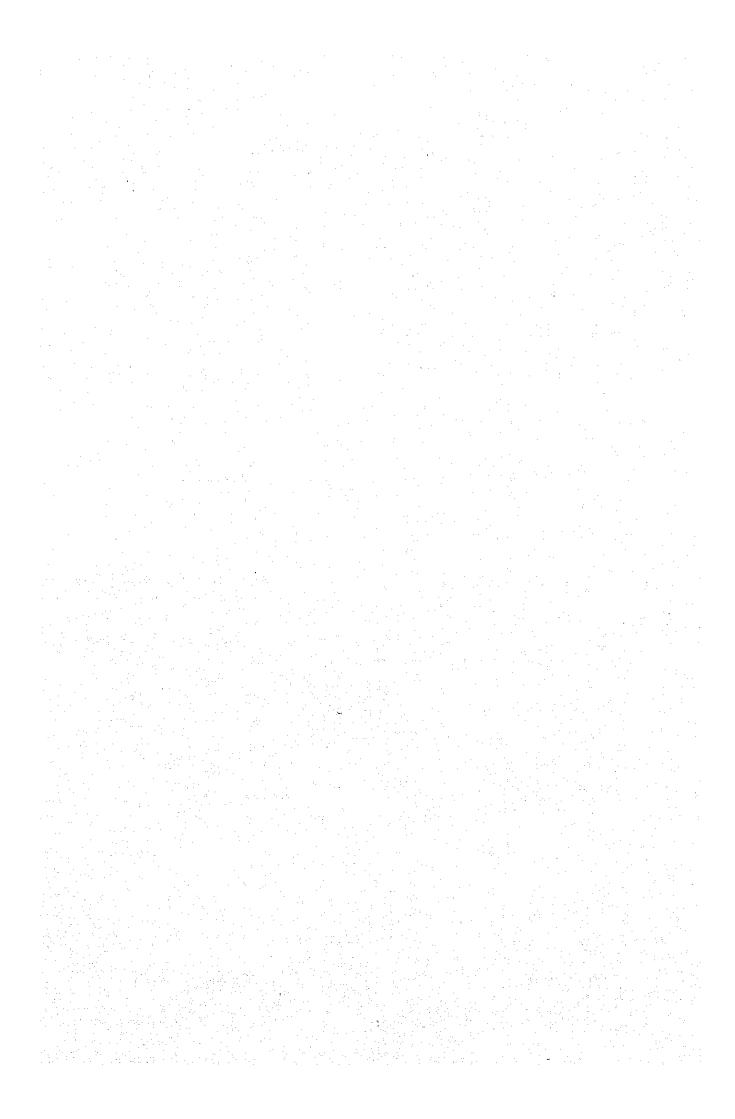
MASTER PLAN REPORT FOR TRENGGANU SWAMP AREA INTEGRATED AGRICULTURAL DEVELOPMENT MALAYSIA

STUDY REPORT

FEBRUARY 1980

JAPAN INTERNATIONAL COOPERATION AGENCY





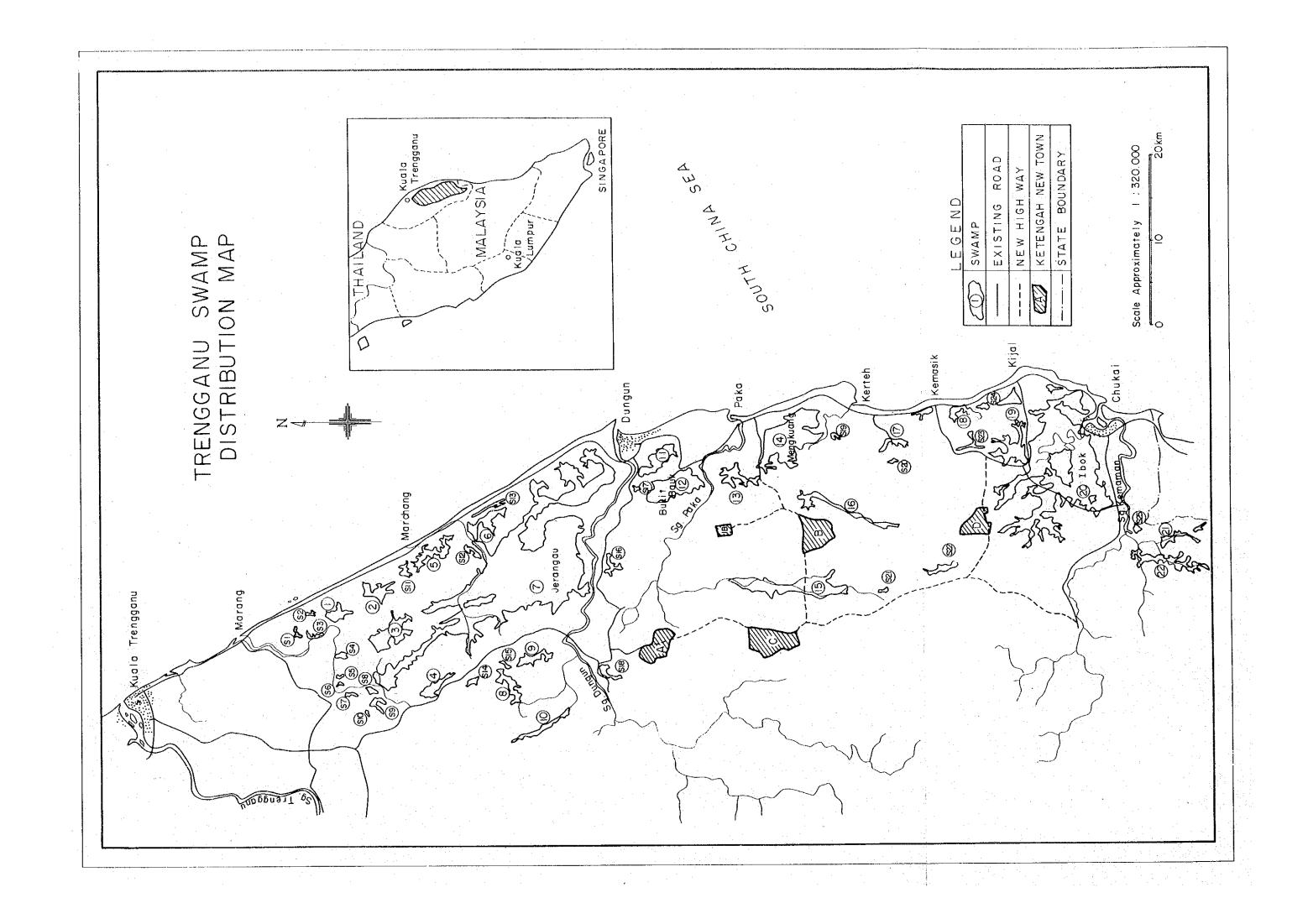
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ABBREVIATIONS AND DEFINITION OF TERMS

km	kilometer	ુર જ	percent
m	meter	L	length
cm	centimeter	Q	quantity
mm	millimeter	ø	diameter
ft	foot	H	head
t	ton	MW	million watt
kg	kilogram	N	nitrogen
g	gram	P	Phosphorous
km²	square kilometer	K	Potassium
m^2	square meter	wt	weight
m³	cubic meter	Fig.	figure
ha	hectare	U.S.\$	U.S. Dollar
$mile^2$	square mile	М\$	Malaysian Dollar
kl	kiloliter	M\$/ha	Malaysian Dollar per hectare
1.	liter	U.S.\$/ha	a U.S. Dollar per hectare
m³/sec	cubic meter per second	M\$10 ³	M\$1,000
1/sec	liter per second	U.S.\$10	³ U.S.\$1,000
1/ha	liter per hectare	M\$/kati	Malaysian Dollar per kati
l/sec/ha	a liter per second per hectare	EIRR	Economic Internal Rate of Return
inch/mor	nth inch per month	GDP	Gross Domestic Product
ft ³ /sec	cubic feet per second	GNP	Gross National Product
t/ha	ton per hectare	c.i.f.	cost, insurance and freight
kg/ha	kilogram per hectare	f o b	free on board
t/hr	ton per hour	TOL	Temporary Occupation License
hr(s)	hour(s)	DBH	Diameter at Breast Height
mm/day	millimeter per day		
°C	degree centigrade		
٥F	degree Fahrenheit		
lbs	pounds		
kt	kati		

IBRD International Bank for Reconstruction and Development

FAO Food and Agriculture Organization of the United

Nations

KETENGAH Trengganu Tengah Development Authority

EPU Economic Planning Unit

MARDI Malaysian Agricultural Research and Development

Institute

DID Drainage and Irrigation Department

FAMA Federal Agricultural Marketing Authority

FELCRA Federal Land Consolidation and Rehabilitation

Authority

FELDA Federal Land Development Authority

MAJUIKAN Fisheries Development Authority of Malaysia

RISDA Rubber Industry Smallholders Development Authority

SEDC State Economic Development Cooperation

DAU Development Administration Unit

GPU General Planning Unit

NDPC National Development Planning Committee

CIC Capital Investment Committee

PSD Public Service Department

JKR Public Work Department

LPN National Paddy and Rice Authority

PRMB Paddy and Rice Marketing Board

BPM Bank of Agriculture Malaysia

MARDEC Malaysian Rubber Development Corporation

RRIM Rubber Research Institute of Malaysia

FRI Forestry Research Institute

MRRDB Malaysian Rubber Research and Development Board

SIRIM Standard and Industrial Institute of Malaysia

MAJUTERNAK National Livestock Development Authority

MIDA Malaysian Industrial Development Authority

UDA Urban Development Authority

KADA Kemubu Agricultural Development Authority

MUDA Muda Agricultural Development Authority

U.K United Kingdom

NEP New Economic Policy (1970)

FMP First Malaysia Plan (1966-1970)

SMP Second Malaysia Plan (1971-1975)

TMP Third Malaysia Plan (1976-1980)

MTR Mid-Term Review

CONVERSION TABLE OF MEASURES

- (1) Gantang = 1 Imperial gallon = 4.546 1 or = 2.54 kg
- (2) Kati = 1.33 pounds = 0.606 kg
- (3) Picul = 133 pounds = 60.55 kg

CURRENT EQUIVALENT

M\$1.00 = US\$0.45

I. GENERAL

I-l Revenue and Expenditure, and Finance

1-1 Revenue and expenditure

According to the Economic Report, 1979/80, ordinary revenue and expenditure of Malaysia is in black. But sizable deficits are found if development expenditures are taken into consideration. The deficits increased annually in the financial years of 1979 and 1980 to M\$2,881 million and M\$4,290 million respectively. Both foreign and domestic loans were obtained every year in order to make up the deficits.

