the Republic of Korea, New Zealand and the United States of America. Cooperation with these dialogue partners was mainly in the areas of improving trade and investment ties, human resource development and strengthening private sector linkages. In an effort to strengthen relations with its dialogue partners, other regional groupings and multilateral agencies, a review was undertaken on strategies to improve benefits to members. An important initiative was the establishment of the ASEAN+3 which involved the participation of the People's Republic of China, Japan and Republic of Korea in several ASEAN projects such as exchange programmes for the private sector and the promotion of greater economic linkages. During the Inaugural Meeting of the ASEAN+3 Finance Ministers in May 2000, the Chiang Mai Initiative was launched which was a regional financing arrangement to strengthen self-help and support mechanisms in East Asia. Under this Initiative, the ASEAN Swap Arrangement was expanded to include all the 10 ASEAN members and the total amount available under this facility was also enlarged to USD1 billion. A network of bilateral swaps and repurchase agreement facilities among the ASEAN+3 countries were also established. Other initiatives included cooperation in human resource development, particularly through training and seminars in the financial sector.

22.14 *Asia-Europe Meeting.* Malaysia also strengthened its linkages with Europe under the ASEM process, focusing mainly on trade and investment, economic and financial cooperation, interaction between their business communities and global economic development. The ASEM Trust Fund was set up in June 1998 by ASEM leaders to finance technical assistance related to reforms in the financial, corporate and social sectors in order to facilitate the recovery of the East Asian countries affected by the regional financial crisis. This Trust Fund amounting to about USD45 million, was contributed by several sources, namely the European Commission as the largest contributor, Denmark, Finland, France, Italy, Luxembourg, the Netherlands, People's Republic of China, Sweden and the United Kingdom. Malaysia benefited from five projects in the areas of corporate crisis recovery, labour market policies, industrial and export competitiveness, health policy and strengthening the regulatory environment for the financial sector through the establishment of an early warning system as well as a deposit insurance study.

22.15 *East Asia-Latin America Forum.* Malaysia participated in the East Asia-Latin America Forum (EALAF) which was established in 1999 to enhance cooperation between the two regions. This Forum comprising 27 countries included 10 ASEAN countries, People's Republic of China, Japan and Republic of Korea

from the Asian region; Argentina, Brazil, Bolivia, Mexico, Peru and Uruguay from the Latin American region. Australia and New Zealand were included although they are not part of East Asia. EALAF aimed to promote economic and commercial ties as well as to discuss social, cultural and political issues. Several projects were proposed during the meetings in Singapore and Chile including an economic study to boost inter-regional trade, seminars on regional economic cooperation in Chile and People's Republic of China as well as scholarships to contribute to a greater understanding between the people of the two regions.

22.16 *Growth Triangle Initiatives.* Participation in sub-regional entities, namely the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT), the Brunei Darussalam-Indonesia-Malaysia-the Philippines East ASEAN Growth Area (BIMP-EAGA) and the Indonesia-Malaysia-Singapore Growth Triangle (IMS-GT) continued to be undertaken to promote economic growth in the less developed areas of the sub-region. Activities were conducted through various mechanisms including government to government fora and discussions between government and the private sector as well as among the private sectors of the participating countries. At the governmental level, efforts were directed to develop common rules and procedures for the conduct of trade and investments while the private sectors were encouraged to identify partners for joint-venture projects as well as to expand their business operations in member countries. Through the growth triangle cooperation, several joint-venture projects were implemented, mainly in human resource development, tourism, infrastructure, manufacturing, plantation as well as the transportation and mining sectors.

22.17 *Asia-Pacific Economic Cooperation.* Malaysia hosted the APEC Summit in November 1998. Under Malaysia's leadership, the APEC Summit adopted the Kuala Lumpur Declaration which agreed to accelerate the implementation of various decisions including the Individual Action Plans (IAPs). In this regard, the theme of capacity-building was adopted by Malaysia in its IAP with the aim of reducing economic disparities between countries. Malaysia also hosted the 10th Meeting of APEC Ministers in November 1998 and the 6th APEC Finance Ministers Meeting in May 1999. In addition, Malaysia continued to participate in the Economic and Technical Cooperation (ECOTECH), which emphasized the development of human resources, technology and SMIs.

Multilateral Cooperation

22.18 During the Plan period, Malaysia continued to participate in multilateral cooperation, promoting the views of developing countries and their need for

special and differential treatment in multilateral negotiations. Malaysia's views on global issues were highlighted through its participation in the programmes of multilateral agencies such as those under the United Nations (UN), the World Trade Organization (WTO), the Commonwealth and the Organization of Islamic Conference (OIC) as well as multilateral development banks, namely the Asian Development Bank (ADB), the World Bank and the Islamic Development Bank (IDB).

22.19 *United Nations.* Malaysia continued to articulate its position on global issues, especially those related to the reforms of the UN, restructuring of the international financial architecture, integration of developing countries into the world economy, financing for development including the debt position of poor countries, and the peaceful settlement of international disputes. In this regard, Malaysia participated actively in the UN General Assembly, the Group of 77 (G-77) Forum and the international conferences organized by the UN including the UN Conference on Trade and Development (UNCTAD), Special Session of the General Assembly on Gender, Special Session of the General Assembly on Social Development and the Millennium Assembly. Malaysia strongly supported these conferences as platforms for developing countries to review recent global developments and to formulate positive measures collectively, including instituting more appropriate policy options and negotiating strategies, in order to reposition the South countries to enable them to harness the benefits of globalization on a more equitable basis.

22.20 In support of the UN peacekeeping efforts, 5,250 Malaysian armed forces personnel and 487 police personnel served with UN peacekeeping missions in Western Sahara, Kosovo, the Democratic Republic of Congo, Mozambique, Bosnia-Herzegovina and Angola. Malaysia also participated in UN Observer Missions in Liberia, Sierra Leone and Iraq-Kuwait as well as in the UN Transitional Administration in East Timor (UNTAET). Malaysia's election as a member of the Security Council for the 1999-2000 term was a recognition of its role in the promotion of global peace.

22.21 During the Plan period, Malaysians were appointed to various positions in the UN, namely as the President of the 51st Session of the UN General Assembly, the UN Special Envoy to Myanmar and as the Director of the UN Office for Outer Space Affairs. As a further acknowledgement of the country's contributions to international relations, Malaysia was elected in 1999 to the UN Human Rights Commission for the term of 2001-2003.

22.25 *Group of Developing-8.* The Group of Developing-8 (D-8), formed in 1997, comprising Bangladesh, Egypt, Indonesia, Iran, Malaysia, Nigeria, Pakistan and Turkey, was aimed at promoting greater development cooperation among Islamic countries. Malaysia was entrusted with the task to educate and market the concept and application of *takaful* among the D-8 and OIC members and ultimately, to assist in the establishment of *takaful* companies worldwide. Towards this end, Malaysia organized several conferences for member countries, namely the conference on *Re-takaful* and Islamic banking as well as training in the simplification of Customs procedures, conventional banking and capital market development. Malaysian *takaful* operators were active in conducting training programmes locally and abroad as well as provided technical assistance for the establishment and management of new *takaful* companies.

22.26 *Multilateral Official Development Assistance.* Malaysia received loans from multilateral development banks and multilateral financial institutions to meet the resource gap in development financing. Technical assistance was sourced from multilateral development agencies focusing on capacity-building, especially in the acquisition of technology and know-how.

22.27 Malaysia received a USD300 million, fast-disbursement Economic Recovery and Social Sector loan from the World Bank in 1998 to assist in its economic recovery. An additional USD254.94 million was received in 1999 from the World Bank for projects in the education sector and for the Year 2000 (Y2K) project. In line with cooperation among Islamic countries, financial assistance amounting to USD92.01 million was received from the IDB. This assistance was in the form of installment sale financing, similar to leasing but which involved the immediate transfer of ownership of assets to the borrower. The installment sale financing was used for the procurement of equipment for the Ministry of Health, Fire and Rescue Department, *Universiti Teknologi Malaysia* (UTM) and *Universiti Malaysia Sabah* (UMS). In addition, loans for two projects in flood mitigation and technical education amounting to USD66.3 million were received from the ADB.

22.28 Multilateral agencies continued to extend technical assistance to Malaysia during the Plan period. About USD40.1 million or 88.7 per cent of technical assistance was provided by organizations and specialized agencies of the UN, mainly the United Nations Development Programme (UNDP), United Nations Children's Fund (UNICEF), World Health Organization (WHO) and the United Nations Population Fund (UNFPA). This assistance focused on capacity-building

TABLE 22-2

**MALAYSIA'S CONTRIBUTION TO MULTILATERAL ORGANIZATIONS,
1996-2000
(RM '000)**

<i>Organization</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>7MP</i>
Development Bank / Financial Institutions						
Asian Development Bank	1,244.3	-	7,840.0	11,285.2	9,206.4	29,575.9
Asian Development Fund	-	150.0	688.0	1,454.0	2,448.0	4,740.0
International Bank for Reconstruction & Development	1,249.8	1,476.4	2,097.7	1,900.2	-	6,724.1
International Finance Corporation	3,397.0	3,311.6	-	-	-	6,708.6
Islamic Development Bank Association	4,376.1	4,277.1	6,635.4	6,189.4	6,098.4	27,576.4
International Development Association	-	106.0	107.8	161.1	168.3	543.2
Development - related						
ASEAN	-	1,871.8	3,732.9	2,242.4	2,465.1	10,312.2
Asia-Europe Foundation	-	1,000.0	-	-	-	1,000.0
Asian & Pacific Development Centre	615.6	615.6	615.6	615.6	1,657.1	4,119.5
Colombo Plan	223.0	303.2	336.2	333.0	336.6	1,532.0
Commonwealth	1,167.7	4,398.7	1,126.3	3,455.6	3,416.1	13,564.4
Food & Agriculture Organization	1,229.2	1,180.8	1,852.4	2,210.4	2,248.6	8,721.4
International Criminal Tribunal for the Former Yugoslavia	627.3	635.6	-	370.1	355.3	1,988.3
International Labour Organization	931.7	770.9	1,325.4	1,689.9	1,485.9	6,203.8
Organization of Islamic Conference	942.3	1,520.0	1,658.4	1,805.1	1,805.1	7,730.9
Regional Centre of Education in Science & Mathematics	3,300.0	3,300.0	3,300.0	3,300.0	3,300.0	16,500.0
South Coordination Commission	-	-	-	-	380.0	380.0
South East Asian Ministers of Education Organization	676.1	892.9	815.5	980.4	977.9	4,342.8
Tropical Medicine & Public Health Project	200.5	233.8	366.1	403.4	403.4	1,607.2
United Nations	3,908.3	3,771.3	6,713.6	7,107.4	7,371.8	28,872.4
United Nations Children's Fund	214.8	210.7	328.9	319.2	319.2	1,392.8
United Nations Development Programme	2,026.6	2,002.2	1,133.9	3,330.0	1,767.0	10,259.7
United Nations Educational, Scientific & Cultural Organization	1,501.8	1,399.0	2,308.2	2,416.0	2,484.0	10,109
United Nations Peace Keeping	1,990.3	1,869.4	3,014.3	1,224.0	5,101.3	13,199.3
World Health Organization	2,355.0	2,372.6	2,277.1	2,756.3	2,939.2	12,700.2
Others (annual contributions less than RM200,000 each)	1,206.1	4,398.7	1,185.0	3,455.6	3,416.1	13,661.5
Total	33,383.5	42,068.3	49,458.7	59,004.3	60,150.8	244,065.6

Administration (INTAN), University of Malaya and *Institut Aminuddin Baki*. In 1997, INTAN conducted an International Methodology Course which was well received by course participants from G-15 countries. In 1998, two post-graduate scholarships were awarded to G-15 members for studies in public administration in the University of Malaya.

22.33 *Asia-Africa Forum*. Among the activities following the Second Tokyo International Conference on African Development (TICAD) in 1998, was the First Africa-Asia Business Forum held in Kuala Lumpur in 1999, with the support of the Government of Japan, UNDP and the World Bank, which resulted in the conclusion of several business deals. Malaysia hosted the Third Asia-Africa Forum in May 2000 with support from the Government of Japan, UN/Office of Special Coordinator for Africa and Least Developed Countries (UN/OSCAL), the UNDP and the Global Coalition for Africa (GCA). This Forum, which was attended by 10 Asian countries, 50 African countries, 14 donor countries and 14 international, regional and sub-regional organizations, facilitated the implementation of the Tokyo Agenda for Action adopted by TICAD II, enhancing Asia-Africa cooperation and its contribution to the development of African countries. In this regard, the meeting adopted the Kuala Lumpur New Millennium Statement which reaffirmed the commitment of countries from Asia and Africa to further strengthen inter-regional partnerships and cooperation networks. The focus of cooperation was on agriculture and private sector development, with capacity-building and information and communications technology (ICT) as cross-cutting issues. The meeting explored strategies for broad-based growth taking into consideration the capacity constraints of Asian and African countries.

22.34 *Smart Partnership Dialogue*. The Langkawi International Dialogue (LID), initiated by Malaysia, based on the concept of collaboration on many levels, between companies, between the public and private sectors and within the public sector, was held on an annual basis since 1995, except 1998. The smart partnership philosophy and practice involved the sharing of views and experiences on global trends and issues. Among the themes discussed were the role of Government and technology in smart partnership, managing economic recovery as well as strategies to manage globalization and the New Economy. A Smart Partnership Business link was initiated among corporate leaders in LID '99. The LID fostered common values and helped develop a common stand on global issues as well as discussed their potential impact on emerging economies. An increasing number of developing countries participated in the LID which also led to several spin-off dialogues in Barbados, South Africa, Namibia and Mozambique.

22.35 *Private Sector and South-South Cooperation.* In the spirit of the Malaysia Incorporated concept, the private sector implemented several measures to complement the efforts of the Government in South-South cooperation. During the Plan period, the Malaysia South-South Association (MASSA) had 86 individual and corporate members and its investment arm, Malaysian South-South Corporation Berhad (MASSCORP) a paid-up capital of RM53.95 million. Several joint-venture projects were implemented, including the Binh-An Water Supply and the Danang Industrial Zone projects in Vietnam, Micasa Hotel in Yangon, Myanmar, mixed housing and commercial development in Santiago, Chile and a tannery in Buenos Aires, Argentina.