The finance of the Federal Government for 1979 is based on an estimated revenue of M\$8,827 million, and the ordinary revenue and expenditure of M\$8,028 million with development expenditure of M\$3,763 million. M\$3,480 million are expected to go into the red. Out of M\$8,827 million of revenue, 41% are financed with direct tax and 53% with indirect tax. The remaining 9% are financed with other incomes. Details are given in Table I-1 and 2.

The originally budget has been decreased by M\$72 million to M\$8,028 million. In the fiscal year of 1978, special allocation was made in order to promote the TMP. The figure has been further increased by about 15% and M\$3,763 million has been appropriated. Table I-3 shows various loans the Federal Government has obtained from foreign countries by years. Relative tables are shown in Tables I-4

Fin
Government
Federal (

Table I-1

(M\$ million)

	1972	1973	1974	1975	1976	£261	1978	19794	19804/
Current Account Revenue(A)	2,920	3,398	4,788 4,351	5,117	6,157 5,828	7,760	8,827	10,220	11,383
Current surplus/deficit (C) = (A) - (B)		57	473	217	329	362	462	310	515
Development Expenditure and Lending	Lending							:	
Development fund (D) = (E) - (F) Direct expenditure(E) Gross lending(F) Renavment(G)	1,242 801 441 19	1,128 759 369 22	1,876 1,101 769	2,171 886 385 385	2,378 1,585 793	3,217	2,762 1,198 838	4,720 3,300 1,420	6,340 4,130 2,210
Net lending (H) = (F) - (G) $\frac{1}{2}$	5 5 7 7	347	745	847	644	1,124	1,115	1,300	2,070
Total Expenditure (I) = (B) + (E) + (H) 4,291	4,291	4,447	6,169	7,013	8,162	10,536	11,708	14,510	17,068
Overall Deficit $(J) = (A) - (B) - (E)$ $- (H) = (A) - (E)$	-1,371	-1,049	-1,381	-1,896	-2,005	-2,776	-2,881	-4,290	-5,685
Source of Finance Net foreign borrowing Net domestic borrowing Special receipt2/ Change in assets?/	306 826 +1 66	8 4 8 4 4 8 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 823 931 031 01	1, 209 209 1234	369	1 *1 + 78840 7670	540 1,159 +1,182	1,155 2,607 4,528	1111

^{1/:} Loans to State Governments and Public Authorities.
2/: Include foreign grants from consolidated revenue account.
3/: - indicates a build up in reserves.
4/: Estimated.

(Prepared based on the data of the "Economic Report, 1979 / 80".)

Table	le I-2		Devel	Development Expenditure	endi ture						
							. !	tun)	(Unit: M\$ million)	ion)	,
		1972	1973	1974	1975	1976	1977	78467	Share	19797/	Share
									(%)		<u>)%</u>
	Security	211	110	242	229	435	027	485	द्	800	77
٠.	Defence	184	70	148	116	338	351	310	ω	470	0
	Internal security	27	047	46	113	97	119	175	10	330.	7
	Social Services	171	200	280	328	316	452	625	7.7	820	17
	Education	112	142	187	212	227	274	330 =	ω	410	ው
	Health	27	34	42	57	47	44	4.5	ત	27	ત્ય
	Housing	1.5	12	33	31	58	122	265	۲-	300	9
	Economic Services	836	786	1,313	1,398	1,550	2,129	2,475	63	2,950	63
	Agriculture and rural development	307	334	436	506	514	291	079	17	076	50
	Public utilities	4.2	49	55	118	133	250	260	2	370	တ
	Commerce and industries	177	180	762	22	296	417	590	16	450	01
	Transport	234	181	314	786	195	652	750	20	810	17
	Communication	76	39	746	6	94	219	235	9	380	∞.
	Genetal Administrat-	772	32	£ 7	196	77	166	178	स्वा	150	М
	Total	1,242	1,128	1,878	2,151	2,378	712.5.	3,763	0001	4,720	

(Prepared based on the data of the "Economic Report, 1979/80")

1/: Estimated.

Federal Government Outstanding Debt, Malyysia (Nominal Value in MS million)

Table

							/ =	1
	1973	1974	1975	9261	1977	19785/	19792	1
xternal Market Loans	٠.							
1 0 0 + c + c + c + c + c + c + c + c + c	, ,,,	336	982	1,205	1,281	1,285	1,247	
	, c	0.50 0.50	250	155	109	109	109	
unted windaoii	, ,	000	02	29	159	150	269	
West Germany Others2	977	97	t 6	94	42	267	972	
Sub-total	247	710	1,348	1,468	1,628	1,811	2,597	
			a.					
xternal Project Loans								
Transport of the trees.	629	118	126	8	81	111	110	
50 TO X TO	104	88	105	123	103	107	103	
7,000,000	121	202	341	428	492	655	828	
Carana manara	203	246	330	416	477	533	650	
solic Zenin	, 6°	· Ω	91	116	383	443	540	
Nowth Germanny	96	37	34	31	68	126	191	
2		•	Ī	m	īV	7	o,	
others 3		4.8	50	189	16	96	7.6	
Sub-total	613	784	1,077	1,388	1.721	2,078	2,447	
Total	1,360	1,499	2,424	2,806	3,349	3,889	5,044	

1/: Not necessarily loans obtained from the United States as market loans raised elsewhere may be denominated in United States Dollars. A substantial portion of these loans was raised before 1961 and are long-term loans.

3/: Include loans from Netherlands, Switzerland and Japan (market loans) and loans from Sweden, Canada, Australia, Denmark and France (project loans).
4/: Three Yen Credits were signed in 1967, 1972 and 1975. The first disbursement was made in 1969.
5/: Estimated.

(Prepared based on the data of the "Economic Report, 1979/80")

164 5,660 2,094 1,149 544 356 1,452

615

10,220

100

9,605 3,945 3,731 1,998 856 877

19791

Share

(%)

million)

1-1 olfar		Federa	Federal Government	nt Revenue	97				
1								_	(Unit: M\$
		200		. :					
	1970	1971	1972	1973	761	1975	1976	1977	/ T 8261
						 	4.3		•
Tax Revenue	2,000	2,081	2,394	3,045	4,311	4,576	2,491	7,070	8,006
Direct there	701	713	801	066	1,384	2,021	2,167	2,946	3,323
	657	687	747	838	1,305	1,926	2,066	2,791	3,162
THEORIE CANES	- 00 - 00 - 00	512	559	593	723	1,166	02τ;τ	1,336	1,620
COMPANIEN	89	690	182	218	355	438	574	649	772
Thorvaloum)) - i i		. 1	27	144	322	322	776	770
retrored	1				• .				
Petroleum royalities/			C	и с	77	7.8	78	111	116
cash payments	×	×	2	(4)	· }) -			
Trdirect taxes	1,299	1,368	1,593	2,156	2,927	2,555	3,324	4,124	4,683
Benefit Aution	258	231	232	437	943	625	1,010	1,390	1,462
ביילנים	. 80	50	49	233	383	121	519	557	704
· · · · · · · · · · · · · · · · · · ·	1 30	127	127	130	271	195	291	747	200
Palm oil	18	28	38	20	228	282	166	346	208
									٠.
Import duties and	557	582	589	246	893	801	978	1,140	1,325
Excise tax	249	307	366	407	442	450	350	695	678
4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			115	220	297	272	323	383	459
Road tax	169	176	194	224	257	241	262	298	325
Gambling tax	077	45	62	89	42	56	118	123	150
Total Non-tax Revenue	400	337	525	357	944	541	999	689	821
Ground Total	2,400	2,418	2,920	3,402	4,788	5,117	6,157	7,760	8,827
							:		

(Prepared based on the data of the "Economic Report, 1979/80")

1/: Estimated.

1-2 Finance

The Government of Malaysia has carried out an easy-money policy since 1975. The policy was deemed necessary to encourage investment from the private sector in order to accomplish the Third Malaysia Plan. Interest rate was lowered in June, 1977 and the total amount of bank loans has kept rising since then. Money supply, which was M\$4,349 million in 1975, rose by approximately 20% to M\$5,257 million in 1976. Although the supply settled to M\$6,127 million in 1977, which is about 17% up from the previous year, an increase of about 18% is estimated for 1978 with a total of M\$7,243 million as indicated in Table I-5.

Major financial organizations in Malaysia are the Central Bank and Commercial Banks. The Central Bank was established in January, 1959, which was then reorganized into present Bank Negara Malaysia in September, 1963. The Bank has the right to issue the Malaysian dollar fulfilling the duties of the Bank also has the authority to advise commercial banks of the interest rate, handling fees and others. The largest commercial bank, can be mentioned on the very top of the list of the commercial banks. The Malaysia's financing system has been developed centering around private banks of Great Britain, the former suzerain state. In consequence, influence of the local banks is not very strong. Loans provided by the commercial banks are shown by industrial sectors in Table I-6.

Table I-5

Money Supply and Private Sector Liquidity

(r	Money Supply stor (Money)											
(Unit: M\$ million)	Determinants of Money Supply Private Sector Operations (Money)	2,098	2,553	5,056	3,838	4,674	5,653	7,514	8,734	10,278	12,678	٠
	te úðity				:				• •-	:		٠.
	Total Private Sector Liquidity (D)=(A)+(E)	4,131	4,674	5,771	7,623	8,729	10,002	12,771	14,861	17,521	21,221	
	Demand Deposits of Private Sector (C)	1,032	1,059	1,446	2,017	2,025	2,110	2,629	3,015	3,665	4,465	-
	Currency in Circulation (B)	1,000	1,061	1,269	1,718	2,030	2,239	2,628	3,112	3,578	4,078	
	Total Money supply $(A) = (B) + (C)$	2,032	2,120	2,715	3,735	4,055	4,349	5,257	6,127	7,243	8,543	
	End of Period	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	(Estimated)
1	ig(

(Prepared based on the data of "Economic Report, 1979/80")

Table I-6

Commercial Banks' Loan and Advance

(Unit: M\$ million)

Total	2,360	2,667	3,179	4,867	5,576	6,468	8,061	9,558	12,288	13,419
Professional and Private Individuals	377	442	566	905	952	1,096	1,345	1,728	2,266	2,651
General Commerce	590	637	725	1,059	1,346	1,355	1,693	2,064	2,693	3,153
Building & Constructions	206	661	86 H	432	. 463	480	503	583	789	911
Manu- facturing	466	570	610	883.	1,057	1,266	1,382	1,595	2,226	2,369
Mining & Quarrying	51	54	72	<u>თ</u>	80 80 80	107	901	96	128	117
Agriculture	240	278	347	406	416	484	536	661	871	868
Statutory Authorities	. ທ	7	o.	32	44	77	175	173	266	294
Federal and State Government	e. 0	ທ ີ	, 82	103	143	88	275	291	330	330
End of Period	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979 End July

(Source: Bank Negara Malaysia)

I-2 Consumer Price

Consumer price has been stabilized since 1975 and the annual inflation rate is kept below 5%. The stable cost of living is achieved on the basis of stable foodstuff prices which account for 46.8% of the consumer price index.

Price stability in Malaysia is attributed to the efforts of the Government to a large extent in line with the Control of Supplies Act, when came into effect in 1961, and the Control of Supplies Regulations, the prices of eight to nineteen essential goods have been controlled. Furthermore, price control has been enforced in accordance with purchasing power in line with the Price Control Order Since 1977. Tables I-7 and 8 shows the annual consumer price indices in Malaysia.

Private Consumption Indicators

						i i	010	/Z0201	
	1972	1973	1974	1975	1976	1.3.6.1	0167	7164	
Imports(M\$ million) - Peninsular Malaysia	lar Malaysia -								
Food(SITC 0)	684	886 303	13907	1,193	1,230	1,370	1,609	1,756	
Passenger cars, c.k.d.2/ Quantity(unit) Value(M\$ million)	32,078	52,080	71,955	44,857	56,664	77,859	66,721	68,000	
Registration - Peninsular Malaysia	laysia -						*		
TV licences 2/ (New and renewals) Passenger cars Motorcycles	270,084 25,809 46,201	434,277 37,593 71,762	371,703 41,016 104,726	424,523 40,104 110,487	500,837 38,925 108,525	599,165 54,994 120,246	692,017 62,825 127,940	798,428 63,900 130,600	
Domestic sales - Peninsular Malaysia -	Malaysia -								
Sweetened condensed milk(ton) Cloth4/(103 kilometers)	68,831 85,175	79,678	78,839	84,622	87,260	94,182	97,526	102,750 228,595 199,611	
Soft drinks (10 litres)	91,384	91,470	110,349	104,004	7461777	- CC + CC +	00000		
Domestic loans(M\$ milli n), (End of period) - Commercial banks' term	End of period) - Malaysia	i						
loans to private individuals for private purposes5/	187	298	274	272	299	349	720	ı	
Borrowing companies' loans for hire purchase6/	761	334	411	944	538	710	915	1	
Federal Government total sales tax collection(M\$ million)	115	220	297	272	323	383	458	527	

Textile yarn, fabrics, made-up articles and related products except clothing. Passenger motor car completely knocked down, SITC 732101.

The increase in 1973 is due to 78% of it being renewals.

90% or more cotton.

Consist mainly of consumption credit.

Comprise about 40-50% of total borrowing companies' loans.

Estimated.

(Prepared based on the dada of the "Economic Report, 1979/80".

elder 8-H		Sопе	Social	Some Social Indicators	tors on	Standards	됩	Living, 1975	and	1978, Mala	Malaysia		
											*	-,1	4
	High Income			~	Middle In	Income Sta	States				TOT	Income	States
	State	_	rodor	Σ Σ Σ	Negeri Sembilan	n Pahang	Perak	Pulau Pinang	Sabah S	Sarawak	Kedah/ Perlis	Kelantan	n Trengganu
	Selangor	-1 '				1							
Doctors per					(ά	25	0.14	0.13	0.14	0.10	0.11
1975	0	9	0.17	0.23	0.23	0.20	0.19	0.34	0.13	0.13	0.21	0.11	0.12
1978	9												
Dentists per 1.000 persons				(Ċ	0	, C	0.08	, E	ю п	0.05	40.0	70.0
1975	0.07	,	0.07	0.08	60.0	60.0	90.0	60.0	r e	ь В	90.0	005	90.0
1978	2	5 %											3
Acute hospital beds			٠,	* * *		i t	n n	ر 80	15 Fri	1.42	1.11	1.07	1.45
1975	1.85		1.65	1.71	2.53	C) -1	, , ,	2 0	1 -	,	1.09	1.08	1.18
1978	1.91		1.67	1.63	2.55	1.64	1.54	0/ * 7	1 7 •	4 •			
Enrolment ratio												-	
(primary schools)	07 ا	• •	98.3	4.76	95.8	92.6	2.46	0.66	e u	n.	7.96	90.4	92.1
1978	98.7	, 6,	6.46	86.8	89.2	99.1	91.9	92.3	0.97	80.3	92.2	6.46	92.7
0 + 10 + 10 + 10 + 10 + 10 + 10 + 10 +		•	;										
(secondary schools)				C L	t u	C ນ V	2,00	61.3	ย	п. 8	52.0	55.4	1-17
1975	61.1	יח י	51.4	2,7	7 09	2 7 7	, 6	0.69	8.94	8 44	61.0	9.49	58.8
1978	63.6	Φ	63.1	0.1	0	2					-		
Private cars per									. !	i I	α	بر	~
1975	7.4.		8.50	3.9	4 2	2 5	ر در در	5-1	ю ц	d (, c		1.7
1978	0.6		4.3	8.4	2.0	3.5	ტ ტ.	t O	ส	• d	i	l F	
Motorcycles per	٠.												
100 persons	4		ø	9	7.5	4.9	8.9	10.0	n.a.	n.a.	90	رب س با	
1975	10.91		\@.	8	10.5	8.6	9.5	12.4	n.a.	п. 8	٦. ٥	† `	> •

1/: Includes Federal Territory. (Source: Mid-Term Review of the Third Malaysia Plan)

I-3 Supply and Demand for Rice

The north-western region of Malaysia has suffered from drought between 1977 and 1978, and as a result, the country's rice production dropped significantly. According to the statistics, production dropped by 12.1% from the previous year to 1,236,000 tons for the 1976 and 1977 period. During 1977 and 1978, it further decreased by 27.5% to 897,000 tons. In consequence, self-sufficiency rate decreased from 80% for 1975/76 to 73% for 1976/77 and to 58% for 1977/78.

In order to stabilize supply and demand for rice, the Malaysian Government despatched a mission to various countries to purchase rice. As a result of negotiation with various governments, the Malaysian Government signed contracts to import 451,000 tons in total, 191,500 tons from Thailand, 60,000 tons from the Philippines and 200,000 tons from China. Approximately 210,000 tons of rice, which are equivalent to M\$150.7 million, have been imported up to June 1978.

Since recovery of weather is predicted, rice production in 1979 is expected to recover to the average level of 1,483,000 tons. Since 1,660,000 tons of rice are consumed in the country as of 1977, self-sufficiency rate is expected to return to approximately 89%.

As far as rice price is concerned, the minimum support is set by Lenbaga Padi dan Beras Negara (LPN). Prices as of 1978 are M\$28 for the first grade, M\$26 for the second grade and M\$24 for the third grade. Thus, prices remained the same as the previous year. The average price in the local market is, however, slightly higher than those mentioned from M\$29 to M\$32.

Meantime, the Government has established various programmes to assist those farms that suffered from drought frequently. The Ministry of Agriculture provides those farmers who cultivate cash crops under the Agricultural Inputs and Diversification Programme with subsidies for seeds, fertilizer and agro-chemicals.

The Ministry encourages poultry farming and pisciculture where they are considered profitable. Federal Agricultural Marketing Authority (FAMA) has reinforced transporting of products to markets. The Bank Agriculture deferred repayment of loans up until the next harvesting period and also reduced interest rate by 1% for the portion not yet repaid. Furthermore, the Government created various types of work such as cleaning or drainage and irrigation canals, and repairing of damaged farm roads for relief of drought-affected farms. The farms in the MUDA District were exempted 50% of water charge as a part of the relief scheme.

In addition to the above-said relief projects, the Government has implemented other various agricultural projects in order to improve the self-sufficiency rate of rice. The Krian/Sungai Manik Integrated Project in Perak will benefit 26,300 ha after completion in 1978. The total cost of the project amounted M\$143 million. Approximately, M\$63 million was financed by the World Bank and the rest by the Government of Malaysia.

I-4 Import and Export

Exports of primary products and imports of industrial products characterize the Malaysian trade. Exports are relatively in good shape since the country is blessed with agricultural, forestry and fishing products such as timber, rubber and oil palm, which are favourably converted into money, and mineral resources such as tin and oil. Country's balance of international payments has always been favourable.

The total export for each year between 1975 and 1978 is M\$9,231 million, M\$13,442 million, M\$14,971 million and M\$16,752 million respectively, and exports have grown at a high annual rate of 22% between 1976 and 1978. The total export of agricultural, forestry and fishing products is M\$7,060 million, M\$10,012 million, M\$11,156 million and M\$12,309 million for each year of the same period and they account for 75% of the total export.

Major export items include agricultural, forestry and fishing products such as rubber, timber, palm oil and pepper, and mineral resources represented by oil. Rubber occupies the largest share among agricultural and forestry products totalling M\$3,379.8 million. The figure accounts for more than 20% of the total export. Rubber is followed by palm oil and timber. In 1977, exports of palm oil increased sharply while timber exports increased slightly due to government's control. It is worthy of notice that exports of bauxite increased next to tin and oil. Details of exports figures are shown in Table I-9. Commodity trade by direction is shown in Table I-10. Table I-11 shows imports and exports of selected vegetables. Although imports dropped and exports grew in 1976 in comparison with 1974, the total export of vegetables was only M\$27,641 thousand while total import was M\$87,808 thousand. Cabbages, tomato and chilli are major export items while onion, potato and pea are major import items.