22.36 *The Malaysian Technical Cooperation Programme.* In line with the Government's continuing commitment to the spirit of South-South cooperation, the MTCP expanded its coverage as well as the areas of technical cooperation. During the Plan period, the number of participating countries in the MTCP rose from 92 to 121. New participating countries included fifteen countries from the African continent, two each from Latin America and Asia, and one from the Middle East. These countries were Algeria, Brazil, Burkina Faso, Cameroon, Central African Republic, Cote D'Ivoire, Comoros, Djibouti, East Timor, Ethiopia, Gabon, Guinea-Bissau, Sierra Leone, Togo, Madagascar, Mali, Mexico, Nepal, Niger and Yemen. To implement the MTCP programme, a total of RM94.3 million was utilized during the Plan period.

22.37 A total of 2,674 participants was trained in short-term courses in 18 training institutions and government agencies. The participating training institutes included INTAN, the Institute of Diplomacy and Foreign Relations (IDFR), National Productivity Corporation (NPC), Tun Abdul Razak Broadcasting Institute (IPTAR), National Institute of Valuation (INSPEN), Cooperative College of Malaysia, National Tax Academy (APN) and the Institute for Medical Research (IMR). Among government agencies which provided training under the MTCP were the Malaysian Palm Oil Board, Veterinary Services Department, *Bank Negara Malaysia* (BNM), Malaysian Industrial Development Authority (MIDA), National Archives and Civil Aviation Department. New courses were offered during the Plan period such as training in investment promotion, valuation and fire-fighting. MIDA implemented five special courses in investment promotion for 200 participants from 57 countries. Technical courses were also conducted by the Agriculture and Fisheries Departments for 62 participants from 30 countries, and by the Royal Malaysian Customs and Excise Department for five Namibians in 1996 in the development and management of export processing zone. With regard to long-term courses, 101 participants from Asia, Africa and the Middle East were provided with scholarships to undertake post-graduate studies in five universities, namely the University of Malaya, International Islamic University, *Universiti Putra*, *Universiti Sains* and *Universiti Kebangsaan Malaysia*.

22.38 Special assistance was extended to Ghana, the Kyrgyz Republic, Algeria and Cambodia for the preparation of development plans with special emphasis on privatization, investment promotion and industrialization. Several teams of experts comprising senior officials and representatives from the private sector were dispatched to help prepare these economic plans. Other forms of advisory services were also provided through the dispatch of Malaysian experts in central banking, anti-corruption, energy, law and strategic development planning to Namibia, micro-credit management to South Africa and integrated agriculture management to Malawi. In addition, officials from INTAN and BNM were sent to conduct courses in strategic management and leadership as well as central banking for officials in Sudan and Uzbekistan.

22.39 During the Plan period, there was greater collaboration between the MTCP and third party co-sponsors such as Economic and Social Commission for Asia and the Pacific (ESCAP). The MTCP provided training opportunities to ESCAP members in two short-term training courses. A total of 62 study visits was funded by the MTCP including third parties such as the UNDP and IDB. In addition, there was also increased partnership with the private sector in the implementation of several projects including housing projects in South Africa as well as road and building construction in Bosnia-Herzegovina. These collaborative efforts also led to investment spin-offs by the private sector.

22.40 The MTCP extended humanitarian support to developing countries in need. These efforts included the resettlement of Bosnian refugees through the rehabilitation of infrastructure and the provision of essential supplies and emergency aid to flood victims in Mozambique. Special assistance was also extended to East Timor in support of its nation-building efforts. This assistance included training and the dispatch of experts to East Timor in important areas of development such as micro-credit financing, public finance, public administration and diplomacy.

III. PROSPECTS, 2001-2005

22.41 During the Eighth Plan period, Malaysia will continue to actively participate at both the bilateral and multilateral levels in promoting development cooperation. Participation in regional groupings and groupings of South countries will continue to be emphasized for mutual benefit. In addition, the MTCP will be expanded to contribute to capacity-building and the sharing of experiences with other South countries.

Bilateral Cooperation

22.42 Malaysia's policy of development cooperation through the establishment and strengthening of bilateral relations with both developed as well as developing countries will be further intensified. The thrust of Malaysia's bilateral relations will be in economic relations, particularly in the promotion of trade and investment as well as human resource development and resource-based industries.

22.43 During the Plan period, Malaysia will continue to establish more diplomatic missions including those in the Czech Republic and Ireland and strengthen the Joint Commission mechanism with the aim to improve bilateral relations, broaden S&T cooperation as well as increase trade and investment. In this respect, an increasing number of BPAs, IGAs and POCPAs as well as trade and investment cooperation agreements will be signed between Malaysia and cooperating countries.

22.44 Efforts will continue to be undertaken through bilateral cooperation for the acquisition of cutting edge technology, increasing productivity and the acceleration of S&T development. Bilateral cooperation will continue in capacity-building, advanced skills training and new areas of scientific cooperation including ICT with developed and developing countries. Malaysia will continue to improve its position in the field of ICT through cooperation with developed countries in the procurement of expertise, technologies and finance. These efforts will address the issue of the international digital divide so that the benefits of ICT can be maximized globally and the widening economic gap reduced. Measures will be taken to secure financing for the development of ICT from Japan's Comprehensive Cooperation Package announced in Okinawa in July 2000.

22.45 Malaysia will reposition itself in terms of ODA in order to direct inflows of technical assistance to focus on key areas such as skills development, protection of the environment and S&T. At the same time, ODA loans will be a source of finance for selected development projects.

Regional Cooperation

22.46 During the Plan period, Malaysia will continue to cooperate at the regional level to enhance the pace of economic integration of ASEAN as well as to promote trade and investment. Intensification of the Hanoi Plan of Action and cooperation with ASEAN members will be continued to strengthen economic fundamentals and ensure sustainable economic growth. In addition, the proposal to restructure the ASEAN+3 forum as the East Asia Cooperation Group will be studied.

22.47 Subregional development, through the growth triangles, will continue to be pursued to accelerate growth in the region. Development in priority areas will be expedited through private sector joint ventures to optimize the abundant natural resources and to benefit from economic complementarities. Efforts will be directed at prioritizing key development projects including those on tourism, people mobility and human resource development.

22.48 Malaysia will continue to cooperate with APEC towards the goal of achieving economic stability and promoting trade and investment flows. Emphasis will be given to IAPs as the principal vehicle for trade liberalization. In addition, Malaysia will also cooperate with ASEM for the promotion of trade and investment and to increase market accessibility as well as to address social issues such as poverty and gender in development.

Multilateral Cooperation

22.49 Cooperation at the multilateral level will continue with active participation in the programmes organized by multilateral organizations such as the UN, Commonwealth, OIC and WTO. Malaysia will cooperate with developing countries to reach a common position, particularly on the need for tangible benefits to developing countries from trade liberalization and to address the resultant growing inequalities of wealth and opportunities arising from globalization. Efforts will continue to be undertaken towards the restructuring of the international financial architecture and to democratize the global decision-making process. In addition, efforts will continue to be undertaken towards progressive trade liberalization, without the inclusion of extraneous issues. Participation in such negotiations will contribute towards the optimization of trade. To undertake these measures, Malaysia will strengthen its capacity and expertise to meet the complex demands of multilateral work programmes, especially to enable an effective response to the challenges of globalization.

22.50 To further strengthen Islamic solidarity, Malaysia will cooperate with OIC members to increase the influence and promote the activities and programmes of the Organization including Islamic finance and banking as well as in hosting the 10th Session of the Islamic Summit Conference in 2003 and the Annual Meeting of the Board of Governors of IDB in 2005. Malaysia will also continue to cooperate with D-8 members in the sharing of knowledge and expertise in areas such as privatization and Islamic banking. Training programmes and other forms of technical assistance will be extended to member countries for the establishment and management of *takaful* companies.

22.51 During the Eighth Plan period, ODA will be focused on obtaining technical assistance for specialized and critical areas necessary for the development of a knowledge-based economy. These areas include capacity-building in key sectors such as S&T, environment and ICT. In addition, Malaysia will maintain strong links with development partners to reinforce the synergies in addressing issues related to environment, poverty, gender in development as well as human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS).

South-South Cooperation

22.52 During the Plan period, efforts will be made to further strengthen cooperation with developing countries to promote a common stand on international issues and mutual benefits. South-South cooperation will be an effective mechanism for optimizing the potential of developing countries to promote economic growth and internal resilience through, among others, the mobilization and sharing of expertise as well as complementing cooperation programmes with donor countries. The prevailing technological gap between the North and South necessitates the grouping of South countries, as a single voice, to advocate major transformations of the international economic system. In addition, Malaysia will continue to implement third country training programmes to assist other developing countries in areas where Malaysia has the expertise. Efforts will continue to be undertaken to encourage greater participation of the private sector in development cooperation with South-South countries.

22.53 Malaysia will continue to support ongoing G-15 projects such as SITTEDEC/Sibexlink and cooperate with other G-15 member countries to accelerate the implementation of on-going human resource development programmes and new projects endorsed by G-15. SITTEDEC/Sibexlink will undertake a survey on its products and services among its member countries in order to improve its functions and operations. In addition, MASSCORP will organize the Second Africa-Asia Business Forum in Durban, South Africa in 2001 to promote joint ventures and business linkages.

22.54 *Malaysian Technical Cooperation Programme.* Efforts will be intensified to expand the scope and coverage of MTCP so as to enable it to continue to play an important role during the Eighth Plan period. The MTCP will continue to emphasize the exchange of development experiences, especially in economic management and human resource development. New programmes will be designed to cater to the special needs of participating countries, particularly the economies in transition as well as to assist countries in their reconstruction efforts. Efforts will be made to ensure that the programmes under the MTCP are planned and delivered in accordance with the priorities of the participating countries through regular consultations, technical cooperation missions and close collaboration in the implementation of technical assistance programmes.

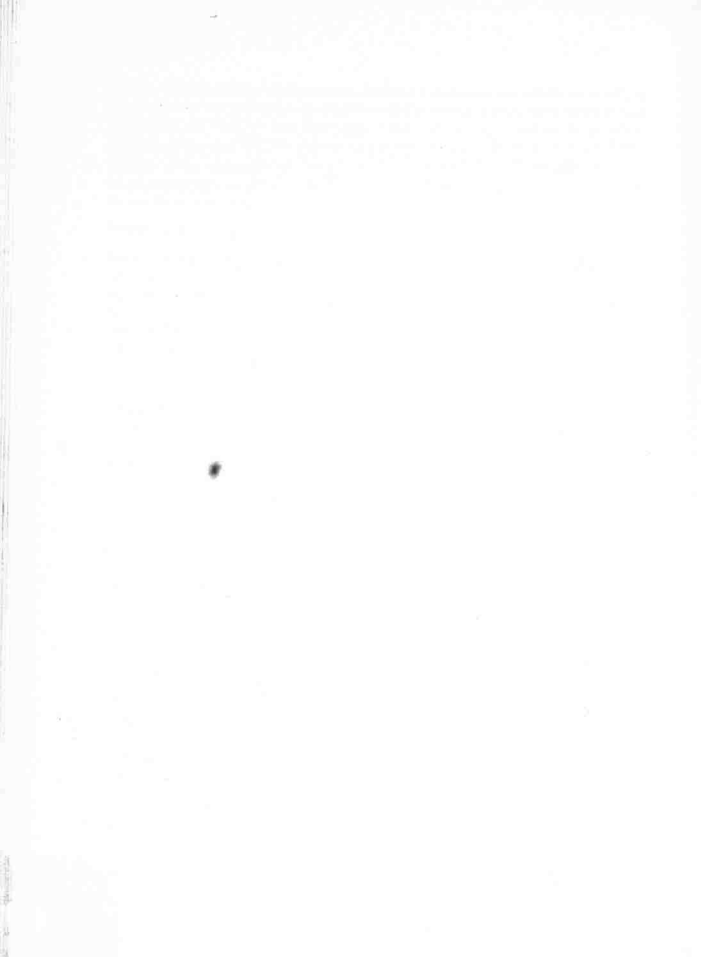
22.55 As Malaysia progresses towards a developed nation status, a more sophisticated approach towards MTCP will be undertaken. As the national focal point of development assistance and cooperation and to meet the increasing expectations from South countries, the present mechanism will have to be upgraded and strengthened. This requirement will necessitate an expansion of the present mechanism in order to put in place a new institution with a greater capacity in terms of manpower and support, to manage both the inflows and outflows of technical assistance.

22.56 To generate greater linkages and optimize existing mechanisms, more windows will be created to promote cost-sharing and third party funding for training and project-type assistance. A more selective strategic cooperation programme will be implemented progressively, where there will be greater opportunities for the involvement of the private sector for the sourcing of expertise. Private sector training institutions will also be considered for inclusion under the MTCP, with appropriate cost-sharing arrangements.

22.57 The modality of trilateral technical assistance will also be encouraged, particularly, with the cooperation of developed countries such as Japan and France. This modality will enable the replication of successful projects in South countries, utilizing inputs from both Malaysia and the cooperating developed country, particularly in the areas of integrated agriculture, training and information technology.

IV. CONCLUSION

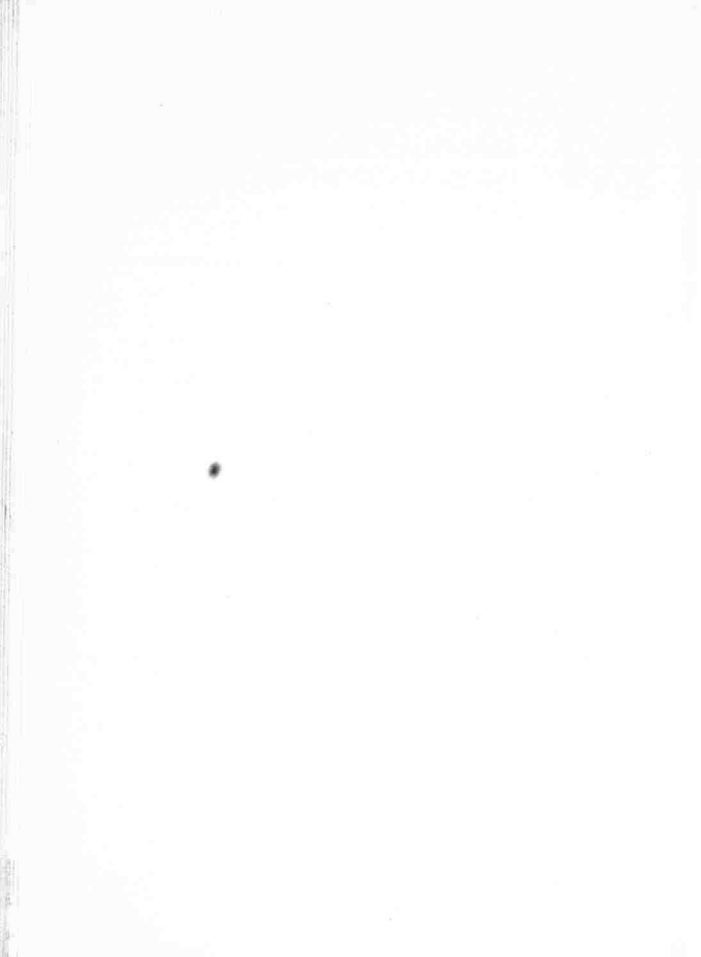
22.58 Efforts were undertaken to strengthen development cooperation with the international community, development partners and other South countries to address development issues at the national, regional and global levels with emphasis on capacity-building for development. For the Eighth Plan period, international cooperation will continue to focus on capacity-building and human resource development, particularly in the field of ICT. In addition, other regional self-help mechanisms and efforts aimed at restructuring the international financial architecture will be pursued in order to ensure the stability of the international financial system. The MTCP will be expanded to cover more areas of cooperation as well as provide a greater scope for cost-sharing, third party funding and private sector involvement. In this regard, the capacity for policy coordination in international cooperation will be strengthened in order to meet the evolving demands of South-South cooperation.