Exports, 1978-80, Malaysia

	•			Share of		cage Annual with Raise(%)	
	1978	1979	1980	Value in 1980	1979-80		76-80 Original
Rubber				(%)			
Volume(*000 tons) Unit value(cts/kg)	1,630 217	1,680 220	1,720 225		$\frac{2.7}{1.8}$	3.3	5.9
Value (M\$ million)	3,537	3,696	3,870	18.9	4.6	10.1 13.8	5.8 12.0
Tin		5.40					4.
Volume('000 tons) Unit value(M\$/ton)	69 27,826	70 28,100	71 28,100	A. Santa	1,4 0.5	-2,4 13.3	0,3 2,5
Value (M\$ million)		1,967	1,995	9.7	1.9	10.6	2.9
Volume (1000 tons)		1,640	1,886		14.0	10.0	15 0
Unit value (M\$/ton)	1,200	1,128	1,100		-4.3	10.2 -0.7	15.8 -5.1
Value (M\$ million)	1,740	1,850	2,075	10.1	9.2	9.5	9.9
Volume (000 tons)	0.652	10 177	14,100		20.9	21. 2	1
Unit value (M\$/ton)	9,652 250	13,177 275	281		6.0	34.2 4.6	15.4 0
Value (M\$ million)	2,413	3,624	3,962	19.3	28.1	40.4	15.4
Partly refined petropetroleum products	oleum and	ļ:	water.				
Volume (1000 cu.					150 mg - 150 mg		•
metres) Unit value(M\$/cu.	342	372	366		3.4	-16.4	20.8
metre)	323	355	362	0.6	5.9	6.4	2.9
Value (M\$ million)	110	132	132	0.6	9.5	-11.1	24.3
Sawlogs Volume ('000 cu.							100
metres) Unit value(M\$/cu.	16,100	15,295	14,530		-5.0	6.2	5.1
metre)	97	101	105		4.0	11.1	9.0
Value(M\$ million)	1,562	1,545	1,526	7.4	-1.2	17.9	14.7
Sawn timber Volume('000 cu,	2,650	2,650	2,650		0	9.2	8.4
metres) Unit value(M\$/cu.	1.34.					10.75	· · ·
metre)	282	293	305		4.0	5.8	8.0
Value(M\$ million)	747	776	808	4.0	4.0	15.6	17.0
Canned pineapple	50	5.0	56		5.8	, ,	2.5
Volume('000 tons) Unit value(N\$/ton)	50 1,240	1,300	56 1,350		4.3	4.5 3.6	5.0
Value(M\$ million)	62	69	76	0.4	10.7	8.3	7.6
Pepper (1909 to-)	20	21	26				
Volume('000 tons) Unit value(M\$/ton)		34 5,000	36 5,500		4.4 11.8	2.4 10.7	7.1
Value(M\$ million)	145	170	198	1.0	16.9	13.3	7.6
Manufactures (excludi		d pineapp	<u>le</u>				
Value (M\$ million)		4,057	4,625	22.6	14.8	20.0	19.2
Sub-total Value (M\$ million)	15,747	17,886	19,267	(94.0)	10.6	17.5	13.6
Others Value (M\$ million)	1,005	1,142	1,230	6.0			erika da 1900. Periodoria
Total gross exports Value(M\$ million)	16,752	19,028	20,497	100	10.6	17.3	13.6
		 					2.5

⁽Prepared based on the data of the "Mid-Term Review of Third Malaysia Plan")

Page			1972	1973	1974	1975	1976	1977	1978	19791
1,	, o + o , c									
Export 670 1,994 9,891 8,530 9,713 11,615 15,690 16, Export 670 799 1,430 1,489 2,094 2,716 1,903 2, Export 670 799 1,430 1,489 2,094 1,375 1,903 2, Export 34, 584 674 554 662 768 8,822 1,903 2,904 1,275 1,903 2,183 2,194 1,002 2,004 1,275 1,903 2,104 1,002 2,004 1,003 2,004 1,003 2,004 1,003 2,004 1,003 2,004 1,003 2,004 1,003 2,004 1,003 2,004 1,003 2,004 1,003 2,004 1,003 2,004 1,003 2,004 1,003 2,004 1,0	Export	Ąŝ	4.854	7.372	10,195	-	3,44	6.4	17,094	્
Export 670 1,430 1,489 2,094 2,716 3,344 3,404 4, Surope	Import		4,543	_	9,891	-	,71	19	S.	6
Export 670 1999 1,450 1,489 2,094 2,718 3.183 2,42 Export	Balance		31,1	•		107	7	 	•	
Export 670 799 1,430 1,489 2,094 2,718 1,593 2,885 1,593 2,994 1,775 1,903 2,994 1,234 1,294 1,2	Country									
Export 34: 534 674 554 662 768 822 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,019 1	U.S.A.	Export Import	670 408	799	વં.	-	23	,77,	90	97
Export 341 534 674 554 719 719 719 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,018 1,019 1,019 1,019 1,014 725 1,016 1,019 1,014 725 1,016 714 714 957 1,19	Western Eu								÷	
Export 402 554 956 1,169 1,467 1,546 1,581 1; Import 274 402 657 451 659 606 628 Export 173 403 657 451 659 606 628 Export 23 151 219 179 303 257 305 Export 340 1,236 1,719 1,337 2,835 3,049 3,703 Export 1,131 1,707 2,208 1,874 2,455 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,762 3,167 Export 1,131 1,707 2,208 1,874 2,455 2,762 3,167 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,107 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,107 2,208 1,874 2,455 2,386 2,762 3,169 Export 1,131 1,107 2,208 1,874 2,455 2,386 2,762 3,167 Export 1,131 1,107 2,208 1,874 2,455 2,386 2,762 3,167 Export 1,131 1,107 2,208 1,874 2,455 2,386 2,762 3,167 Export 1,131 1,107 2,208 1,874 2,455 2,386 2,762 3,167 Export 1,131 1,107 2,208 1,874 2,455 2,386 2,762 3,167 Export 1,131 1,107 2,208 1,874 2,455 2,386 2,762 3,167 Export 1,131 1,167 2,168 2,168 2,168 2,762 3,168 2,762 3,168 2,762 3,168 2,762 3,168 2,762 3,168 2,762 3,168 2,762 3,168 2,762 3,168 2,168 2,762 3,168 2,188 2,188 2,188 2,188 2,188 2,188 2,188 2,188 2,188 2,188 2,188 2,	C.K.		341.	584	674 929	አ ት የ የ አ	662	たの	82 10,	97
Export 274 404 725 505 614 714 957 1, moort 274 404 725 505 614 714 957 1, moort 27 403 657 451 659 606 628 55 52 73 659 656 658 658 659 1, moort 340 1,22 714 665 659 677 879 1, moort 833 1,348 2,204 1,707 2,662 2,612 3,169 3,169 1,707 2,062 2,612 3,169 3,169 1,707 2,062 2,612 3,169 3,169 1,707 2,062 2,612 3,169 3,169 1,707 2,062 2,612 3,169 3,169 1,707 2,062 2,94 2,169 1,107 2,208 1,874 2,455 2,386 2,762 3,169 1,167	Yest Germ		402	554	ıΩ	1,	46	, 54		89
Export 173 403 657 451 659 606 628 Import 23 151 219 179 303 257 305 Export 893 1,336 1,719 1,337 2,835 3,049 3,703 4, 1,304 1,304 1,707 2,062 2,612 3,169 3, 1,304 1,305 1,306 1,306 1,306 1,306 1,307 2,835 2,612 3,169 3,109 1,305 1,	Lands	Import	274	100 17	i (N	0	6	714	.Φ	4
Import 23 34 52 56 59 59 59 59 59 59 59 59 59 59 59 59 59	Eastern Eu	rope Export	173	£0.7	657	451	L/ F	909	CV E	960
Export 89 151 219 179 503 557 505 1,		Import	ب 23	# 0	22	7. ()	20	KC (- (
Export 833 1,348 1,719 1,337 2,835 3,049 3,703 4,58 115 0.062 2,612 3,169 3,703 4,58 115 0.062 2,612 3,169 3,84 115 0.062 1,348 1,348 1,707 2,204 1,35 3,41 3,43 3,43 3,63 3,44 3,43 3,54 3,54 3,54 3,54 3,54 3,5	Australia	Export	89 340	157 123 123	-1 -4	179 665	0.00 0.00 0.00	257	305 879	
Estimated. (Prepared based on the data of the "Economic Report, 1979/80".	Japan	Export	8 0 2 0 2 0 2 0	1,336	71,		83	0.4	,70 1.6	
Lic of Export 177 200 211 1.50 1.50 1.874 2.455 341 509 54 54 55 54 54 55 54 54 55 54 54 55 54 54			\ \ \			-			, .	
apore Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,51 [mport 365 1,167 1,46] Estimated. (Prepared based on the data of the "Economic Report, 1979/80".	710	1 14	195	200 365	211 493	356	341	347	509	`
Export 1,131 1,707 2,208 1,874 2,455 2,386 2,762 3,51 Import 365 1,465 820 722 841 365 1,46 1,167 1,46 mated.	ASEAN									
Estimated. (Prepared based on the data of the "Economic Report, 1979	Singapore	\$	1,131	1.707	•	∞ 1~	24 84	•	P F	46,
(Prepared based on the data of the "Economic Report, 1979	ļ	90 to 80								
		Theony		9	the	·	1979/80".			: ::::::::::::::::::::::::::::::::::::
						1				

Estimated. (Prepared based on the data of the "Economic Report, 1979/80".

Import: and Exports of Selected Vegetables: Peninsular Malaysia, 1974 and 1976 1

Commodity Cuantit (ton)	Imports		41.00				Ģ	Exports
			100 m	91	Imports	Value	Ouanti tv	Value
8.23		1ue	(ton)	(000.SM)	(ton)	(M\$,000)	(ton)	(000.\$W)
	75	8,158	1/2	27.	23,379	8,955	32	α
Beans dried 27,057	57	1,402	523	282	8,599	6,098	302	256
and lentis dried	92	8,743	1,233	757	13,138	10,878	1,204	8.52
2.1, 208	80	251	5,181	1,384	315	79	5,901	2,481
T5 7. On.	i S	14,446	1,488	774	43,095	20,303	809	001
6,062		7,342	158	157	6,780	9,222	263	172
11,521	21	2,683	938	261	6,927	1,700	7,868	2,955
Other fresh vegetables 4,741	41	2,421	46,422	8,500	5,390	3,795	48,138	13,125
	23 23 23 25	1,771	Ct.	36	418	719.	9	in T
	13 2	6,897	624	91/5	10,031	25,975	557	942
1	176	86	4,897	1,387	8::	₩ 8	4,514	6,435
12(1,556		62,212	61,580	11,111	118,154	87,808	69,211	27,641

1/: Prepared based on the data of the "Agriculture in Peninsular Malaysia".

- I-5 Supporting Services for Agricultural Development
 - 5-1 Project office, farmers' organization, and agricultural cooperatives

Various work will be required in order to promote agriculture once after the agricultural development work is completed. They include establishment and operation of a new administrative organ that is in charge of agricultural promotion (including the project office), organizing and management of a farmers' organization, improvement of the distribution system including procurement and sales, the primary processing of agricultural products and establishment of treatment facilities, in addition to extension of agricultural improvement measures, management and sales of agricultural equipment and materials, and establishment of a credit system, which will be described later.

As mentioned in the Main Report "Organization for Project Execution", KETENGAH is to be in charge of the execution of the swamp area integrated agricultural development under the supervision of EPU, the unit of Prime Minister's Department and Ministry of Land and Regional Development. KETENGAH will appoint project engineers who are responsible for the management of the project execution and establish the project office in the Jerangau area.

A new farmers' organization should be established independent of existing ones since swamp development is new to the country and production and distribution between the new and existing organizations are not quite the same.

The new farmers' organization is established in order to promote farm management smoothly and to assist with activities of the project office, agricultural improvement and extension work and financing projects by the federal and the state governments.