Chapter 23

Administrative Improvements For Development

Malaysia Plan Ma
laysia Plan Malay
sia Plan Malaysia
Plan Malaysia Pl
an Malaysia Plan
Malaysia Plan Ma
laysia Plan Malay
sia Plan Malaysia
Plan Malaysia Pl
an Malay OF
Malaysia



23

ADMINISTRATIVE IMPROVEMENTS FOR DEVELOPMENT

I. INTRODUCTION

23.01 The public sector continued to enhance the efficiency and effectiveness of its administrative machinery during the Seventh Malaysia Plan period through improvements in terms of structure, systems, procedures, management integrity and work ethics. New measures were introduced and information and communications technology (ICT) was strategically utilized to upgrade quality management and further improve service delivery. The public sector also forged close links with the private sector through effective consultative mechanisms. All these initiatives served to support programmes for achieving the national socio-economic targets and objectives and has enabled the public sector to implement the National Economic Recovery Plan (NERP) in overcoming the economic crisis.

23.02 During the Eighth Plan period, programmes to improve service delivery and optimize resource utilization will continue to be upgraded, particularly through the extensive use of ICT. The public sector will review existing management structures, personnel policies and delivery systems to meet the requirements of a knowledge-based economy. Efforts to strengthen management integrity will also be stepped up to ensure greater accountability and transparency in the public sector. The public sector will continue to collaborate with both the private sector and non-governmental organizations (NGOs) to enhance the process of governance.

II. PROGRESS, 1996-2000

23.03 Various programmes were implemented by the public sector during the Seventh Plan period to improve service efficiency and effectiveness. These administrative reform programmes focused on improvements over a wide range

of areas including quality management, ICT development, accountability and management integrity as well as organizational development and human resource management.

Administrative Response to the Economic Crisis

23.04 The National Economic Action Council (NEAC) was established in 1998 in response to the economic crisis. It is a consultative body set up by the Government to deal with the economic crisis. One of its primary tasks was the preparation of the NERP, which represents a comprehensive framework for action to overcome the crisis. One major thrust of the NERP was to strengthen implementation of public sector policy, programmes and projects.

23.05 As part of the response to the economic crisis, particularly to ensure physical implementation of projects, the development budget expenditure was closely monitored. In this respect, various efforts were undertaken to improve the management and monitoring system of development projects. In addition, guidelines were issued to clarify and reinforce the roles and responsibilities of agencies involved in the implementation coordination machinery. At the same time, the Integrated Information System SETIA/SIAP (SMBSS) was enhanced to ensure the effectiveness of the development project monitoring system while payment processes were reviewed to expedite payments for implemented projects.

23.06 Various administrative measures were also undertaken to review systems and work processes in the delivery of public services that have a strong impact on economic growth. These measures, among others, enabled speedy issuance of permits and licenses, ensured faster payments for Government procurement of goods and services, expedited land administration matters, facilitated policy changes related to trade and investment as well as faster approval processes.

Quality Management

23.07 During the Plan period, efforts to institutionalize a quality culture in the public sector continued to be emphasized. The thrust of these efforts was embodied in Total Quality Management (TQM) as the standard model for quality management in the public sector. As a result, public sector agencies focused on the requirements of the client and worked towards continuous improvements in producing quality

outputs and services. The public sector continued to enhance the implementation of quality initiatives such as quality control circle (QCC), Client's Charter, improving counter services as well as adopted innovations to improve efficiency.

23.08 The QCC programme adopted a task-achieving approach to effect agency-wide improvements. In addition, technology and multimedia was utilized to introduce improvements in systems and processes. Similarly, the Client's Charter, a written commitment by public sector agencies to provide services and output according to quality standards, was reviewed. The review indicated the need for more effective monitoring of its implementation.

23.09 Counter services were improved during the Plan period with a focus on efficiency, speed, comfort and convenience in the provision of quality services to the customer. The one-stop Centre approach to information dissemination, payment and licensing services was also continued. Similarly, innovation targeted at improvements to work environment, management style, organizational structure, systems and work procedures as well as the adoption of suitable technology helped public sector agencies to reduce operational costs, effect time savings and enhance productivity.

23.10 The *MS ISO 9000*, an internationally recognized set of quality standards was implemented during the Plan period to further strengthen the administrative capability of the public sector to deliver quality services. By the end of the Plan period, 222 agencies had their core processes certified to one of the *MS ISO 9000* quality assurance models.

23.11 Quality management in the public sector was also strengthened through the implementation of the *benchmarking programme*. Under this programme, agencies were encouraged to benchmark their practices against others and consequently upgrade their own performance. A structured procedure and methodology was provided to enable collaboration with a benchmarking partner in implementing best practices. As part of efforts to increase awareness and encourage agencies to strive for excellence through benchmarking, a national public sector seminar on benchmarking was held in 2000.

23.12 The system of *rewards and recognition* under the Prime Minister's Quality Award and the Public Service Quality Award continued to be an important strategy to reinforce the motivation for quality and excellence in the public sector. This recognition system highlighted the many TQM aspects displayed in critical areas such as leadership, innovation, strategic planning, customer satisfaction,

utilization of information and data, human resource utilization and assurance of quality output. During the Plan period, the Palm Oil Research Institute Malaysia (PORIM); *Hospital Tengku Ampuan Afzan*, Kuantan, Pahang; *Majlis Perbandaran Kuantan*, Pahang; *Universiti Teknologi Malaysia*; and *Dewan Bandaraya Kuching Utara*, Kuching, Sarawak were awarded the prestigious Prime Minister's Quality Award for the public sector category. To encourage agencies to utilize ICT, the public sector introduced the *Anugerah Perdana Teknologi Maklumat* in 1999. The award gave recognition to agencies that successfully adopted innovative ICT systems to enhance their operations and services.

23.13 The role and focus of the *inspectorate system* was reviewed as part of the strategy to improve the delivery of services by the public sector. Inspections were focused on activities related to revenue collection, promotion of investment and economic growth as well as provision of counter services. Inspections were also carried out on agencies with a high rate of public complaints and reports of malpractices.

Information and Communications Technology Development

23.14 A major focus of the administrative improvement agenda during the Plan period was the development of ICT in terms of implementing specific projects, developing infrastructure, procuring suitable systems and applications as well as promoting ICT-based information services. The Government IT and Internet Committee (GITIC) was established in 1998 to coordinate and monitor the development of ICT in the public sector. In addition, an action plan was drawn up to address the Year 2000 (Y2K) problem.

23.15 A major component of the ICT development programme was *Electronic Government* (EG), one of the seven flagship applications under the Multimedia Super Corridor (MSC). In this regard, five EG pilot projects were launched encompassing three categories of applications, namely intra-agency, inter-agency and Government to citizen/business service applications. The five pilot projects were Electronic Delivery of Driver and Vehicle Registration, Licensing and Summons Services, Utility Bill Payment and Ministry of Health On-line Information (E-Services); Electronic Procurement (EP); Generic Office Environment (GOE); Human Resource Management Information System (HRMIS); and Project Monitoring System (PMS). An additional pilot project, namely the Electronic Labour Exchange (ELX) was launched in response to the need to strengthen the mechanism for mobility in the labour market, particularly in the wake of the

economic crisis. To provide for a smooth interface between the EG projects with the Accountant General's legacy systems, the Electronic Government-Accountant General (EG-AG) Integration project was launched. The public sector also spearheaded the implementation of other MSC flagship applications such as smart school, telehealth and multipurpose smartcard.

23.16 The public sector also undertook the development of the necessary *ICT infrastructure* in order to realize the full benefits of ICT, particularly in supporting the EG initiative. The focus was on two main projects, namely the Government Integrated Telecommunications Network (GITN) and the development of ICT infrastructure at the new Federal Government Administrative Centre in Putrajaya. By the end of the Plan period, 18 agencies had subscribed to the GITN network services, which provided a dedicated and secured ICT infrastructure as well as various on-line services for the public. A virtual private network (VPN) known as EG*Net was developed to link all agencies involved in the implementation of the EG pilot projects as well as to networks outside the Government domain. Measures were also undertaken to coordinate all ICT requirements related to the migration of Government agencies to Putrajaya and enable greater efficiency in Government operations and service delivery.

23.17 In order to ensure planned and streamlined development of ICT systems and applications, guidelines were issued to agencies to draw up their respective *IT Strategic Plan (ISP)*, consistent with EG IT Policies and Standard (EGIT) as well as the relevant cyber laws. Systems integration between agencies was facilitated through a Government-wide Data Dictionary that prescribed a standard format and data definition.

23.18 The expanded use of ICT, the introduction of Intranet and Internet technology as well as the increased number of on-line transactions raised security concerns for agencies. In response to these concerns, the Malaysian Administrative Modernization and Management Planning Unit (MAMPU) was vested with the authority to oversee all aspects of ICT security in the public sector in 2000. In addition, the *Government ICT Security Policy* as well as standards and guidelines on ICT security were issued to enable agencies to upgrade their security status.

23.19 During the Plan period, a total of RM2.6 billion was allocated for the procurement of various ICT systems and applications. In addition, public sector agencies began leasing computers from the Malaysian Institute of Microelectronics System (MIMOS) since 1999. By the end of the Plan period, a total of 10,000 computers was leased by the Government.

23.20 At the state level, several state governments developed ICT infrastructure, systems and applications in response to their respective ICT needs. This included the creation of telecommunications infrastructure networks such as Penang-Net, Sarawak-Net and Johor Information Infrastructure. Several local government authorities also embarked on their own ICT projects such as the Ipoh Virtual City project by the Ipoh City Hall in Perak and the SJ2005 project by the Subang Jaya Municipal Council in Selangor.

23.21 In 1999, all agencies were directed to appoint Chief Information Officers (CIO) from the senior management level in order to ensure a more integrated and sustained approach to the implementation of the ICT agenda. In this regard, the First Public Sector CIO Conference was held in 2000 as part of efforts to equip CIOs in all agencies to perform their roles effectively.

23.22 Public sector agencies also adopted advanced technologies and applications in enhancing their performance. These included applications such as document imaging, electronic data interchange (EDI), geographic information system (GIS) and magnetic stripe/smart card. Agencies such as the National Registration Department, Road Transport Department, Registrar of Companies and Registrar of Businesses, among others, successfully integrated ICT systems and applications to upgrade the quality and extend the range of services.

23.23 The public sector adopted the *smart partnership* approach in the development of ICT applications to enable agencies to share and leverage on their development experience while avoiding duplication and wastage of resources. This approach benefited agencies in terms of cost savings in systems development, enhanced systems performance, sharing of data and resources, better coordination in ICT development and narrowed the gap of ICT usage and applications. A Smart Partnership Application Repository (RAPP) was established in 1999 whereby agencies could electronically access and obtain information about existing applications as well as store information about new applications. Several state governments were able to save time and costs in developing their ICT systems by utilizing information in the RAPP.

23.24 The public sector undertook comprehensive measures since 1997 in readiness for the Y2K *problem*. A total of RM396 million was allocated to federal and state agencies in preparing for the rollover to year 2000. The effective Y2K countermeasures and contingency plans enabled agencies to successfully extend their operations into the year 2000 with no major glitches. As a result of these efforts, the public sector was able to ensure that there were no disruptions in service delivery.

23.25 During the Plan period, the Civil Service Link (CSL), which was established in 1994, was upgraded and developed as an Internet information gateway known as the *Malaysian Civil Service Link* (MCSL). With the use of the Internet as its platform, information in the MCSL was freely accessible. In this regard, agencies were required to develop and link their web sites to the MCSL. Many major on-line databases were upgraded and hyper-linked to the MCSL for more comprehensive information access and to facilitate Internet-enabled service. In 1999, information access via the MCSL was further upgraded through its registration with several major Internet search engines.

23.26 To ensure smooth and effective development of agency web sites, guidelines on the design and implementation of web sites were issued. In addition, a competition was held to promote good web site design and practices which led to an increase in the number of public sector web sites.

23.27 Several *cyberlaws* were enacted during the Plan period, which had an impact on the activities of the public sector as well as transactions of citizens and the private sector with the Government. These included the Digital Signature Act 1997, the Computer Crime Act 1997, the Telemedicine Act 1997 and the Communications and Multimedia Act 1998.

Accountability and Management Integrity

23.28 The public sector continued to focus on efforts to upgrade accountability and management integrity through a clean, efficient and trustworthy administrative machinery. The functions and membership of the *Special Cabinet Committee on the Integrity of Government Management* (JKKMKPK), which was established in 1988 to enhance management integrity and promote high standards of ethical behaviour in the public sector, were expanded and streamlined during the Plan period. This was to consolidate its effectiveness as part of a planned and integrated approach to good governance. In this regard, the management integrity mechanism was also expanded to all levels of administration to channel and implement decisions of the JKKMKPK. Meanwhile, the committees at the agency level were entrusted with the responsibility to monitor and obtain feedback on various issues related to management integrity. In addition, three management integrity consultative task forces were established to focus on specific areas, namely policy, laws, regulations, systems and procedures; values and ethics; as well as internal controls, punitive and remedial action.

23.29 Various measures were adopted arising from the deliberations of the JKMMKPK. These included streamlining the reporting format for corrective action by agencies cited in the Auditor-General's report; implementing a transparent and computerized registration system for low-cost housing; and expanding the use of payment through electronic fund transfer. At the same time, efforts were also undertaken to inculcate positive values among public sector personnel to support and enhance the effectiveness of integrity management programmes.

23.30 The public sector continued to focus on efforts to strengthen efficient planning, utilization and control of public financial resources and assets. Strategies to enhance *financial management* centred on three core areas, namely general finance, budget and procurement. In upgrading the Government procurement system, the focus was on the implementation of the EP pilot project under EG. This project was aimed at ensuring best value for goods and services procured while enhancing the efficiency of all transactions related to the performance process. At the same time, existing programmes such as the Modified Budgeting System (MBS) and the Micro-Accounting System were reviewed and strengthened. The Standard Accounting System for Government Agencies (SAGA) was also reviewed to allow agencies to maintain and up-date their accounts, thus facilitating the preparation of timely pre-audit financial reports. In providing agencies with more options for computerized accounting, an alternative accounting package known as Century Financials was introduced in 1998.

23.31 Measures were also undertaken to streamline and enhance the management of assets and stores in line with technological advances. Aspects such as store infrastructure, systems and work procedures, training in store management as well as asset maintenance were emphasized. In 1999, a new approach to integrate the system of asset and store management was introduced together with the concept of regionalized and operational stores. In recognition of the importance of financial management, the public sector introduced incentive payments for specific categories of officers responsible for financial, asset and store management duties.

23.32 The *public complaints management system* continued to be strengthened to upgrade the quality of services and level of responsiveness in the public sector. The Permanent Committee on Public Complaints reviewed problem areas arising from public complaints and made recommendations to rectify weaknesses and overcome related administrative obstacles. A major strategy during the Plan period was to publicize to the public the role, functions and services provided by the Public Complaints Bureau. This was undertaken through collaborative

efforts with the mass media, particularly with *Radio Televisyen Malaysia* (RTM). In addition, fact sheets and information about the Bureau were distributed to district offices, local authorities, post offices and offices of the *Penghulu*.

23.33 The public complaints mobile counter programme continued to receive good response from the public and provided an effective and fast channel to lodge public complaints. In line with the expanded use of ICT in the public sector, the Bureau introduced the computerized public complaints management system in 2000. This computerized network system allowed the public to lodge complaints via the Bureau's web site as well as monitor the status of their complaints. The Bureau also made efforts to upgrade its performance and capacity by keeping track of best practices in the redressal of complaints by fostering ties with ombudsman in other countries and participating in ombudsman conferences at the Asia-Pacific level.

Strengthening Organizational Structure and Human Resource Management

23.34 The public sector continued its efforts to streamline organizational structures in order to rightsize the public service as well as facilitate efficient utilization of human resources. In this regard, core businesses, functions and activities of relevant agencies were reviewed as part of the restructuring exercise. In addition, programmes such as privatization, office automation, ICT expansion, business process re-engineering, multi-tasking and multi-skilling were implemented.

23.35 The creation of new posts was also closely controlled. However, to meet the increased demand for services in areas such as education, health and ICT, the number of posts in the public sector, excluding the armed forces and the police, increased at an average annual rate of 1.9 per cent from 832,050 in 1995 to 911,600 in 2000. This represented an increase of 9.6 per cent or 79,550 posts, as shown in *Table 23-1*.

23.36 The public sector implemented various *training* programmes to enhance the productivity, efficiency and motivation of public sector employees. The National Institute of Public Administration (INTAN) conducted training programmes in areas such as quality, financial and economic management; executive development; and communications and language programmes. ICT awareness programmes were also carried out in preparing employees for the shift to the electronic work environment. In addition, authorized training centres were also appointed to undertake these ICT training programmes. During the Plan period, INTAN introduced

TABLE 23-1

**NUMBER OF POSTS IN PUBLIC SECTOR AGENCIES
BY TYPE OF SERVICE, 1995 AND 2000**

<i>Type of Service</i>	<i>1995</i>	<i>2000</i>
Federal Service ¹	552,848	649,390
Federal Statutory Bodies ²	99,060	89,315
State Service	97,905	107,700
State Statutory Bodies	23,195	22,630
Local Authorities	59,042	42,565
Total	832,050	911,600

*Notes:*¹ Excludes the Armed Forces and the Police² Excludes five agencies with separate remuneration schemes

several certificate and diploma level courses and collaborated with local universities such as *Universiti Teknologi Malaysia* and *Universiti Utara Malaysia* to offer masters level courses in IT management science and management science, respectively. INTAN organized a total of 5,040 courses involving 182,870 public sector personnel during the Plan period, as shown in *Table 23-2*. In expanding training opportunities, INTAN established a new training campus in Sarawak in 1999.

23.37 During the Plan period, the Government sponsored a total of 9,170 officers for local and overseas training courses. Of this, 6,850 officers pursued certificate, diploma, degree, masters and doctorate level courses while the remaining 2,320 underwent training courses under the Look East policy. In addition, other public sector training institutes such as the Judicial and Legal Training Institute (ILKAP), Institute of Diplomacy and Foreign Relations (IDFR) and the Aminuddin Baki Institute also conducted in-service training programmes for personnel in their respective fields.

TABLE 23-2
NUMBER OF TRAINING COURSES CONDUCTED BY INTAN,
1996-2000

<i>Year</i>	<i>Number of Courses</i>	<i>Number of Participants</i>
1996	1,008	41,725
1997	1,022	35,975
1998	885	30,213
1999	1,026	37,472
2000	1,102	37,489
Total	5,043	182,874

23.38 The Public Service Department implemented the Human Resource Management Information System (HRMIS) pilot project to facilitate all aspects of planning, management and development of human resource. At the same time, a study was initiated to ascertain the human resource requirements for the implementation of EG in the public sector.

23.39 Steps were taken to ensure harmonious industrial relations in the public sector. This was achieved through consultative channels such as the National Joint Council and the Departmental Joint Council where various concerns raised by employees were dealt with amicably.

23.40 Efforts were also taken to ensure a high level of *discipline* and proper conduct within the public sector. In this regard, the relevant disciplinary regulations such as the Public Officers (Discipline and Conduct) Regulations 1993 were streamlined to meet current requirements. The Statutory Authorities (Discipline and Surcharge) Act 2000 that provides uniform disciplinary provisions for statutory authorities was enacted by Parliament.

23.41 During the Plan period, various training programmes were carried out to enhance awareness and build expertise in the area of discipline management. At the same time, new approaches including counseling services were introduced to manage personnel, stress, change, conflict and interpersonal relationships.

Implementation of the Malaysia Incorporated Policy

23.42 Public-private sector collaboration continued to be a significant factor for economic growth and national development. Adequate mechanisms were provided for collaboration through consultative panels and dialogue sessions at all levels of administration.

23.43 As the highest official level consultative committee, the Malaysia Incorporated Officials Committee continued to be an effective forum for public-private sector collaboration. Consultative committees and dialogue sessions at the federal, state, district and local authority levels helped to facilitate the private sector in dealing with public sector agencies. In addition to obtaining useful feedback in a timely manner, these sessions enabled the Government to explain and correct misconceptions about policies, procedures, regulations or specific action plans. This two-way communication process was mutually beneficial and contributed directly to the national development agenda.

23.44 Public-private sector collaboration was further enhanced through fora such as the NEAC and the Second National Economic Consultative Council (NECC II). Public and private sector cooperation through the NEAC enabled the formulation of the NERP as an effective strategic plan to overcome the negative effects of the economic crisis. The NECC II, which was represented by members from various political parties, private sector and NGOs as well as prominent individuals, was an important forum to deliberate on development issues and make recommendations to the Government. Throughout its one-year tenure, the NECC II was able to discuss various issues in a free and cordial atmosphere reflecting the true spirit of multi-racial cooperation existing in the country. The Government also stood by its commitment in upholding the principle of people's participation, by not intervening in the decision-making process of the NECC II. Through its consultative and consensus-building process, the NECC II proposed various measures in terms of policy and programmes to further enhance the formulation of long-term policies of the Government. The Government took into account their recommendations in charting the nation's development policy for the next ten years, particularly through the National Vision Policy.

23.45 Both the public and private sectors continued to cooperate in identifying and recognizing excellence in performance. In this regard, the Prime Minister's Quality Award was given in recognition of excellence and quality management by private sector organizations. Similarly, the private sector recognized excellent

performance by public sector agencies through the *Anugerah Cekap*. The Public-Private Sector Joint Research Award programme continued to encourage public-private sector collaboration in R&D with a focus on research with commercial potential.

III. PROSPECTS, 2001-2005

23.46 The public sector will continue to strengthen and upgrade its administrative machinery during the Eighth Plan period to provide quality services that fulfill the expectations of clients. Consolidation and realignment of the administrative improvement programmes will be undertaken to meet changes in the administrative environment as well as support the ICT-based initiatives being implemented in the public sector. Efforts to improve accountability, management integrity and human resource management will be actively pursued while public-private sector collaboration will be further strengthened.

Policy Thrusts

23.47 The focus of the administrative improvement programmes will be on service excellence in meeting the increasing expectations and demands of clients in a knowledge-based economy. In this regard, the policy thrusts will be as follows:

- ☐ *reinforcing quality management programmes under Total Quality Management (TQM);*
- ☐ *ensuring the successful implementation of Electronic Government (EG);*
- ☐ *developing the ICT infrastructure for efficient flow of electronic communications and information and high quality network services;*
- ☐ *ensuring strategic ICT planning through the preparation of comprehensive IT strategic plans by all public sector agencies and optimizing the use of ICT through sharing of resources across agencies;*
- ☐ *adopting a more responsive work culture;*
- ☐ *upgrading information dissemination through the Malaysian Civil Service Link (MCSL) and development of agency web sites;*
- ☐ *improving the various aspects of management integrity in the public sector;*

- ❑ *strengthening organizational development and human resource management; and*
- ❑ *forging strong collaborative links with the private sector and non-governmental organizations.*

Reinforcing Quality Management

23.48 The quality management programme with its in-built focus on the requirements of the clients will continue to be a major component of administrative improvement programmes in ensuring a service-oriented public sector. The overall elements of TQM will provide the basis for the implementation of quality initiatives and for recognition under the Prime Minister's Quality Award programme.

23.49 The process-based task-achieving approach under the QCC programme will be utilized more effectively to enable agencies to improve their performance. Similarly, innovations that facilitate improvements to systems and work procedures will continue to be encouraged. Efforts will be undertaken to disseminate information regarding these innovations so that agencies can learn, replicate or make improvements before adopting them in their respective organizations.

23.50 Based on the findings of the impact study on the implementation of the Client's Charter, steps will be taken to monitor closely the implementation of agency client's charters, especially agencies that deal regularly with the public and the private sector. New strategies will be developed to ensure that agencies formulate their charters to meet the requirements of their clients and that they review their pledges from time to time according to current needs and in line with new technologies.

23.51 The emphasis on quality counter services will remain an important focus of service excellence in public sector agencies. Office automation, ICT systems, staff training, effective supervision and customer feedback will be utilized in an integrated manner to further upgrade the quality of counter services.

23.52 The implementation of the MS ISO 9000 quality management system will be intensified during the Plan period. Agencies will be encouraged to expand its scope of implementation to include more core processes. The MS ISO 9000 quality elements will be used to address the requirements of existing administrative improvement programmes such as telephone services, management of meetings, manual of work procedures and desk files.

23.53 The benchmarking programme will be implemented more comprehensively so that agencies can benefit from the adoption of best practices, thus enhancing service delivery as well as improving internal operations. Agencies will be encouraged to apply the structured methodology provided in the benchmarking implementation guidelines in adopting best practices by collaborating with suitable reference partners.

23.54 More pro-active inspectorate visits to agencies that have been identified according to the new criteria for inspection will be carried out. These inspections will provide agencies with specific recommendations to improve and strengthen their respective customer-focused work processes and management systems. This will also enhance the responsiveness of the public sector to grievances and problem areas that are raised by the public and the private sector as well as other interest groups.

Electronic Government

23.55 The implementation of the EG programme will be pursued actively during the Plan period to move towards a knowledge-based work culture. New technologies will be introduced in areas such as workflow management, security network, document management and systems management. In order to ensure that these will be successfully implemented, more effective measures in terms of change management, training and transfer of technology will be introduced.

23.56 The roll-out of the EG pilot projects to all agencies at the Federal, State and local government levels is expected to begin in 2001. In order to ensure a successful roll-out, efforts will be taken to address issues related to integration requirements across projects, legacy systems, improving and consolidating network communications across agencies as well as putting in place the necessary ICT security framework and infrastructure.

23.57 The use of ICT resources will also be optimized through the consolidation of infrastructure and services that can be shared across agencies through the Shared Services Outfit (SSO) located at Putrajaya. In this regard, action will be undertaken to establish support facilities and services such as common data centres, disaster recovery centres, help desk and network/enterprise command centres. The SSO will also become the focal point in standardizing aspects such as hardware and software platforms, common applications and support procedures.

23.58 The public sector will expand the scope of the EG pilot projects, particularly those involving the Government to citizen and private sector interface. The scope of the E-Services pilot in particular will be expanded to include a wider array of services that will transform it into a Government portal for providing more comprehensive and high quality services to clients. This development will in turn impact positively upon the growth and expansion of e-commerce as a core component of the knowledge-based economy.

23.59 The public sector will also be planning for the second wave of the implementation of EG. In this regard, the MSC Second Wave Task Force will focus on potential EG projects that promote the development of e-commerce and transactions between citizens and Government. In carrying out these projects, emphasis will be given to smart partnerships between the Federal and State Governments as well as with the private sector.

23.60 The PMS pilot project will be fully implemented in 2001 to provide a systematic and effective approach to monitoring development projects. PMS will be utilized to ensure that current and detailed information of every project will be maintained. At the same time, the public sector will be able to carry out strategic planning and expedite decision making as a result of the capability of PMS to carry out simulation, forecasting and socio-economic impact analysis. Similarly, efforts will be undertaken to ensure that the E-Procurement pilot project under EG will be carried out smoothly in order that the roll-out to all Government agencies will be successfully implemented.

Developing ICT Infrastructure

23.61 During the Plan period, ICT infrastructure will be further developed to ensure more efficient flow of electronic communications and information as well as high quality network services. The GITN ICT technology infrastructure will be extended to cover more subscriber agencies to enable them to leverage on the efficient electronic flow of communications and information. At the same time, with the implementation of EG*Net, agencies will enjoy network services through the installation of high-speed leased lines with a bandwidth of 2 megabits per second (Mbps), Internet and inter-network gateway access. EG*Net is projected to connect about 4,000 Government agency sites with a guaranteed service level of 99.3 per cent network availability.

23.62 The Putrajaya Campus Network, which offers extensive support for voice, data and video services is designed and developed to provide an extensive information network to all Government agencies in the Government precinct within Putrajaya. The network will be expanded to cover the entire Federal Government Administrative Centre. In addition, the introduction of the Synchronous Digital Hierarchy (SDH), a new broadband campus telecommunications network architecture will enable higher levels of service availability and enhance network performance.