Purchasing and sales of agricultural equipment and materials, and sales and processing of products are carried out by the new agricultural cooperatives. Since developed areas are dispersed in the existing development, the cooperatives will be required to work closely with existing ones for the sales and processing of products. Therefore, it could be established as a unit of Trengganu Agricultural cooperatives, for instance.

5-2. Agricultural extension

Provision of drainage and irrigation facilities alone is not adequate to develop swamps into agricultural land. The effect of development can be maximized only when a modern farm management is smoothly achieved by settlers in accordance with development plans. It is unlikely, however, to achieve modern farming immediately after settlement since the majority of settlers are not familiar with new farming techniques. Therefore, experienced extension workers with knowledge should be sent to where extension activities are needed. Therefore, the current extension organization and the system should be adjusted in part so that extension workers will be available anytime to answer questions from farmers.

A demonstration farm will be established in the Bukit Bauk area as the center of swamp agricultural development. The demonstration farm will conduct various tests. An agricultural extension center will be established in the Bukit Bauk area where a community center is also planned. The extension center is staffed with extension workers of the manager level who are now assigned to the agricultural office in Dungun. In addition, one extension worker with two assistants who are in charge of crops in the swamp development, and extension workers in charge of livestock and pisciculture should also be assigned as many as required. In the area of sericulture, the Centre at Ajil should be reinforced.

Swamp development extension office and dormitories for workers are provided in the demonstration farm in Bukit Bauk. Office equipment and supplies, jeeps and motorcycles and other necessities should also be provided.

5-3. Agricultural inputs

As a part of efforts to implement farm management smoothly and effectively after completion of development it will be necessary to forecast types and quantity of agricultural equipment and materials so that they will be available to settlers when needed. Agricultural equipment and materials include a wide range of agricultural equipment including plowing equipment, devices, fertilizer, agro-chemicals, seeds, etc.

Funds necessary for settlers to purchase or rent equipment and materials during the initial 10 years should be incorporated in the initial investment so that settlers can obtain loans with favorable repayment terms.

In Malaysia, government subsidies are provided to those farms who cultivate paddy and special crops, The previously mentioned loan terms should not be applicable to purchasing and renting of equipment and materials for which subsidies are given.

5-4. Credit

Establishment and a smooth operation of a loan system is essential not only for the development of swamps into farmland but for agricultural development in general.

The majority of farmers who are going to settle in the area of the forthcoming project, will not have enough funds to support themselves. To them, purchasing of agricultural equipment and materials is impossible. Thus, they will depend on loans.

Whether the project is going to be financed by the Government of Malaysia or by international development banks or so, loans should be made available through Bank Pertanian Malaysia and other existing financial institutions in order to simplify the processing procedure.

I-6 Major Government Bodies and Authorities Related to Master Plan

The following government bodies and organizations are especially related to development projects:

- (1) Organizations related to planning (Federal level)
 - a) Economic Planning Unit (EPU): Under the supervision of Prime Minister's Department

Secretariat of both the economic ministerial committee and the federal development planning committee that is responsible for economic forecasting in general and the preparation of long- and medium-term and the annual plans. The Unit also consults with other government bodies in order to draw up plans in major areas and evaluates the execution of programs. The Unit is in charge of various projects financed by foreign governments.

b) Development Administration Unit (DAU): Under the supervision of Prime Minister's Department

The Unit, initially responsible for the improvement of organizations, is now in charge of training and recommendations in relation with personnel, financial and organizational improvements.

c) General Planning Unit (GPU)

The Unit studies (together with DAU) bottlenecks in relation with administrative bodies and execution of plans.

d) In addition to the aforementioned bodies, the following organizations are also related to development projects.

> Department of National Unity, National Development Planning Committee (NDPC), Capital Investment Committee (CIC), Public Services Department and National Institute for Development Administration.

(State level)

e) State Economic Planning Unit

The Unit assumes the similar role to that of federal EPU.

f) State Economic Development Corporations

The Corporation assists various projects ranging from commerce and industry, to agriculture and housing, is sometimes directly involved in establishment of enterprises.

q) Public Works Department (JKR)

The Department is in charge of construction and operation of public facilities such as roads, schools, hospitals, etc.

- (2) Semi-government bodies for execution of projects
 - a) Federal Agricultural Marketing Authority (FAMA)

The Authority directly buys general agricultural products especially vegetables with the exception of rice, tobacco, oil palm, rubber, etc. from farmers in accordance with the minimum guarantee price established by the Government.

Thus, the Authority attempts to exclude intervention of middlemen. Initially, the Authority dealt with rice and fish.

b) Federal Land Development Authority (FELDA)

The Authority is in charge of land development financed by the Federal Government. An area of 313,685 acres will be developed by 1978. According to the MTR of the Third Malaysia Plan, execution of M\$1,750.4 million worth projects will be executed between 1976 and 1980.

c) Federal Land Consolidation and Rehabilitation Authority (FELCRA)

The Authority is responsible for the execution of the Rehabilitation Fringe Alienation Schemes and land developments in smaller scale entrusted by FELDA.

d) National Padi and Rice Authority (LPN)

The Authority is responsible for establishment and adjustment of policies in relation with production, processing sales, and procurement of rice. It further implements the minimum price guarantee system in order to maintain rice price, sells, buys, processes and stocks

e) Bank Pertanian Malaysia

The Bank extends short-term credit loans for cultivation of rice, mid-term credit loans for facilities and motor vehicles and long-term credit loans for the development and procurement of processing facilities.

f) Malaysian Agricultural Research and Development Institute (MARDI)

The Institute conducts various researches in order to diversify agriculture on such products as tapioca, sugar, cocoa, maize, with the exception of rubber, dairy products, freshwater fish products.

g) Rubber Industry Small Holders Development Authority (RISDA)

The Authority assists small farmers engaged in cultivation of rubber.

h) The following organizations are also related to development projects:

Rubber Development Corporation (MARDEC), Rubber Research Institute of Malaysia (RRIM), Forest Research Institute (FRI), Malaysian Rubber Research and Development Board (MRRDB), Standard and Industrial Institute of Malaysia (SIRIM), Palm Oil Research Institute of Malaysia (PORIM), National Livestock Development Authority (MAJUTERNAK), Fisheries Development Authority of Malaysia (MAJUIKAN), Malaysian Industrial Development Authority (MIDA), and Urban Development Authority (UDA).

Reference tables are shown in Tables I-12, - 60. These tables are divided into seven groups in view of the subject matters as follows:

 Group	Tables	
Population	Table I-12 - Table I-13	
Economy	Table I-14 - Table I-16	
Finance	Table I-17 - Table I-20	
Trade	Table I-21 - Table I-35	
Commodity price	Table I-36 - Table I-38	
Production and acreage of farmland	Table I-39 - Table I-45	
Other related data on Trengganu State	Table I-46 - Table I-55	
Others	Table I-56 - Table I-60	

Table I-12 Projected Population, Trengganu, 1980-20002/

Year	Total	Male	Female	Year	Total	Male	Female
1980 1/	541,250	270,680	270,570	1991	744,668	372,409	372,259
1981	557,179	278,646	278,646	1992	766,584	383,369	383,215
1982	573,577	286,847	286,730	1993	789,145	394,652	394,493
1983	590,457	295,289	295,168	1994	812,370	406,267	406,103
1984	607,834	303,979	303,855	1995	836,278	418,223	418,055
1985	625,723	312,925	312,798	1996	860,890	430,532	430,358
1986	644,138	322,134	322,004	1997	886,226	443,203	443,023
1987	663,095	331,614	331,481	1998	912,308	456,246	456,062
1988	682,609	341,373	341,236	1999	939,157	469,673	469,484
1989	702,699	351,420	351,279	2000	965,796	483,495	483,301
1990	723,379	361,762	361,617			•	

^{1/:} Based on the projected population shown in the "Population Projections for the States of Peninsular Malaysia, 1970-80", published by Department of Statistics, Kuala Lumpur, Malaysia, March 1976.

^{2/:} Calculated on the assumptions that the average annual growth rates for 1980-2000 are 2.9% including the increase of average annual social growth rates expectable for the State of Trengganu in the future.

		o di seri				
State	1970 (Census)	Rutio 1975 Ratio	Average Annual Growth Rate 1970-1975	1975 Retio	1980 R. tio	Average Annual Growth Rute 1975-1980
Peninsular Malaysia	8,809,557	100.0 10,062,479 100.0	2.7	10,062,479 100.0	11,554,877 100.0	2.8
Johor	1,277,180	14.5 7 1,463,645 14.5	80.	1,463,645 14.5	1,690,433 14.6	2.0
Kedah	954,947	10.8 1,073,567 10.7	2.4	1,073,567 10.7	1,208,178 10.4	2.4
Kelantan	684,738	7.8 766,862 7.6	2.3	766,862 7.6	855,939 7.4	 .:
Мејака	404,125	4.6 457,302 4.5	ν, π,	457,302 4.5	520,679 4.5	2.6
Negri Sembilan	481,653	5:5 549,312 5.5	2.7	549,312 5.5	631,953 5.5	2.8
Pahang	504,945	5.7 612,065 6.\$	3.0	612,065 6.1	747,171 6.3	4.1
Pulau Pinang	776,124	8.8 864,771 8.6	7 7 7	864,771 8.6	968,220 8.4	2.3
Perak	1,569,139	17:8 1,750,405 17.4	Ω. Ω.	1,750,405 17.4	1,955,662 16.9	2.2
Perlis	121,062	1.4 133,183 1.3	1.9	133,183 1.3	146,608 1.3	1.9
Selangor	1,630,366	18.5 1,922,932 19.1	7.00	1,922,932 19.1	2,288,784 19.8	3.5
Trenggann	405,368	7 4 68 435 4 7	0.0	468 has 11.7	() () () () () () () () () ()	

(Prepared based on the data of the "Population Projections for the States of Peninsular Malaysia, 1970-80")

	lal	/ <u>1976-80</u> ised Original		0.9	10	O. 6	6 .	1	8.3	. « «	. 8	1	1 1	1	1 .	. 	ŀ	&
	Average Annua Growth Rete	жсу	(4)	in in its angle of the interest of the interes	20.2	13.0	11.2	10.5	4.6	7.7		æ	7.6	1		۳. ه	.	8.3
		1979-80	(%)	⊙ - 1	0.6	11.0	11.5	# : T : T : T : T : T : T : T : T : T :	9.5	2.7		6.8	7.4	1 :	1	7.7	: (t	6.7
-80		1980 ¹ /		5,987	1,286	5,246	קוריד	602	1,676	3,220	2,029	3,284	169	304	766	25,825	3.763	22,062
gin, 1975-		19791		5,7.25	1,237	4,726	566	η, -1 6	1,528	2,981	1,886	3,063	643	279	606	23,956	3,350	20,426
stry of Ori	Averesge	Growth Rate 1976-78	(%)	4.8	0.11	14.3	T.11	10.2	5.6	7.8	6.3	, o	7.8	1	i -	8.7		8.6
by In	10n in 1970	1978		5,33p	1,083	4,528	968	884	1,405	2,778	1,763	2,881	599	261	863	22,284	3,320	18,964
tic Prod	(NS BILL	1977		5,473	967	3,735	008	-1 -3 -0	1,290	2,592	1,649	2,719	558	244	8.2.2	20,753	3,217	17,536
Gross Domes		1976		5,507	955	3,377	713	400	1,153	2,405	1,552	2,420	517	218	707	19,288	3,058	16,230
		1975		4,804	792	2,850	654	365	1,071	6, 61	1,468	2,210	478	21.1	665	17,365	2,573	14,792
Table I-14	一般が大変な選手を表現しています。 かんしょう しゅうしょう しゅうしょう 大学 のかん かんしょう しゅうしょう しゅうしゃ しゅうしゃ しゅうしゃ しゅうしゃく しゅうしゃ しゅう しゅうしゃ しゅうしゃ しゅうしゃ しゅうしゃ しゅう しゅうしゃ しゅう			Agriculture forestry.		Manufacturing	Construction	Elictricity, gas and water	Transport, storage, and communications	Wholesale and retail trade, horels and restaurants	Finance, insurance, real estate (including ownership of dwellings) and business services	Producers of government services	Other services 2	Less imputed bank service charge	Plus import duties	GDP at purchasers' value 17	Less indirect taxes minus subsidies	GDP at factor cost

1/: Estimated. 2/: Includes community, social and personal services; products of private non-profit services to households; and domestic swrvices of households.

Agriculture, livestock, 4,146, 4,634, 4,954, 4,954, 6,94, 9,7 5,470, 5,430, 5,311, 5,410, 8,894, 7,64,634, 8,804, 9,7 6,489, 7,94,94, 9,94,9,7 9,48,9,7 9,604,1,0 9,48,9,7 9,604,1,0 9,48,9,7 9,604,1,0 9,48,9,7 9,604,1,0 9,48,9,7 9,604,1,0 9,48,9,7 9,604,1,0 9,48,9,7 9,48,9,7 9,48,9,7 9,48,9,7 9,48,9,7 9,48,9,7 9,48,9,7 9,48,9,7 9,48,9,7 9,48,9,7 9,48,9,7 9,48,9,7 9,48,9,7 9,48,9,7 9,48,9,7 9,49,9,8,8 9,49,9,9,9,9,9,9,9,9,9,9,9,9,9,9,9,9,9,	. 5°		uţ).	1970	constant price)		(Un	(Unit: M\$ million)	on)	
EG. 4,146 4,674 4,954 4,804 5,270 5,430 5,511 1.55 889 7.6 8,21.8 796 792 -3.0 948 9.7 748 1.5 1.071 1.15 1.0.5 1.0.7 1.1.5 1.0.5 1.0.7 1.1.5 1.0.5 1.0.5 1.0.7 1.1.5 1.0.5 1.			1972	1973	4261.	1975	1976	1977	19781/	√19791
ck, 4,146, 4,634, 4,954, 4,804, -3.0 948, -3.0 1,071 1,153, -4.1.5 1,071 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,170 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,153, -4.1.0 1,071 1,071 1,153, -4.1.0 1,071 1,071 1,153, -4.1.0 1,071 1,071 1,153, -4.1.0 1,071 1,071 1,153, -4.1.0 1,071 1,071 1,153, -4.1.0 1,071 1,071 1,153, -4.1.0 1,071						-		-		
E 1, 17, 17, 18, 17, 17, 18, 17, 17, 18, 18, 18, 18, 18, 18, 18, 18, 18, 18		7	7,116		0		л 070		ν. [л 5-3 л
889, 852		lorestry and lishing	4,140	r T	46.4	† ° ° ° ° †	7.64	7	% · [+	
ad water 2,047 +6.6 -4.2 = 2.768 -6.5 -6.5 = 3.37 +19.7		Mining and quarrying	688			792	876		1,071	
nd water 275 +10.2 651	.: 1	Manufacturing	2-047		. (1	CI	3,377		+11.6 4,179	+15.0 4,680
ter 275 +5.5			+10.2				+18.5		411.5	
ter 277 + 30		Construction			729	654	713		891	
ii trade 1,840		Electricity and water			337	365	400		475	513
ii trade 1,840			+15.5	+10.5	+10.8	+8.3	9.6+		+8.9	
il trade 1,8%0		Transport and communi-		i			(1	: , 00	000	0
il trade 1,8% 2,038 2,213 2,213 2,219 2,405 4,4 2,570 4,52 4,52 4,6.8 2,730 4,5.2 2,730 4,5.2 2,730 4,5.2 1,213 1,311 1,394 1,468 1,552 1,669 1,790 4,7.2 4,1.2 4,5 3 1,718 1,810 2,062 2,210 2,420 2,420 2,781 3,037 4,7.2 4,1.4 9 5,95 4,1.4 9 5,95 4,1.4 9 5,95 4,1.4 9 5,95 4,1.4 9 7,09 4,1.2 2,1.3 1,1	:	cation	720		20	1,071	1,153		1,309	1,00% 43.6
Feal 1,213 1,311 1,394 1,468 1,552 1,669 1,790 1,708 1,718 1,810 2,062 2,210 2,420 2		Wholesale and retail trade	1,840		2,21	2,219	2,405		2,730	2,890
real 1,213 1,311 1,394 1,468 1,552 1,669 1,790 1,718 1,810 2,062 2,210 2,420 2,781 1,718 1,810 2,062 2,210 2,420 2,781 1,718 1,810 4,45.3 4,45 4,78 517 1,0.4 4,8.2 1,8.2 2,11 218 230 241 162 178 187 211 218 230 241 14,238 15,904 17,227 4,62 -13.5 19,244 14,238 15,904 17,227 4,8.3 17,365 19,244 14,238 20,749 2 4,70 4,10.8 20,749 22,195 14,238 11,238 11,727 17,227 17,365 19,244 10.8 4,7.8 20,749 770	:		+7.2			+0.3	+8+		+6.2	+5.8
1,213 1,311 1,394 1,468 1,552 1,669 1,790 +7.2		Banking, insurance, real								
1,718 1,718 1,810 2,062 2,210 2,420 2,420 391 445 3,037 445 391 445 391 445 391 162 178 187 211 218 218 230 241 44.8 391 14,238 14,238 15,904 71,227 71,365 19,244 20,749 70,8 70,9		services?/	1,213	1,311	1,394	1,468	1,552	1,669	1,790	1,900
1,718 1,810 2,062 2,210 2,420 2,781 3,037 +9.2 11,7.2 45.3 445 47.8 47.4 517 550 595 +9.2 10.4 48.2 45.2 47.4 57.4 56.2 517 550 595 +9.2 162 178 187 211 218 230 241 152 178 724 769 665 707 3 793 848 14,238 14,238 15,904 17,227 17,365 19,244 20,749 22,195 7.0		1	7	+8.1	+6.3	+5.3	+5-7		+7-5	0.9+
162 178 187 211 218 230 241 44.8 14.9 769 665 707 707 793 848 46.4 46.2 14,298 17,267 707 793 848 65 14,298 14,298 15,904 711.7 7,365 19,244 20,749 77.8 7.0 655 19,244 77.8 77.9 79.9 79.9 79.9 79.9 79.9 79.9		Producer of Severnment	218	1 810	2 062	c	0.1600.	2.781	3.037	3.240
391 423 445 478 517 560 595 +6.2 +10.4 +8.1 5.2 178 230 241		の ひょう て > T D の	+17.2	+, (+, +, +, +, +, +, +, +, +, +, +, +, +, +	+13.9	ł	7.64) - •	+9.2	1.9+
162 178 187 211 218 230 241 +4.8 +13.3 724 769 665 707 793 848 +9.0 +22.7 +6.2 -13.5 19,244 20,749 22,195 +7.0		Other services 3/	391	42	445		217	560	595	632
162 178 187 211 218 230 241 +4.8 +13.3 793 75.5 848 +4.8 590 724 769 665 707 793 793 848 +6.2 -13.5 +5.3 707 793 793 848 +6.4 +6.2 -13.5 19,244 20,749 22,195 7.0 +7.8 +11.7 +8.3 +0.8 +10.8 +10.8 7.8 +7.8			+70.4		4.V.		F*8+	÷8.3	+6.2	+0-2
Import duties 590 724 769 665 707 707 793 44.8 at market prices 14,238 15,904 17,227 17,365 19,244 20,749 22,195 65.4 5.0 Estimated.	Ξ.	Less: Imputed bank	162	178			21,8		241	254
Import duties 590 724 769 665 707 793 848 +6.2 -13.5 +5.3 +12.2 +6.4 at market prices 14,238 15,904 17,227 17,365 19,244 20,749 22,195 +7.0 Estimated.		מנו יוני כזיניו פי	+13.3	6.6+			+3.3		+4.8	4.04
at market prices 14,238 15,904 17,227 +8.3 17,365 19,244 20,749 22,195 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		Add: Import duties	590			665	707	793	848	606
Estimated.		at market	14,238		17	17,365	19,244	20,749	22,195	23,788
			7	1			•	•		
			7 T			:				

(Source: Economic Report, 1978/79 published by Ministry of Finance, Malaysia, October 1978.

	761)	(001=0161)					eliant conversion	10.11.0	
						. *	Growth Rate		08-9261
	9767	1977	1978	1979	1980	1976-78	08-6261	Fevired	Original
						(%)	(36)	(%)	(%)
u e g g	0.113	100.1	110.3	112.4	115.6	3.3	- 1 (1	2.9	0.9
Palm oil	110.6	127.0	142.4	156.5	175.3	12.5	11.0	11.9	16.4
Swlogs	138.8	142.8	150.0	140.4	138.3	14.5	0.11-	6.7	6.7
200 A	6.66	5.46	6.69	9.56	104.2	-11.3	1.2.2.1 1.2.2.1	0.8	3.6
Cours	101.0	98.1	99.5	101.0	102.4	-0.3	1.4	0.0	1.5
и е е е е е е е е е е е е е е е е е е е	121.2	6.78	0.76	103.0	109.1	-1.0	6.1	8.1	7.1
Hea	103.2	106.5	106.5	106.5	106.5	2 1	0.0	£.	14.0
T ST	110.9	121.5	127.0	130.7	134.3	88	8.	7.9	3.8
Livestock	103.8	110.8	109.7	103.1	108.3	3.1	9.0-	1.6	5.6
Miscelloneous 1/	109.7	114.1	122.1	125.8	129.6	6.9	3.0	5.3	10 * th
Aggregate production index	113.7	117.1	119.9	124.1	129.7	6.2	0.4	U. V.	7+3
			:					-	

Growth of Agricultural Output, 1976-80

1-16

Table

Includes sago, tapioca, cocoa, coffee, sugarcane, groundnuts, maize, fresh fruit, tobacco, spices, food crops and other minor crops.