23.63 The implementation of the Government ICT Security Policy will enable agencies to safeguard electronic-based Government information and assets to ensure the secrecy, integrity, validity as well as the availability of information for approved users. In this regard, the Malaysian Government ICT Security (MyMIS) Handbook will be issued to provide comprehensive guidelines to agencies on the necessary ICT security measures in respect of the relevant ICT components. Agencies will also be required to appoint an Information Security Officer to co-ordinate ICT security. Training and awareness programmes for these officers will be conducted to ensure that they are able to carry out their responsibilities effectively.

23.64 The public sector will also undertake the network security auditing (NSA) programme to test the robustness of ICT infrastructure against breaches of security. Recognizing that ICT security systems can be penetrated, the public sector will also establish an Incident Response Handling (IRH) Unit, which will provide assistance in the event of ICT security incidents. In this regard, a mechanism for reporting security incidents in the public sector will be established and guidelines on the business resumption plan will be prepared. These efforts will ensure the availability and reliability of services and outputs of the public sector.

IT Strategic Planning and Resource Sharing

23.65 All public sector agencies will prepare comprehensive IT Strategic Plans (ISP) so that the public sector ICT agenda and the implementation of EG will be undertaken in a coordinated and effective manner. The adoption of ISPs will ensure that ICT systems and applications will meet the requirements of integration and connectivity in a knowledge-based public sector.

23.66 Efforts will be undertaken to ensure that strategic collaboration as well as sharing of experience and expertise in developing ICT systems and applications will be further enhanced. The scope of partnerships will be expanded to include collaboration between agencies as well as with the private sector. Agencies will be encouraged to better utilize the Smart Partnership Application Repository (RAPP) system to store and disseminate information on systems and applications that have been developed for the benefit of all public sector agencies.

Adopting a More Responsive Work Culture

23.67 As part of the effort to accelerate the implementation of projects and improve the service delivery of the public sector, a more responsive work culture will be inculcated. This will include hands-on management, revision of rules, regulations, work processes and procedures, as well as increasing the level of professionalism. With these changes, the Government will be able to simplify and expedite the approval and payment processes and be more effective in providing a conducive environment for the private sector to operate. The extensive use of ICT will further facilitate this effort.

Malaysian Civil Service Link and Information Dissemination

23.68 Measures will be undertaken to upgrade the MCSL web site by introducing new features to attract more visitors to the web site. More links will be established to facilitate access to information and on-line services of agencies. At the same time, the development of Government web sites will be closely monitored to ensure that they provide quality information and interactive capability. In this regard, agencies that lack the capacity to develop their own web sites will be provided with consultancy support. Steps will be taken to upgrade public sector web site capabilities to match the needs and expectations of clients. Advanced training, R&D and resource sharing of related web site development and services will be provided through outsourcing.

Continuous Improvements in Management Integrity

23.69 Current efforts to improve management integrity will continue to be implemented through the Special Cabinet Committee on the Integrity of Government Management (JKMKPK). In addition, the management integrity mechanism

will be effectively mobilized to gather feedback and make recommendations in order to strengthen management integrity. In this regard, emphasis will be given to the development and inculcation of positive values such as honesty, integrity, trustworthiness and good work ethics.

23.70 The public sector will continue to ensure that the computerized public complaints management system of managing public complaints is effective and responsive to the complainant. In this respect, the electronic complaints management system will be further strengthened. The public complaints management process will be extended to include direct linkages with selected agencies so that the monitoring and resolution of complaints relating to the relevant agency will be expedited.

23.71 Financial management will continue to be emphasized during the Plan period. Measures will be undertaken to consolidate financial management programmes. The effectiveness of the MBS will continue to be reviewed while programme evaluation under MBS will be strengthened. In addition, guidelines regarding the evaluation of outputs and impact will be issued while performance audits will be undertaken. In this regard, training of trainers for programme evaluation will be conducted. The implementation of the Micro-Accounting System will be further enhanced by increasing the number of Responsibility Centres from 860 to more than 2,000 centres. The implementation of the SAGA and the Century Financials package will be closely monitored and reviewed to further improve financial reporting by agencies. The public sector will also study the reasons for the shortfall in development expenditure and take steps to overcome the problem.

23.72 In an effort to improve the effectiveness of the Government's monitoring system on projects and activities of government agencies, the Central Information Collection Unit (CICU), which ceased operations on 25 September 1999 will be reactivated, with the Ministry of Finance as the secretariat. CICU will be responsible for the collection of information on all Government companies, including the State Economic Development Corporations (SEDCs).

23.73 Efforts to integrate the asset and store management systems adopted by various agencies will be continued during the Plan period. In this regard, the regionalization and operational store approach will be reviewed based on the evaluation of its implementation at five pilot premises.

Organizational Development and Human Resource Management

23.74 Comprehensive measures to strengthen organizational structures in the public sector will continue to be implemented during the Plan period. Organizational restructuring will also be undertaken in response to new trends and developments in the public and private sectors. These will include the EG initiative, the demands of a knowledge-based economy, requirements of the knowledge-based work culture and flexible modes of work including teleworking. These developments will impact the structure, functions, numbers and type of personnel as well as the competencies that will be required.

23.75 The Human Resource Management Information System (HRMIS) will be fully implemented during the Plan period and its effectiveness strengthened through the introduction of the competency-based human resource management approach. This will form the basis for effective human resource management relating to placement, performance appraisal, promotion and training. This approach will also be used to develop a critical pool of knowledge workers in the public sector.

23.76 The public sector will continue to seek opportunities for training and study for officers and students overseas, particularly in areas that are critical to the needs of the public sector. Training programmes conducted by INTAN will focus on ICT-based courses in preparing public sector personnel for the ICT era and knowledge-based economy. INTAN is expected to train 200,000 public sector personnel during the Plan period. Training programmes will also be expanded at its Sarawak campus while the Sabah campus will begin operations in 2001. INTAN will also continue to provide training in areas such as financial, urban and environmental management, quality management as well as negotiations and writing skills. At the same time, emphasis will be given to the development of positive values, expertise and awareness through relevant basic courses.

23.77 Matters relating to discipline and conduct of public sector employees will be enhanced through the effective enforcement of disciplinary regulations. Efforts to utilize psychological elements in human resource management will be further strengthened. In addition, counselling services will be provided to enhance performance and motivate public sector personnel.

23.78 The public sector will continue to work towards building harmonious industrial relations, thus improving productivity. Educational sessions and scheduled

meetings between management and staff will be utilized to resolve problems and overcome dissatisfaction.

Collaboration with the Private Sector and Non-Governmental Organizations

23.79 Public-private sector collaboration under the Malaysia Incorporated Policy will be further upgraded to enhance the nation's competitiveness. In meeting the challenges of globalization and the knowledge-based economy, the public sector will continue to consult with the private sector and provide strong support for their activities. The emphasis will be on efficient, fast and high quality services through the implementation of quality enhancement programmes as well as business-friendly applications under the EG project. The joint research programme between the public and private sectors will be further enhanced to increase the role of the private sector in R&D activities and commercialization of technology.

23.80 An impact analysis of the effectiveness of administrative measures to support Malaysia Incorporated will be undertaken. In addition, the Government will continue to gather feedback from the private sector through dialogue sessions and consultative panels at all levels of the administrative machinery. This feedback will be used to streamline systems and work procedures, provide and disseminate Government information as well as review relevant laws and regulations to further facilitate the activities of the private sector. In addition, informal interaction through participation in sports and recreational activities will be utilized to enhance public-private sector collaboration.

23.81 Public sector agencies will continue to enhance collaboration with relevant NGOs that have the necessary expertise and experience to help implement programmes and activities in specific areas. In this regard, financial assistance, training as well as the use of facilities and amenities will be extended to these organizations.

IV. CONCLUSION

23.82 The integrated administrative improvements implemented during the Seventh Plan period continued to ensure that efforts towards the quality and excellence of the public sector was strengthened. For the Eighth Plan period, the public sector will continue to work towards improving its internal operations and enhancing the delivery of services by reviewing and strengthening its administrative improvement programmes. The emphasis will be on responsive and customer-

focused services and outputs. In this regard, quality management initiatives will continue to be the foundation in meeting the core objectives of efficiency and effectiveness while the benefits of ICT will be fully utilized. Improvements and innovative approaches in human resource management as well as organizational development will be undertaken to fulfil the requirements of the knowledge-based economy while smart partnerships with the private sector and NGOs will continue to be pursued.

Glossary of Acronyms



GLOSSARY OF ACRONYMS

3F	= Fund for Food
ADB	= Asian Development Bank
AFTA	= ASEAN Free Trade Area
AIA	= ASEAN Investment Area
AIJV	= ASEAN Industrial Joint Venture
AIM	= <i>Amanah Ikhtiar Malaysia</i>
APEC	= Asia Pacific Economic Cooperation
API	= Air Pollution Index
APN	= <i>Akademi Percukaian Negara</i> (National Tax Academy)
ASB	= Amanah Saham Bumiputera
ASEAN	= Association of South-East Asian Nations
ASEM	= Asia-Europe Meeting
BCG	= Bacille-Calmet-Guerin
BCIC	= Bumiputera Commercial and Industrial Community
BIDS	= Bond Information and Dissemination System
BIMP-EAGA	= Brunei Darussalam-Indonesia-Malaysia-the Philippines East ASEAN Growth Area
BITMB	= <i>Bank Industri dan Teknologi Malaysia Berhad</i>
BMI	= British-Malaysian Institute
BNM	= <i>Bank Negara Malaysia</i>
BOO	= Build-Own-Operate
BOT	= Build-Operate-Transfer
BPAs	= Bilateral Payment Arrangements
bpd	= barrels per day
BPIMB	= <i>Bank Pembangunan dan Infrastruktur Malaysia Berhad</i> (Development and Infrastructure Bank Malaysia Bhd)
BPM	= <i>Bank Pertanian Malaysia</i> (Agriculture Bank of Malaysia)

BSN	= <i>Bank Simpanan Nasional</i> (National Savings Bank)
CAAM	= Civil Aviation Authority of Malaysia
cct-km	= circuit-kilometres
CDRC	= Corporate Debt Restructuring Committee
CEPT	= Common Effective Preferential Tariff
CFTC	= Commonwealth Fund for Technical Cooperation
CIAST	= Centre for Instructor and Advanced Skills Training
CLOB	= Central Limit Order Book International Market
CMAG	= Commonwealth Ministerial Action Group
CPI	= Consumer Price Index
CRDF	= Commercialization of Research and Development Fund
CTRM	= Composite Technology Research Malaysia
D-8	= The Group of Developing-8
DAGS	= Demonstrator Applications Grant Scheme
DANCED	= Danish Cooperation for Environment and Development
DARA	= Development Authority of Pahang Tenggara
DOA	= Department of Agriculture
DOE	= Department of Environment
DOF	= Department of Fisheries
DOSH	= Department of Occupational Safety and Health
DPPS	= <i>Doktrin Perancangan dan Pembangunan Sejangat</i>
DTAs	= Double Taxation Agreements
DVS	= Department of Veterinary Services
dwt	= deadweight tonnes
EALAF	= East Asia-Latin America Forum
E-Commerce	= Electronic Commerce
EDI	= electronic data interchange
EE	= energy efficiency

GITN	= Government Integrated Telecommunications Network
GJ	= gigajoule
GMI	= German - Malaysian Institute
GNP	= Gross National Product
GTZ	= <i>German Deutsche Gesellschaft fur Technishee Zusammenarbeit</i>
GWh	= gigawatthour
HCI	= Healthy Cities Initiatives
HIS	= Health Information System
HIV/AIDS	= Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HRDC	= Human Resources Development Council
HRDF	= Human Resources Development Fund
HRMIS	= Human Resources Management Information System
IADPs	= Integrated Agricultural Development Projects
IBG	= Inter Bank Giro
ICA	= Industrial Coordination Act
ICFM	= Islamic Conference of Foreign Ministers
ICOR	= Incremental Capital Output Ratio
ICT	= Information and Communications Technology
IDB	= Islamic Development Bank
IDFR	= Institute of Diplomacy and Foreign Relations
IGAs	= Investment Guarantee Agreements
IMP2	= Second Industrial Master Plan
IMR	= Institute of Medical Research
IMS-GT	= Indonesia-Malaysia-Singapore Growth Triangle
IMT-GT	= Indonesia-Malaysia-Thailand Growth Triangle
INFRA	= Institute for Rural Advancement
INSPEN	= <i>Institut Penilaian Negara</i> (National Institute of Valuation)

INTAN	= <i>Institut Tabiran Awam Negara</i> (National Institute of Public Administration)
IOFC	= International Offshore Financial Centre
IPCs	= Infrastructure Project Companies
IPO	= Initial Public Offer
IPP	= Independent Power Producer
IPTAR	= <i>Institut Penyiaran Tun Abdul Razak</i> (Tun Abdul Razak Broadcasting Institute)
IRPA	= Intensification of Research in Priority Areas
ISO	= International Organization for Standardization
IT	= Information Technology
ITA	= Investment Tax Allowance
ITAF	= Industrial Technical Adjustment Fund
JBIC	= Japan Bank for International Cooperation
JICA	= Japan International Cooperation Agency
JKKK	= <i>Jawatankuasa Keselamatan dan Kemajuan Kampung</i> (Village Development and Security Committee)
JMTI	= Japan-Malaysia Technical Institute
KBSM	= <i>Kurikulum Baru Sekolah Menengah</i>
K-economy	= Knowledge-based economy
KEM	= Knowledge Economy Model
KIX	= Knowledge Imperative Index
KLIA	= KL International Airport
KLSE	= Kuala Lumpur Stock Exchange
KTMB	= <i>Keretapi Tanah Melayu Berhad</i>
kV	= kilovolt
kW	= kilowatt
kWh	= kilowatt hour
LABOR	= Labuan Interbank Offer Rate
LAN	= <i>Lembaga Akreditasi Negara</i> (National Accreditation Board)

LCHRF	= Low-Cost Housing Revolving Fund
LFPR	= Labour Force Participation Rate
LFS	= Labour Force Survey
LFX	= Labuan International Financial Exchange
LID	= Langkawi International Dialogue
LKWJ	= <i>Lembaga Kemajuan Wilayah Jengka</i> (Jengka Regional Development Authority)
LLS	= <i>Lembaga Letrik Sabah</i> (Sabah Electricity Board)
LNG	= Liquefied Natural Gas
LOFSA	= Labuan Offshore Financial Services Authority
LPG	= Liquefied Petroleum Gas
LPP	= <i>Lembaga Pertubuhan Peladang</i> (Farmers Organization Authority)
LRT	= Light Rail Transit
LUAS	= <i>Lembaga Urus Air Selangor</i>
MAB	= Malaysia Airports Berhad
MACRES	= Malaysian Centre for Remote Sensing
MAHSURI	= Malaysian Human Settlement and Urbanization Research Institute
MAMPU	= Malaysian Administrative Modernization and Management Planning Unit
MARA	= <i>Majlis Amanah Rakyat</i> (Council of Trust for the Indigenous People)
MARC	= Malaysian Rating Corporation Berhad
MARDI	= Malaysian Agricultural Research and Development Institute
MAS	= Malaysia Airlines
MASSA	= Malaysian South-South Association
MASSCORP	= Malaysian South-South Corporation Berhad
MATRADE	= Malaysia External Trade Development Corporation
MBO	= Management-Buy-Out