(Source: Mid-Term Review of the Third Malaysia Plan.)

Table I-17

Public Development Expenditure for Agricultural Programme, Malaysia, 1976-80

(Unit: M& million)

					(Unit	: M\$ mill	ion)
Sector	Original Pran Allocation, 1976/80	Ratio	Estimated Expenditure, 1976/78	Achieve- ment	Revised Plan Allocation 1976/80	Ratio	Balance to Complete, 1979/80
		(%)		(%)		(%)	
Agriculture	496.74	10.3	161.24	32.5	560.90	7.6	399.66
Crop diversifi-					* +.		
cation and extension	412.97	,	136.82	33.1	470.79		333.97
Coconut repenting			18.03	28.9	66.98		48.95
Pineapple	021,00		10.07		00.70		40.95
replanting	21.47		6.39	29.8	23.13		16.74
Rubber replanting	674.94	14.0	236.27	35.0	636.54	8.6	400.27
Land development	2,091,96	43,4	1,459,42	69.8	3,521.17	47.8	2,061.85
FELDA	1,081.22		761.1	70.4	1,750.4		989.30
FELCRA	128.28		79.51	62.0	209.98		130.47
Land Development	*O* 10		اً الم	80.1	oon to		400 FM
Boards Pahang Tenggara	505.12		419.85	83.1	928.42		508.57
Development			•				
Authority	142.15		93.34	65.7	251.95	:	158.61
Johor Tenggara				.			
Development						•	
Authority	89.43		59.21	66.2	109.02		49.81
Trengganu Tengah Development				:	2		
Authority	63.49		14.83	23.4	118.01	•	103.18
KESEDAR	-	**	0.84	184.0	13.86		13.02
SEDCs	82.27		30.74	37.4	139.63		108.89
Drainage and irri-		100			* *		
gation	621.03	12.9	269.46	43.4	828.86	11.3	559.40
Forestry	<u> 55-47</u>	1.2	17.80	32.9	86.32	1.2	68.52
<u>Veterinary</u>	179.01	3.7	69.37	38.8	218.89	3.0	149.52
Fisheries	275.73	5.7	53.61	19.4	328.48	4.5	274.87
Agricultural Pesearch	h 60.58	1.2	24.85	41.0	70.40	0.9	45.55
Credit and marketing	298.02	6.2	150.22	50.4	811.22	11.0	661.00
Bank Pertanian Malaysia Farmera' Organisa	75.77	, —	30.00	39.6	105.77		75.77
ion Authority	95.30		38.67	40.6	428.67		390.00
Cooperatives	5.00		1.84	36.8	25.62		23.78
FAMA	26.85		5.09	19.0	81.50	•	76.41
National Padi and							
Rice Authority	29.40	•	26.98	91.8	73.80		46.82
FIMA Others	3,20 62,50		11.29	352.8 58.2	11.63 48.23	1,1	0.34 47.88
· · · · · · · · · · · · · · · · · · ·		1.1	36.35				1 - 2 - 1
Others Total	$\frac{67.53}{4,821.01^{1}}$, <u>1.1</u>	20.33 2,462.57	30.1 51.1	303.82 7,364.86	4.1	283.49 4,902.29
10181	4,021,01	100	2,402.71		1.704.00	100	4,702,29

^{1/:} Includes the original allocations for SEDCs and FIMA (agricultural projects only)

⁽Prepared based on the data of the "Mid-Term Review of Third Malaysia Plan")

I-18 Comparison of Original and Revised Third Malaysia Plan Allocation, 1976-80, Trengganu

	Original		Trenggan Revised		Growth	Original	Re	alaysia vised		owth
Sector		Share		hnre	Rate			(D) Shar	e Ra	ţe
		(K)		(%)			%)	(%)		
Economic Sector	721.87	<u>79.2</u>	1,252.99	84.0	173.6	12,665.16	68.2	21,501.37	67.0	169,1
A) Agriculture and Rural	13.1		(t.t. op			4.735.54		a sos oo		
Development (i) Agriculture	393.30 22.97		644.98 25.00			496.74		7,585,23 560,90		
(ii) Rubber Replanting	64.44		61.75			674.94 2.009.69		636.54		
(ii) Rubber Replanting (iii) Land Development (IV) D.I.D.	142.44 27.51		280 53 27 75			621.03		3,715.47 828.86		
(v) Forestry	8.15		3.16			55.47		86.32		
(vi) Veterinary	11.26 81.34		15.56 89.76			179.00 · 275.73		217.05 328.48		
(vii) Fisheries (viii) Agricultural Credit								9ha 11		
and Marketing (ix) Agricultural Research	26.34	,	73.93	•		294.82	- 3	843.11		
(MARDI and PORIM)	4.28	,	3.97			60.58		70.40		
(x) MRD Scheme	2.17 2.31		2.17			45.13 10.00		28.20 9.90		
(xi) Applied Food Nutrition (xii) Others	-		59.00			10.39		260.00		
(B) Mineral Resources	**					-1 -1		00.00		
Development	<u> </u>					5.04 0.56		20.00		
(i) Mines (ii) Geological Survey	-		10 July 2	٠.		4.48		15.86		
(C) Commerce and Industry	86.18	1. 1.	121.42			1,734.52	- 1	3,205.48		
(i) PERNAS	9.04		13.36			200.00 315.00		382.52 338.43		
(ii) MARA (iii) SEDC	46.30		80.44			440.31		679.67		
(iv) Industrial Estates	5.76		13.98			217.00		300.00		
(v) UDA (vi) Urban Renewal	7. (0		13.30							
(vii) Contribution to Bumiputra Investment										
Fund	· ·					200,00		500.00		
(viii) Rubber Processing	9.52		1.06		•	132.86		101.39		
Centre (ix) MISC						11.00	1	299.80		
(x) Other Investment in	8.46		2.28			182.59	:	374.13	•	
Economic Enterprises (xi) Industrial Research						16.51		42.54	•	
(xii) Selangor Government	7.10		10.30			20.77		150.00		\$ "
(xiii) Tourism (xiv) Metal Industries	1,10		20.00							
Development Centre	-		-			4.69 61.70		9.00		
(xv) Others			2 21			36.00		91.58		
(D) Feasibility Studies	1.50		<u>3.21</u> 244.00			2,819.03		5,017.30		
(E) Transportations (i) Roads and Bridges	107.45 102.34		188.54			1,615.11		3,107.50		
(ii) Plant and Equipment	-		4.31			162,60		220.85 350.00		
(iii) Railways (iv) Ports and Marine	1.35		42.01			630.31		982.26		
(v) Civil Aviation	3:76	de la	9,14			211.00)	446.69		1
(F) Communications	11.09		33.19			1,192.03		2,138.27		
(i) Telecommunications	0.58		32.33 0.86			36.00		41.35		£.,
(ii) Postal (iii) Broadcasting	0.27					67.50		86.50 10.42		
(iv) Meteorological						8,53 2,14 <u>3.01</u>		3,443.50		
(G) Utilities (i) Electricity	122.65 56.50		206.19			1,404.97	ŧ.	2,364.94		
(ii) Rural Electrification	19.65		33.65	5		174.60		310.46 768.10		157
(iii) Water Supply	46.50	1	66.46	,		487.10	•	-		76
(iv) Others L. Social Sector	150.43	16.5	196.54	13.2		3.092.15	16.7	5,361,00	17.4	130.
(A) Education and Training		a.Y.1.2			•			2.116.23		-,
Ministry of Education	89.97 68.80		81.99 68.85	•		1,671.32 1,450.00		1,815.83		
Industrial Training	4.41		4.26			21.32		25.40		٠
MARA(Scholarships and Training)	16.70		8.88			200,00		275.00		
(B) Health and Population	1.1		1 1 1							
<u> Health</u>	15.59		28.28			377.15	•	529.72		
(C) Social and Community	Alt. OF		96 99			1,043.68	100	2,915.05		
Services (i) Welfare	44.95		86.27 3.27			12.00		28.86		
(ii) Orang Asli	0.45		0.44			22.00		46.86		
(iii) Culture, Youth and Sports	2.58		2.46			32.50	1.0	63.49		
(iv) Housing	36,16		59.24			710.15		1,965.52		
(v) Sewerage (vi) Other Community	14.7	1.	- .			1,138.50		1(2,4)		
Services	0.37		17.86			68.24		454.65		
(vii) Land (viii) Petty Traders	3.00	Y av	3.00			30.30 30.30	. : : .	153.22 30.00		
			100	1 2				直线 网络变形		
f. General Administration	24,05	2.7	29.67	2.0		597.69	3.2	1,229,31	3.8	123
V. Security	14.88	1.6		0.8		2,200.00	11.9	3,784.00	11.8	<u>78.</u>
(i) Police (ii) Defence	13.98	: "*	10.66	11		1,550.00		2,582.00		12

Commercial Banks' Loan and Advance

		Total	2,360	2,667	3,179	4,867	5,576	9,468	iyoʻα	9,558	12,288	13,419
on)		Professional and Pravate Individuals	377	Z 77 7	566	506	952	1,096	1,345	1,728	2,266	2,651
(Unit: M\$ million		General Commerce	590	637	725	1,059	1,346	1,355	1,603	2,064	2,693	3,153
(un)		Building & Constructions	206	199	198	432	463	084	503	583	789	911
ance		Manufact- uring	997	570	019	883	1,057	1,266	1,382	1,595	2,226	2,369
Banks' Loan and Advance		Mining & Quarrying	15	54	72	66	86	107	901	96	128	117
ial Banks' Ic		Agriculture	240	278	347	907	914	†8 †	536	661	871	893
Commercial		Statutory Authorities	'n	N	6	32	77	77	175	173	266	294
		Federal and State Government	0	0.5	32	103	143	183	275	291	330	330
1-19		End of Period	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979 (End July)
Table	, F	End	ī	A		. A	Ä	ं		7	ੱ ਜ	A

(Source: Bank Negara Malaysia)