MTDC	= Malaysian Technology Development Corporation
MW	= megawatt
NACIWID	= National Advisory Council on the Integration of Women in Development
NAP	= National Agricultural Policy
NDP	= National Development Policy
NEAC	= National Economic Action Council
NEF	= New Entrepreneurs Fund
NeqO	= Near Equatorial Low Earth Orbit
NERP	= National Economic Recovery Plan
NFPEs	= Non-Financial Public Enterprises
NGOs	= Non-Governmental Organizations
NGV	= Natural Gas for Vehicles
NHEF	= National Higher Education Fund
NHHES	= National Household Health Expenditure Survey
NIDC	= Negotiable Islamic Debt Certificate
NIH	= National Institutes of Health
NITA	= National Information Technology Agenda
NITC	= National Information Technology Council
NITP	= National Instructor Training Programme
NOSS	= National Occupational Skills Standards
NPC	= National Productivity Corporation
NPCS	= National Payment and Clearing System
NPL	= non-performing loans
NRW	= non-revenue water
NTHRDC	= National Tourism Human Resource Development Council
NTMP	= National Technology Mapping Programme
NUTF	= National Unit Trust Funds
NVP	= National Vision Policy

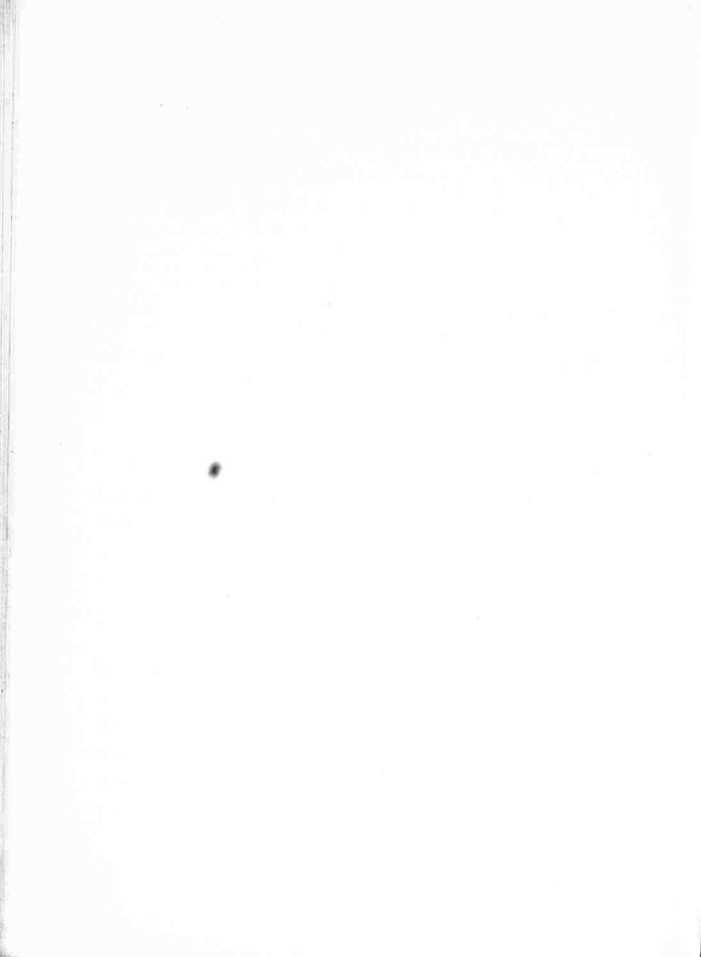
NVTC	= National Vocational Training Council
NWRC	= National Water Resources Council
ODA	= Official Development Assistance
OECD	= Organization of Economic Cooperation and Development
OIC	= Organization of Islamic Countries
OPEC	= Organization of Petroleum Exporting Countries
OPP3	= Third Outline Perspective Plan
PAKSI	= <i>Pakej Kewangan Untuk PKS</i> (Financial Package for SMIs)
PDS	= Private Debt Securities
PEMADAM	= <i>Persatuan Pencegahan Dadah Malaysia</i> (National Association for the Prevention of Dadah, Malaysia)
PETRONAS	= <i>Petroleum Nasional Berhad</i> (National Oil Corporation)
PGU	= Peninsular Gas Utilization
PIKOM	= <i>Persatuan Industri Komputer Malaysia</i> (Computer Industry Association of Malaysia)
PINTAS	= <i>Pelan Tindakan Sosial</i>
PJ	= petajoule
PKKM	= <i>Perbadanan Kemajuan Kraftangan Malaysia</i>
PLCHP	= Public Low-Cost Housing Programme
PLT	= <i>Skim Pelan Latihan Tahunan</i> (Annual Training Plan Scheme)
PLUS	= <i>Projek Lebuhraya Utara Selatan</i> (North-South Highway)
PLWS	= Productivity-Linked Wage System
PMR	= Penilaian Menengah Rendah
PNS	= <i>Perbadanan Nasional Berhad</i>
POCPA	= Palm Oil Credit Payment Arrangement
PORIM	= Palm Oil Research Institute of Malaysia
PORLA	= Palm Oil Registration and Licensing Authority
ppd	= passengers per day

PPI	=	Producer Price Index
PROSPER	=	<i>Projek Usahawan Bumiputera Dalam Bidang Peruncitan</i>
PROSTAR	=	<i>Program Sihat Tanpa Aids Untuk Remaja</i>
PROTON	=	<i>Perusahaan Otomobil Nasional Berhad</i>
PPRT	=	<i>Program Pembangunan Rakyat Termiskin</i> (Development Programme for the Hardcore Poor)
PUNB	=	<i>Perbadanan Usahawan Nasional Berhad</i>
QCC	=	Quality Control Circle
R&D	=	Research and Development
RAM	=	Rating Agency of Malaysia
RAPP	=	<i>Repositori Aplikasi Perkongsian Pintar</i> (Smart Partnership Application Repository)
RDAs	=	Regional Development Authorities
RE	=	renewable energy
REHDA	=	Real Estate and Housing Developers Association of Malaysia
RISDA	=	Rubber Industry Smallholder Development Authority
RRIM	=	Rubber Research Institute of Malaysia
RTM	=	<i>Radio Televisyen Malaysia</i>
S&T	=	Science and Technology
SADCs	=	State Agriculture Development Corporations
SAGA	=	Standard Accounting System for Government Agencies
SALCRA	=	Sarawak Land Consolidation and Rehabilitation Authority
SC	=	Securities Commission
SCADA	=	Supervisory Control And Data Acquisition
SCANS	=	Securities Clearing Automated Network Services
SEDCs	=	State Economic Development Corporations
SEFF	=	Small Entrepreneur Financing Fund
SESB	=	Sabah Electricity Sdn. Bhd.
SESCo	=	Sarawak Electricity Supply Corporation
SIA 1983	=	Securities Industry Act 1983

SIRIM	= Standards and Industrial Research Institute of Malaysia
Sistem PERDANA	= <i>Projek Sistem Perpustakaan Digital Nasional</i>
SITTDEC	= South Investment, Trade and Technology Data Exchange Centre
SKM	= <i>Sijil Kemahiran Malaysia</i>
SLMCH	= Special Scheme for Low- and Medium-Cost Houses
SME	= Small and Medium Scale Enterprise
SMEt	= State Mineral Enactment
SMI	= Small- and Medium-Scale Industries
SMIDEC	= Small and Medium Industries Development Corporation
SMIDP	= Small and Medium Industry Development Plan
SOC SO	= Social Security Organization
SPKR	= <i>Skim Pembangunan Kesejahteraan Rakyat</i>
SPNB	= <i>Syarikat Perumahan Negara Malaysia Berhad</i>
SRR	= Statutory Reserve Requirement
STIC	= Strategic Thrusts Implementation Committee
STS	= Secondary Technical Schools
SVS	= Secondary Vocational Schools
TAF	= Technology Acquisition Fund
TCPD	= Town and Country Planning Department
TEKUN	= <i>Tabung Ekonomi Kumpulan Usaha Niaga</i>
TEUs	= Twenty-foot equivalent units
TFP	= Total Factor Productivity
THIS	= Total Health Information System
TICAD	= Tokyo International Conference on African Development
TMB	= <i>Telekom Malaysia Berhad</i>
TNB	= <i>Tenaga Nasional Berhad</i>
TNSB	= <i>Takaful Nasional Sdn. Bhd.</i>

TPUB	= <i>Tabung Projek Usahawan Bumiputera</i>
TQM	= Total Quality Management
TRIPS	= Trade-Related Intellectual Property Rights
tscf	= trillion standard cubic feet
UIA	= <i>Universiti Islam Antarabangsa</i> (International Islamic University)
UMS	= <i>Universiti Malaysia Sabah</i>
UN	= United Nations
UN/OSCAL	= United Nations Office for Special Coordinator for Africa and Least Developed Countries
UNCTAD	= United Nations Conference on Trade and Development
UNDP	= United Nations Development Programme
UNESCO	= United Nations Educational, Scientific and Cultural Organization
UNFCCC	= United Nations Framework Convention on Climate Change
UNFPA	= United Nations Population Fund
UNICEF	= United Nations Children's Fund
UNIMAS	= <i>Universiti Malaysia Sarawak</i>
UNTAET	= United Nations Transitional Administration in East Timor
UPSR	= <i>Ujian Penilaian Sekolah Rendah</i>
VoIP	= Voice over Internet Protocol
WAP	= Wireless Application Protocol
WDM	= Wavelength Division Multiplexing
WHO	= World Health Organization
WIM	= Women's Institute of Management
WTO	= World Trade Organization
Y2k	= Millenium Bug or Year 2000 problem

Index



INDEX

Administration

- accountability, 611, 612, 617, 623
- administrative machinery, 611, 617, 623, 631
- benchmark, 613
- Civil Service Link (CSL), 617
- Computer Crime Act 1997, 617
- counter services, 613, 614, 624
- cyber laws, 615
- electronic data interchange (EDI), 616
- electronic government, 614, 615, 623, 625, 626, 627
- E-Procurement, 626
- E-Services, 614, 626
- Government Integrated Telecommunication Network (GITN), 615, 626
- Integrated Information System SETIA/SIAP (SMBSS), 612
- knowledge-based economy, 611
- knowledge-based public sector, 627
- MS ISO 9000, 613, 624
- Multimedia Super Corridor (MSC), 614
- multipurpose smartcard, 615
- network services, 615, 623
- one-stop Centre, 613
- privatization, 619
- procurement, 612, 614, 618
- public complaints management system, 618
- public-private sector collaboration, 622, 623, 631
- quality management system, 624
- quality standards, 613
- services delivery, 611, 615, 616, 625
- smart partnership, 616, 626, 628
- strategic collaboration, 628
- transparency, 611
- Total Quality Management (TQM), 612, 623, 624

Agriculture

- agricultural development, 218, 222, 231
- agro-forestry, 222, 227
- commercialization, 214, 215, 216, 230
- credit, 215, 221, 229
- employment, 206, 227
- food production, 205, 206, 209, 211, 222, 223, 230, 232
- in-situ, 218, 228
- integration programmes, 205, 215, 224
- labour-saving, 206, 222, 227
- land development, 218, 228
- private sector, 214, 218, 222, 224
- productivity, 205, 206, 212, 219, 221, 223, 224, 226, 229, 232
- self-sufficiency levels, 211
- specialty natural products, 205, 223, 227, 232
- support services, 218, 223, 229, 231
- sustainable forest management, 211, 220, 226, 230

- Third National Agricultural Policy (NAP3), 205, 211
- urban-horticulture parks, 224, 225

Airports

- Air Services Agreements, 295
- air traffic, 278
- capacity expansion, 280
- national carrier, 280
- scheduled air services, 280

ASEAN, 251, 252, 593, 604

Balanced development, 133

Balance of payments

- capital and intermediate goods, 251, 260
- imports, 260
- manufactured exports, 237

Bilateral Cooperation

- bilateral agreement, 590
- bilateral payment agreement, 590
- double taxation agreement, 590
- investment guarantee agreement, 590
- Palm Oil Credit Payment Arrangement, 590
- technical assistance, 591

Bumiputera

- Bumiputera Commercial and Industrial Community, 55, 68, 70, 72, 79, 81
- Bumiputera entrepreneurs, 55, 68, 70, 71, 72, 77, 81, 82, 83
- Bumiputera enterprises, 81
- Bumiputera SMEs, 246, 263
- franchise development programme, 70, 81
- franchisees, 70, 81
- franchisors, 70
- joint-venture scheme, 70, 71
- vendor development programme, 70

Communications

- digital divide, 282
- Multimedia Super Corridor, 282
- new services, 281, 296
- penetration rate, 281, 296
- Universal Service Provision, 282

Community Development

- Gerakan Desa Wawasan*, 514, 531
- Jiran Muda*, 513
- Jiran Usia Mas*, 513
- Jiran Wanita*, 513
- Orang Asli*, 514
- Pengerak Wanita*, 514

- Rukun Tetangga*, 513, 530
rural, 514
Tunas Jiran, 513
urban, 513
- Competitiveness**
competitive edge, 257, 261
competitive trading environment, 251
cost, 256
industrial, 268
- Composite Index of Development**, 140
- Culture**
Antiquities Act, 529
Islamic Art Museum, 513
Istana Budaya, 512, 530
Malay World Ethnology Museum, 529
Malaysian Philharmonic Orchestra, 512
National Art Gallery, 512
National Arts Academy, 528
National Automobile Museum, 529
Orang Asli, 529
- Distributive Trade**
bar code scanning, 461
Buy Malaysian Campaign, 461
consumer education, 466, 473
consumer protection, 457, 466, 473
direct selling, 460, 469
e-commerce, 457, 462, 470
electronic city, 470
factory outlets, 470
farmers' markets, 460
franchising, 458, 459
hypermarkets, 458
intellectual property, 468
international centre for *halal* food, 468
linkages, 457, 464, 471, 472
price stability, 457, 465, 472
regional distribution and warehousing hub, 468
support services, 464, 471
- E-commerce**
borderless marketing, 262
electronic malls, 246
world-wide manufacturing Web, 262
- Education**
absorptive capacity, 98, 104, 107, 124
Acts, 100, 103, 109, 125
basic skills, 102
capacity expansion, 87, 98
certificate levels, 109, 111, 124, 127
community colleges, 113, 114
computer
aided teaching, 101, 122
laboratories, 101, 102, 123
networking, 103
Computer Literacy Program, 101
contextual learning, 102
conductive teaching, 98
democratization of education policy, 98
distance learning, 104, 114, 125
education
policy, 98
primary, 100, 122
secondary, 90, 100, 109
tertiary, 90, 103, 109, 112, 119, 124
universal, 90
Education Savings Scheme, 113
enrolment, 98
higher learning
foreign institution, 103
private institution, 103, 110
learning
environment, 98, 100, 122, 123
facilities, 100, 121, 122, 123
web-based, 114
level
diploma, 104, 111, 125
first degree, 104
primary, 109, 124
secondary, 93, 101, 102, 103, 109, 123, 127
tertiary, 98, 103, 104, 113, 124, 125
mainstream schools, 100, 123
National Curriculum For Pre-School, 121
polytechnics, 104, 124
pre-school education, 98, 121
regional centre of educational excellence, 112, 117
regional teacher training centres, 124
secondary
technical schools, 102, 123
vocational schools, 102
Skill Development Fund, 113, 126
smart school, 102, 122
Teacher Activity Centres, 100
training delivery system, 87
under-privileged groups, 100
- Electricity**
Bakun Hydroelectric Project, 316, 331, 332
distribution, 305, 320, 323
generation, 316, 331
hydro, 318
Independent Power Producers, 315
industry restructuring, 332
investment, 322
Lembaga Elektrik Sabah, 316
National Load Dispatch Centre, 318
productivity and efficiency, 323, 326, 336
rural electrification, 321, 332
Sabah Electricity Sdn. Bhd., 315
Sarawak Electricity Supply Corporation, 315
supervisory control and data acquisition system, 318
System Average Interruption Duration Index, 323
transmission, 305, 318, 319, 323, 332

Employment

- administrative and managerial category, 65
- Bumiputera employed, 65
- Bumiputera professionals, 55, 65
- Chinese employed, 65
- Employment Act 1955, 115
- employment pattern, 65
- employment opportunities, 90, 118
- flexibility of working, 115
- full employment, 87, 90, 118
- job
 - creation, 96, 120
 - flexibility, 118
 - sharing, 115
- manufacturing sector, 87, 90, 91, 97, 118
- part-time, 115
- retrenched, 96, 111
- reverse migration, 97
- teleworking, 115, 118

Energy

- biomass, 324, 333, 334
- capital investment, 322
- coal
 - coal-fired power plants, 315, 331
 - production, 315
 - reserves, 315
- crude oil
 - condensate, 309
 - exploration and production, 308, 328
 - reserves, 308
- demand, 305, 307, 316, 327, 331, 332, 334
- diversification policy, 11.05
- energy efficiency, 324, 334
- gas
 - centralized utility facilities, 330
 - district cooling, 312, 11.52,
 - exploration and production, 311, 11.51
 - processing plants, 313
 - reserves, 311
- integrated petrochemical complexes, 330
- liquefied natural gas, 312, 11.51
- Malaysia-Thailand Joint Authority, 311, 328
- National Depletion Policy, 306
- natural gas for vehicles, 311, 11.53
- Peninsular Gas Utilization, 311, 313
- petroleum
 - investment, 313, 331
- price, 313
- production sharing contracts, 328
- refinery, 309
- regulatory framework, 325
- renewable energy, 305, 324, 333, 334, 336
- solar, 326, 333
- supply, 307, 308, 310, 315, 326, 328, 329, 330, 333, 335, 336
- utilization, 305, 309, 311, 326, 330
- vendor programme, 325,

Environmental Initiatives

- cleaner technology, 547, 553
- environmental awareness, 547, 553
- environmental health, 547
- international, 547
- sustainable development indicators, 554

Environmental Management

- Air Pollution Index, 539
- air quality management, 549
- air quality, 539, 549
- air-quality monitoring stations, 539
- air quality zones, 549
- clearing house mechanism, 550
- contaminants of the coastal waters, 541
- domestic wastewater, 541
- economic approaches, 550
- emissions, 549
- ground water, 541
- haze, 540
- incinerator, 550
- integrated treatment facility, 542, 550
- market-based instruments, 539, 549
- marine water, 541
- masterplan, 550
- noise pollution, 551
- precautionary principle, 548
- quality of raw water, 541
- regulations, 540
- river-basin management, 549
- scheduled waste, 542
- sensitive noise receivers, 551
- solid waste, 542, 550
- sources of air pollution, 540
- sources of river water pollution, 541
- strategic policy thrusts, 548
- toxic chemicals, 550
- toxic and hazardous waste, 542, 550
- transfer station, 550
- water quality, 541, 549
- water quality monitoring stations, 541

Family Development

- Building By-laws 1984, 517
- Campaign for Happy Families, 516
- Care Centre Act 1993, 532
- Child Act 2000, 516
- Child Protection Act 1991, 516
- Counsellors Act, 515
- disabled, 517
- Juvenile Courts Act 1947, 516
- National Policy for Elderly, 516
- Pelan Tindakan Sosial*, 515
- Social Institute of Malaysia, 533
- Women and Girls Protection Act 1973, 516

Finance

ASEAN Retakaful International (L) Ltd (ARIL), 418
Amanah Saham Wawasan 2020, 412
Bank Muamalat Malaysia Berhad, 402
bond market, 394, 411, 424
Capital Market Master Plan, 424, 426
CLOB, 410
corporate governance, 425
Danaharta, 396, 400, 401
Danamodal, 396, 400, 401
Derivatives market, 14
development finance institutions, 405
Financial Sector Master Plan, 427
Insurance Act 1996, 415
Islamic banking, 402, 423
Islamic capital market, 426
Islamic financial instruments, 13
life insurance, 415, 416
market penetration, 416
non-performing loans, 396
prudential measures, 398, 399, 422
retention ratio, 417
self-regulation, 422, 425
unit trust funds, 412
universal brokers, 410, 425
venture capital, 406, 413, 414, 426, 427

Fire and Rescue Services

drills, 507
fire-fighting, 507, 523
prevention, 507, 523, 524
protection, 507
public awareness, 507
rapid intervention motorcycle teams, 507
safety, 507, 523, 524
voluntary fire brigades, 507

Globalization

global demand, 237, 254
global market, 235, 245, 253, 254
global supplier, 246
global supply chain management, 250

Growth Triangle, 149, 155

Health

community-based mental healthcare, 498
community clinic, 486
Control Disease Centre, 495
Control of Drugs and Cosmetic Regulation 1984, 484
Coxsackie virus, 479
decentralization of outpatient departments, 480
dental health services, 478
Department of Occupational Safety and Health (DOSH), 481
diseases, 477, 479, 481, 492
education, 480
geriatric care, 477, 493, 494

health care financing scheme, 491, 495
herbal medicines, 496
Infectious Disease Centre, 479
major studies, 490
manpower
 allied health professionals, 478, 488, 490, 494, 496
 doctors, dentists and pharmacists, 487
 outsourced training, 488
 medical stores, 486
 medical screening of foreign workers, 486
 retired specialists, 486
midwife clinic, 482, 494
mortality rate, 478
National Council for Occupational Safety and Health, 481, 493
National Institute of Occupational Safety and Health (NIOSH), 481
National Institutes of Health (NIH), 490
national safety and health campaigns, 481
Nipah virus, 479, 489
nutrition, 478
Occupational Safety and Health Act 1994, 481
primary health care services, 493
Private Healthcare and Facilities and Services Act 1998, 486, 490, 494
Program Sihat Tanpa AIDS Untuk Remaja (PROSTAR), 479, 492
re-emerging infections, 477, 496
rehabilitative services, 477
services
 outpatient and inpatient, 482
 medical care, 482, 493, 497
 curative, 477, 498
 Promotive and Preventive Health, 478, 491
Social Security Organization (SOCSCO), 481
telemedicine, 482
Total Hospital Information System (THIS), 482
traditional medical practitioners, 487, 491
traditional medicine product, 484
wellness paradigm programme, 492

Housing

demand, 501, 518, 521
financing
 bridging loan, 502
 end-financing, 521
 revolving fund, 502, 521
housing technology, 505
low-income group, 501, 506, 521, 534
Program Perumahan Rakyat Bersepadu (PPRB), 504
Public Low-Cost Housing, 521, 534
public sector, 502, 505, 520, 522, 534
private sector, 504, 505, 521
replacement, 518
supply, 502, 504, 505, 519

Traditional Village regrouping, 505
 type of houses
 high-cost, 502, 504, 521
 low-cost, 502, 503
 medium-cost, 501, 502

Human Resource Development

broad-based knowledge, 121
 capacity expansion, 87
 critical mass, 9, 12, 87, 115, 121, 123
 human capital, 111
 Human Resources Development Council, 110
 Human Resources Development Fund, 110
 increase accessibility, 98, 103, 113
 knowledge-based economy, 87, 111, 112, 115, 117,
 118, 125, 128
 knowledge manpower, 87, 98, 111, 112, 121
 lifelong learning, 9, 112, 114, 128
 Science and Technology Resources Fund, 115
 skilled manpower, 88, 107, 126

Income

income disparity ratio, 60
 income distribution, 56, 60, 75
 income inequality, 55, 62
 income-generating, 56, 59, 75
 lower-income group, 75
 middle-income group, 75

Industry

aerospace, 253, 259, 260
 automotive, 249, 253, 260
 clusters, 251, 252, 257, 262
 competitiveness, 235, 241, 245, 251, 252, 255, 256,
 258, 261, 263, 264
 contract manufacturing, 257, 263
 ICT-network virtual manufacturing, 257
 Malaysian Standards, 259
 manufactured exports, 237
 manufactured goods, 236, 237
 matching grant, 246, 247
 non-resource based industries, 237
 pharmaceuticals, 255, 256
 rationalization, 254, 257
 resource-based industries, 237, 251, 254
 Second Industrial Master Plan (IMP2), 252
 skill development centres, 241
 Small and Medium Industry Development Plan, 235,
 245, 262
 Vendor Development Programme, 247, 263

Information and Broadcasting

e-village, 527
 Indonesia-Malaysia-Thailand Growth Triangle
 Television, 528
 infotainment and edutainment, 526

Malaysian East Asia Satellite, 511
 Multimedia and Communications Act, 511
 National Film Policy, 527
 Tun Abdul Razak Institute of Broadcasting, 527

Information and Communication Technology

communications infrastructure, 375, 379, 382
 community-based projects, 369
 content development, 374, 380, 382, 384, 385, 388
 critical mass, 376, 379, 386
 digital divide, 363, 379, 382, 386
 e-commerce, 375, 376, 377, 378, 380, 383, 384, 387
 E-Community, 368
 E-Economy, 368
 E-Learning, 368
 electronic government, 370, 372
 E-Public Service, 368
 E-Sovereignty, 368
 E-Village, 361, 374
 flagship application, 370, 372, 380, 386, 387
 global market space, 376
 high-tech start-up, 374
 high-technology Industries, 378
 human resource development, 363, 378, 380
infodesa, 382, 388
 infostructure, 380, 389
 infrastructure, 380, 381, 382, 384, 385, 388, 389
 intellectual property rights, 376, 377, 385
 internet access, 366, 375, 383
 internet-based, 379, 381
internet Desa, 382, 388
 internet penetration rates, 366
 internet services providers, 366, 375
 internet subscribers, 366
 knowledge-based economy, 363, 369, 379, 388
 knowledge-based society, 367, 369
 leading edge technologies, 372, 373
 market liberalization, 363
 MSC infrastructure, 370
 Multimedia Development Corporation, 363, 369, 370,
 373, 374, 377, 379, 380, 385
 Multimedia Super Corridor (MSC), 363
 multipurpose cards, 370
 National Information Technology (NITA), 363, 367,
 368, 369
 National Information Technology Council, 368, 369
 network-based curricula, 373
 on-line transaction, 376, 377
 R&D cluster, 370, 374, 385
 regional centre, 374, 385
 rural population, 366, 389
 self-regulation, 384
 smart schools, 370, 373
 start-up companies, 374, 379, 386
 state-of-the-art, 366, 373, 385
 technology-led companies, 370
 telehealth, 370, 373, 386

telephone penetration rate, 382
transmission backbone, 381
websites, 369

Labour

constraints, 90
demand, 88
efficiency, 97
electronic labour exchange, 116
expatriates, 90
foreign workers, 90, 115, 118
intensive, 262
labour force participation rate, 90
labour force survey, 90
labour force, 87, 88, 90, 91, 96, 112, 116, 118
labour-saving production techniques, 96
market database, 116
market monitoring, 116
mobility, 112
multi-skilled workers, 107
shortage, 88, 90, 93, 97, 118

Library Services

digitization programme, 524
Kempen Gerakan Membaca, 508, 524
library service network, 524
mobile libraries, 524
National Library, 508, 524
Pusat Siber Ilmu, 524
Sistem PERDANA, 508, 524

Local Authorities

district council, 506
health standards, 506
interim arrangement, 506
municipal council, 506
recycle, 506
solid waste, 506, 522

Macroeconomic

adverse effects, 7
agriculture, 36, 37, 44
balance of payment, 27, 32, 47
Capital Market Master Plan, 44
capital ownership, 10
competitive nation, 4
Consumer Price Index (CPI), 37
current account, 27, 34, 47
debt services ratio, 7
disposable income, 42
domestic demand, 24
economic resilience, 3, 6, 7
exports, 24, 28, 29, 36, 42, 45
external accounts, 6
external, 23, 24, 34, 42
financial crisis, 23, 27, 39
Financial Market Master Plan, 44

foreign direct investment, 27
foreign investments, 6, 11
global competition, 8
global market, 12
globalization, 3, 4, 5, 20
Gross Domestic Product (GDP), 23
Gross National Product (GNP), 25
human resource, 51
imports, 24, 27, 28, 31, 36, 42, 45
information and telecommunication technology, 36
input-driven, 5, 11, 20
knowledge-based economy, 3, 5, 8
liberalization, 3, 8, 12, 20
manufacturing, 24, 27, 34, 37, 42
merchandise, 32, 40, 45
middle-income group, 10, 17
mining, 36, 44, 45
monetary policy, 6, 7
Multimedia Super Corridor (MSC), 27, 45
National Vision Policy, 23
potential output, 5, 7, 9
pre-crisis, 3
price, 36, 37
private consumption, 28, 40, 42
private investment, 7, 23, 25, 40, 41
pro-business policy, 7
Producer Price Index (PPI), 37
production frontier, 11, 20
productivity, 5, 7, 8, 9, 11, 13, 14, 20, 24, 42, 45, 47
public consumption, 28, 40, 42
public investment, 27, 41
savings-investment gap, 49
services, 28, 42, 45
services account, 32, 47
strategic alliances, 8, 12
structural transformation, 5
sustainable growth, 3, 5, 6, 7, 13
technology transfer, 8
total factor productivity, 23, 24, 39, 41
transfer payments, 32, 34

Malaysian Technical Cooperation Programme

participating countries, 602
private sector, 607

Manpower

administrative and managerial, 93, 96, 118, 120
agricultural workers, 97, 120
clerical and related workers, 96
demand, 88, 91, 93, 96, 98
highly skilled manpower, 88
job sharing, 115
knowledge manpower, 87, 98, 111, 112, 121
production and related workers, 96
professional and technical, 93, 119
sales workers, 96
service workers, 96, 120
technologically-oriented manpower, 119

Multilateral Cooperation

- Commonwealth, 597, 605
- Group of 77, 596
- Group of Developing-8, 598
- Organization of Islamic Conference, 597, 598, 605
- United Nations, 596, 605
- World Trade Organization, 567, 605

Natural Resource Management

- access to biological resources, 552
- biosafety, 552
- brownfield development, 551
- demand-size management of water, 552
- environmentally sensitive areas, 551
- groundwater, 552
- integrated river-basin approach, 551
- integrated shoreline management plan, 553
- National Biodiversity Policy, 545
- national coastal zone policy, 547
- national mineral policy, 553
- National Water Policy, 551
- National Water Resources Council, 545
- national water resources study, 545
- planning guidelines, 544
- state mineral enactment, 546
- sustainable forest management, 546, 552
- Universal Planning And Development Doctrine, 544

Official Development Assistance

- capital assistance
 - bilateral, 590
 - loan, 591, 598, 604
 - multilateral, 598
- technical assistance
 - bilateral, 590, 591, 598

Ownership

- Bumiputera control, 64, 65
- Bumiputera ownership, 63, 77
- foreign ownership, 63

Population

- age
 - median, 88, 118
 - reproductive, 88
 - structure, 88
 - working, 88, 89, 115
- by state, 5, 05, 5, 06, 5, 41
- dependency ratio, 88, 118
- ethnic composition, 88
- fertility rate, 88, 117
- school-going age cohort, 113
- urban
 - areas, 89, 90, 103, 121, 128
 - boundaries, 89
- young population age structure, 89

Ports

- ancillary services, 292, 293
- capacity, 274, 275, 277, 278, 292, 293, 294
- cargo handled, 275, 293
- channel dredging, 275
- containerized cargo, 275, 294
- efficiency, 275, 277, 292, 293
- enforcement, 278, 294
- ferry services, 275, 292, 294
- multimodal, 277, 292
- navigational, 275, 278, 292, 294
- passengers, 275, 294
- port authority, 292
- port projects, 292
- privatization, 275, 277
- ship calls, 275, 294
- strategic alliances, 293, 294
- vessels registered, 278, 294

Poverty

- Amanah Ikhtiar Malaysia (AIM)*, 59, 74
- amenities, 56, 59, 74
- distributional strategies, 55, 56, 58, 59
- equitable society, 3, 4, 9
- general poverty, 56
- hardcore poverty, 55, 56, 58, 59
- incidence of poverty, 55, 56, 58, 60, 73
- income imbalance, 10
- Orang Asli*, 60, 73, 74
- poverty eradication, 4, 6, 9, 55, 56, 59, 73
- poverty line income, 56
- Program Pembangunan Rakyat Termiskin (PPRT)*, 59, 60, 73
- rural poverty, 56
- Skim Pembangunan Kesejahteraan Rakyat (SPKR)*, 73, 74
- urban poverty, 56

Privatization

- agreements, 199
- build-operate-own, 196
- build-operate-transfer, 196
- Bumiputera participation, 190, 192, 197, 200
- capital market, 195, 201
- corporatized entities, 183, 200
- Employees Share Option Scheme, 192, 200
- Independent Power Producers, 184
- Infrastructure Project Companies, 195, 201
- Islamic bonds, 201
- Kuala Lumpur Stock Exchange, 183, 192, 193, 200, 201
- legislative, 199
- management-buy-out, 190, 192, 200
- market capitalization, 193, 195
- private sector-led growth strategy, 183, 197
- Privatization Action Plan, 198
- privatized entities, 183, 184, 190, 191, 197, 199, 200, 201

Privatization Master Plan, 184, 198
privatized projects, 184
regulatory authorities, 195, 197, 199
sale of equity, 192
savings, 189
securitization, 201
social obligations, 192
technology transfer, 192
training programmes, 200
vendor development programme, 190, 192

Productivity

competitiveness, 87, 91, 97, 107, 110, 119, 129
growth, 97
improvements, 240, 248, 251, 261
labour productivity, 87, 97, 116
productivity-driven growth, 11, 20, 98
productivity-linked wage system, 112, 116

Public Sector

accessibility, 165, 175, 177
assistance schemes, 160
balanced development, 177
capacity, 159, 161, 165, 174, 176
capital expenditures, 161, 171, 180
capital investment, 161
capital outlays, 161, 173
commerce and industry, 163, 174
current expenditure, 168, 178
debt service charges, 178
debt service payments, 168
deficit, 159, 171, 172, 180
developed states, 167, 178
development expenditure, 167, 161, 163, 165, 166,
167, 171, 172, 173, 180
development process, 159
domestic borrowing, 173
domestic resources, 180
external sources, 180
financial crisis, 159, 160, 170, 171
fiscal prudence, 159
foreign exchange, 173, 174
globalized, 159
income tax, 170, 179
infrastructural facilities, 163
liberalized, 159
local authorities, 161, 172, 173, 180
lower-income group, 160
modernization programmes, 161
multilateral institutions, 173
Non-Financial Public Enterprises, 160
overall account, 159, 180
petrochemical projects, 161
physical infrastructure, 159, 180
productivity, 159, 180
productivity-driven growth, 165

public sector account, 159, 171
quality of life, 159, 173
rural development, 166, 176
security, 163, 166, 174, 176
social infrastructure, 176
state governments, 161, 172, 173, 180
statutory bodies, 161, 172, 173, 180
surplus, 159, 160, 171, 172, 173, 179, 180
sustainable, 173

Quality of life

by state, 144
mean monthly household income, 143, 144
rural areas, 149, 154
urban areas, 147, 153

Rail Transport

commuter train service, 273, 290
electrified double track project, 273, 291
freight traffic, 274
services, 28, 42, 45
inter-city passenger, 273, 291
operational safety, 273
Trans-Asian Railway, 274

Regional Cooperation

Asia-Pacific Economic Cooperation, 590, 593, 595,
605
ASEAN, 590, 593, 595, 604
Asia-Europe Meeting, 594
East Asia-Latin America Forum, 594

Regional Development

Eastern Corridor, 134, 142, 151
growth triangle, 133, 134, 149, 150, 152, 155, 156
less developed states, 133, 136, 138, 140, 142, 144,
150, 151, 152, 153
more developed states, 133, 134, 136, 142, 144, 150,
151, 152

Roads

access road, 268
accessibility, 270, 287
deferred payment, 270, 287
inter-urban linkages, 268
privatized highways, 268, 287
Road Development Indicators, 270
road network, 268, 287
rural roads, 270, 287

Rural Development

crop zoning guidelines, 152
incomes, 149
industries, 149
programmes, 154, 155
Regional Development Authorities, 154

Science and Technology

- Bio Valley, 358
- biotechnology, 342, 343, 344, 354, 357
- biotechnology cooperative centres, 344
- commercialization, 344, 351, 352, 353, 354, 355
- Commercialization of Research & Development Fund, 351
- competitive bidding, 342
- core technologies, 354
- Demonstrator Applications Grant Scheme, 342, 345, 354, 355
- development allocation and expenditure, 359
- emerging areas, 353
- indigenous technology, 350, 352, 354, 355
- Industrial Research and Development Grant Scheme, 342, 344, 354, 355
- Intensification of Research in Priority Areas, 342, 343, 353, 354, 358
- ISO 9000, 349
- Malaysia Technology Development Corporation, 356
- Multimedia Super Corridor Research and Development Grant Scheme, 342, 344, 354, 355
- National Technology Mapping Programme, 345, 357
- national standards development, 346, 349
- national space agency, 358
- photonics, 343, 358
- R&D expenditure, 341, 349
- research
 - applied, 341
 - basic, 341, 354
 - developmental, 341
- science and technical manpower, 349, 353
- space technology, 345, 356
- S&T Human Resource Development Programme, 350, 355
- S&T policy, 340
- Technology Acquisition Fund, 356
- Total Factor Productivity, 352

Sewerage

- individual sewerage systems, 300
- population served, 285, 299
- sewerage catchment plan, 300
- sewerage contractors, 286

Socio-economic indicators, 144

South-South Cooperation

- Asia-Africa Forum, 601
- Asia-Africa Business Forum, 601
- Group of 15, 599, 606
- Malaysian Technical Cooperation Programme, 599, 602
- private sector, 602
- Smart Partnership Dialogue, 601
- South Investment, Trade and Technology Data Exchange Centre, 599, 606

Sports

- Far East and South Pacific Paralympic Games, 526
- indoor Stadium, 509
- international sporting events, 510
- international sports destination, 526
- Kuala Lumpur 98-XVI Commonwealth Games, 509, 510
- National Fitness Programme, 509
- National Sports Complex, 509
- National Sports Council, 510
- National Sports Policy, 508
- Program Pembangunan Sukan Pilihan*, 509
- Sea Games, 526
- Sports Complex, 509
- Sports Development Act, 509, 525
- traditional sports, 525
- welfare and incentive schemes, 510

Tourism

- agro-tourism, 441, 448
- cruise tourism, 440, 448, 449
- cultural and heritage tourism, 441, 449
- Cuti-Cuti Malaysia*, 477
- domestic tourism, 437
- eco-tourism, 441, 448, 453
- education tourism, 442, 449
- employment, 438
- health tourism, 442, 449
- hill and island resort, 439
- homestay programmes, 441
- human resource development, 438, 451
- investments, 437
- leisure boat activities, 449
- Malaysia Truly Asia, 444
- marketing and promotion, 444, 450
- National Tourism Human Resource Development Council, 438, 451
- product development, 438, 448
- rural tourism, 448
- shopping destination, 439
- sports and recreation tourism, 440
- strategic alliances, 452
- student tourism, 450
- sustainable tourism development, 446
- theme parks, 443
- timeshare, 437
- tourism products, 438, 448
- tourism receipts, 435, 445
- tourist arrivals, 433, 434, 445
- tourist expenditure, 436
- Visit ASEAN Year, 453
- World Heritage List, 441, 449

Training

- advanced skills training centre, 107, 113, 114
- apprenticeship scheme, 110, 114
- computer literacy, 104

- external training, 110
- hand-on training, 113
- hands-on-skills, 110
- in-house training, 110
- Post-Graduate Teacher Training Programmes (PTTP), 103
- pre-employment training, 107
- professional training, 93
- retraining programmes, 107
- retraining scheme, 111
- skilled and trained manpower, 87, 110
- skilled manpower, 88, 107, 126
- skills upgrading, 107
- teacher training, 98
- teaching innovation, 102
- training
 - delivery system, 87, 111, 113, 121
 - industries, 110
 - institutions, 87, 98, 110, 112, 113
 - programmes, 115
- Vision School Concept, 122

Unemployment

- rate, 3, 88, 91, 118
- unemployment, 87, 88

Urban Transport

- Integrated Transport Information Systems (ITIS), 273, 289
- Intelligent Transport Systems (ITS), 270, 289
- pedestrianization, 272, 289
- ridership, 271, 289, 290
- traffic congestion, 271, 288, 289
- traffic demand management, 271, 272, 289
- transport hub, 272

Urbanization

- local authorities, 146, 147, 154
- low-cost housing, 147
- National Spatial Plan, 154
- rate, 144
- strategy, 153
- urban
 - centres, 146, 151
 - development, 146, 147, 153, 154
 - incomes, 144
 - policy, 153
 - population, 134, 144, 150, 151

Wages

- wage pressures, 97
- wages per employee, 97

Water Supply

- ground water, 285, 298
- interstate water transfer, 282, 283

- National Water Resources Council, 282, 297
- National Water Resources Study, 282
- non-revenue water, 283, 298, 299
- privatization, 298
- projects, 283, 285, 298
- standardized national information system, 299
- water conservation devices, 298

Women

- Association for Bumiputera Women's Entrepreneurs, 562
- Centre for Instructor and Advanced Skills Training, 561
- Child Act 2000, 565
- Child Protection Act, 565
- Department of Syariah Judiciary, 564
- educational opportunities, 561
- employment, 558, 557
- enrolment, 561
- extension services, 561
- Federation of Women Entrepreneurs Association, 562
- gender sensitive programmes, 570
- health, 563, 568
- Institute of Women's Advancement, 562
- Islamic Family Law, 564
- labour force participation, 558
- labour force, 567
- labour market, 567
- National Policy for Women, 557
- National Survey of Research and Development, 562
- occupational structure, 558
- population, 557, 558
- skills and entrepreneur training programmes, 561
- Small Entrepreneur Fund, 561
- The Employment Act 1955, 560, 564, 567
- The Guardianship of Infants Act 1961, 565
- Women and Girl's Protection Act 1973, 565
- Women's Affairs Department, 565
- Women's Entrepreneurs Fund, 561
- Women's Institute of Management, 562

World Economy

- traditional market, 261
- world demand, 255
- World Trade Organization, 251

Youth

- Asian Youth Council, 578
- cultural heritage, 581, 585
- drug addicts, 581
- entrepreneurial, 573, 579, 582, 584
- international networking programmes, 578
- international youth organizations, 578
- knowledge-based economy, 582
- lifestyle, 577, 580, 581, 584
- migration, 581, 582
- nation building, 573, 586

National Association for the Prevention of Dadah,
581
National Youth Policy, 577
patriotism, 577
population and employment, 573, 582
preparatory and tertiary-level, 574
Rakan Muda, 580, 584
secondary vocational level, 578
self-employment, 579

training
 leadership training, 577, 583
 skills training, 573, 577, 578, 579, 583, 584
 entrepreneurial training, 584
unemployed, 584
vendor, 579, 584
volunteerism, 577, 580, 582, 585
youth associations, 578, 579, 581, 583
Youth Development Policy, 577
Youth Economic Trust Funds, 579, 584