Total Money Currency in Demand Deposits of Total Private Supply (a) (a) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	Table I-20	Money Supply	y and Private Sector Liquidity	tor Liquidity		(Unit: M\$ millioh)
(A)=(B)+(C) (D) (D) (D) (D) (D) (D) (D) (D) (D) (D		Total Money Supply	Currency in	Demand Deposits of Private Sector	Total Private Sector Liquidity (D)=(A)+(E)	Determinants of Money Supply Private Sector Operations(Money) (E)
2,032 1,000 1,032 4,131 2,120 1,061 1,059 4,674 2,715 1,269 1,446 5,771 3,735 1,718 2,017 7,623 4,349 2,239 2,110 10,002 5,257 2,628 2,629 12,771 6,127 3,112 3,015 14,861 7,243 3,578 3,665 17,521 8,543 4,078 4,465 21,221	End of Period	(A)=(B)+(C)	G			
2,120 1,061 1,059 4,674 2,715 1,269 1,446 5,771 3,735 1,718 2,017 7,623 4,055 2,030 2,025 8,729 4,349 2,628 2,629 10,002 5,257 2,628 2,629 12,771 6,127 3,112 3,015 14,861 7,243 3,578 3,665 17,521 8,543 4,078 4,465 21,221	1870	2.032	1,,000	1,032	4,131	2,098
2,715 3,735 1,718 2,017 7,623 4,055 2,030 2,025 4,349 2,239 2,110 10,002 12,771 6,127 3,112 3,015 14,861 17,521 17,521 8,543 4,078 4,465 2,127 14,861 17,521	1971	2.120	1,061	1,059	4,674	2,553
3,735 1,718 2,017 7,623 4,055 2,030 2,025 8,729 4,349 2,239 2,110 10,002 5,257 2,628 2,629 12,771 6,127 3,112 3,015 14,861 7,243 3,578 3,665 17,521 (Estimated) 8,543 4,078 4,465 21,221	1070	2,715	1,269	3,446	5,771	5,056
4,055 2,030 2,025 8,729 4,349 2,239 2,110 10,002 5,257 2,628 2,629 12,771 6,127 3,112 3,015 14,861 7,243 3,578 3,665 17,521 (Estimated) 8,543 4,078 4,465 21,221	1073	3,735	1,718	2,017	7,623	3,838
4,349 2,239 2,110 10,002 5,257 2,628 2,629 12,771 6,127 3,112 3,015 14,861 7,243 3,578 3,665 17,521 (Estimated) 8,543 4,078 4,465 21,221	516T	4.055	2,030	2,025	8,729	7,674
5,257 2,628 2,629 12,771 6,127 3,112 3,015 14,861 7,243 3,578 3,665 17,521 8,543 4,078 4,465 21,221	1975	676.4	2,239	2,110	10,002	5,653
6,127 3,112 3,015 14,861 7,243 3,578 3,665 17,521 (Estimated) 8,543 4,078 4,465 21,221	1976	5,257	2,628	2,629	12,771	7,514
(Estimated) 8,543 4,078 4,465 21,221	1977	6.127	3,112	3,015	14,861	8,734
(Estimated) 8,543 4,078 4,465 21,221	1978	7,243	3,578	3,665	17,521	10,278
	1979 (Estimated)		4,078	4,465	21,221	12,678

(Prepared based on the data of the "Economic Report, 1979/80)

Table I-21 External Trade of Peninsular Malaysia for 1977

Maize

		the second of	and the second of the second	<u> </u>
		Exports	Imports	Difference
Maize Unmi				
Quantity	(ton)	538.93	282,806.00	- 282,267.07
Value ^{1/}	(M\$)	120,092	89,540,107	- 89,420,015
Maize Flou	r			
Quantity		45.18	5,177.11	- 513.193
1 /	(M\$)	109,646	3,521,101	- 3,411,455
Maize Meal	and Groats			
Quantity	(ton)	. 0	263.18	- 263.18
Value1/	(M\$)	0	148,677	- 148,677
Maize for	Animal Feeding			
Quantity		0	102,825.90	- 102,825.90
Value 1/	(M\$)	0	32,962,436	- 32,962,436
Total of	Value	229,738	126,172,321	- 125,942,583

^{1/:} Values of exports and imports mean FOB price and cif price
respectively.

Table I-22 External Trade of Peninsular Malaysia for 1977

Tapioca Products

		Exports	Imports	Difference
Tapioca Flo	ur		<u></u> _	
Quantity	·	13,556.38	0.38	13,556.00
Value_/		3,311,262	903	3,310,359
varue-	(知今)	3,311,202	703	37320733
Tapioca Fla	<u>kes</u>			
Quantity	(ton)	312.70	0	312.70
Value ¹ /	(M\$)	138,385	. 0	138,385
Tapioca Pea	arls			in the state of th
Quantity		3,040.12	0	3,040.12
$value^{1/1}$		1,702,521	0 - 4	1,702,521
Tapioca Ch	lps			
Quantity		6,303.59	153.00	6,150.59
$Value^{\frac{1}{2}}$		78,843	1,867	76,976
Tapioca Re	fuse			
Quantity		63.69	75,276.34	- 75,212.265
Value ^{1/}		13,179	430,411	- 417,232
Other Tapi	oca Subs	stitutes		
Quantity		1,003.95	70.63	933.32
$\tilde{\text{Value}}^{1/1}$	(M\$)	406,196	48,481	357,715

^{1/:} Values of exports and imports mean FOB price and cif price respectively.

Table I-23 External Trade of Peninsular Malaysia for 1977

Soya Beans and Sorghum

		Exports	Imports	Difference
Soya Beans				
Quantity (t	on)	9.82	20,167.22	- 20,157.40
1 / "	\$)	6,072	15,454,615	- 15,448,543
Sorghum				
Quantity (t	on)	. 0	25,606.18	- 25,606.18
$Value^{1/}$ (M	\$)	0	7,678,210	- 7,678.210
Total of Valu	e ·	6,072	23,132,825	- 23,126,753

^{1/:} Values of exports and imports mean FOB price and cif price respectively.

Table I-24 External Trade of Peninsular Malaysia for 1977

Groundnuts

	Exports	Imports	Difference
Groundnuts Green Unshelled		in the Atlantage of	
Quantity (ton)	254.30	1,399.21	- 114,491
Value ¹ / (M\$)	499,203	955,900	- 456,697
Groundnuts Green Shelled			
Quantity (ton)	20.87	4,415.41	- 4,394.54
$Value \frac{1}{}$ (M\$)	42,586	3,571,010	- 3,528,424
Groundnuts Roasted Canned			
Quantity (ton)	2,416.87	922.88	1,493.99
$\text{Value}^{1/2}$ (M\$)	2,795,636	142,260	2,653,376
Groundnuts Roasted Uncanne	ed_		
Quantity (ton)	115.32	97.98	17.34
$Value \frac{1}{2} \qquad (M\$)$	229,930	99,615	130,316
Groundnuts Unroasted			erija in Prija in in in in
Quantity (ton)	17.88	149.63	- 13.175
$value^{\frac{1}{2}}$ (M\$)	31,820	159,548	- 127,728
Total of Value	3,599,175	4,928,333	1,329,158

^{1/:} Values of exports and imports mean FOB price and cif price respectively.

Table I-25 External Trade of Peninsular Malaysia for 1977

Groundnut Products

			
	Exports	Imports	Difference
Groundnut Oil Domestic			n in de la companya d
Quantity (ton)	399.56	1,111.11	
Value (M\$)	982,213	2,387,193	- 1,404,980
Groundnut Oil Industrial			ersysjär aut jär.
Quantity (ton)	590.36	243.97	346.39
$Value^{\frac{1}{2}}$ (M\$)	1,307,085	612,730	694,355
Groundnut Oil Hydrogenoted	<u>1</u>	in in de la companya di seriesa d Seriesa di seriesa di s	en en skriften kan de skriften en d De skriften en de skriften en
Quantity (ton)	591.60	289.20	302.40
$Value^{\frac{1}{2}} \qquad (M\$)$	128,610	36,504	102,106
Groundnut Oil Cake			
Quantity (ton)	28.10	19,938.06 -	
$Value \frac{1}{M} \qquad (M\$)$	11,520	9,837,575	9,826,055
Total of Value	1,529,428	128,740,002 -	127,710,574

^{1/:} Values of exports and imports mean FOB price and cif price respectively.

Table I-26 External Trade of Peninsular Malaysia for 1977
Pepper

3 4	And the second of the second o	· ·		Carrier at the second
		Exports	Imports	Difference
Pepper Bla	ck Unground	en in in de la servición. Portuga de la servición		
Quantity	(ton)	1,963.63	634.22	1,329.41
Value ¹ /	(M\$)	7,697,407	2,914,256	5,053,151
Pepper Whi	te Unground			en en 1960 en 1965 anne
Quantity	(ton)	466.34	312.15	154.19
Value ¹ /	(M\$)	2,585,616	1,594,475	991,141
Pepper Gro	und Black and W	<u>hite</u>		
Quantity	(1b)	10,697	41,842	- 31,145
Value $\frac{1}{}$	(M\$)	53,702	113,171	- 59,469
Total of V	alue	10,336,725	4,621,902	5,714,823
and the second of the second		The second secon	the second secon	

^{1/:} Values of exports and imports mean FOB price and cif price respectively.

Table I-27 External Trade of Peninsular Malaysia for 1977

Cocoa

	*	:		and the second second second second
		Exports	Imports	Difference
Cocoa Beans	s (Raw/Roasted)			
Quantity	(1b)	16,214,921	1,920,199	14,294,722
Value ^{1/}	(M\$)	65,570,898	6,912,877	58,658,021
Cocoa Powde	er Unsweetened			
Quantity	(1b)	1,632,221	2,947,125	- 864,904
Value ^{1/}	(M\$)	5,031,400	11,422,810	- 6,391,410
Cocoa Powde	er Sweetened			
Quantity	(1b)	0	17,903	- 17,903
$value^{1/}$	(M\$)	0	42,962	- 42,962
Cocoa Paste	e de la composición dela composición de la composición dela composición de la composición de la composición dela composición dela composición de la composic	to No. 1		
Quantity		160	0	160
Value ^{1/}	· ·	278	0	278
Cocoa Butte	<u>er</u>	and very light of the	en e	
Quantity	(1b)	1,856,116	75,475	1,780,641
Value ^{1/}	(M\$)	10,320,354	462,006	9,858,348
Total of V	alue	80,922,930	18,840,655	62,082,275

^{1/:} Values of exports and imports mean FOB price and cif price
 respectively.

Table I-28 External Trade of Peninsular Malaysia for 1977

Coffee

		Exports	Imports	Difference
Coffee Beans	Unroasted			
Quantity (ton)	4,555.78	1,059.63	3,496.15
$Value^{1/}$ (M\$)	34,436,392	7,415,304	27,021,088
Coffee Beans	Roasted			
Quantity (1b)	22,388	32,600	- 10,212
Value 1/	M\$)	76,621	168,037	- 914,16
Coffee Powde	<u>er</u>			
Quantity (1b)	125,220	9,164	116,056
Value 1/	M\$)	433,945	48,185	385,760
Coffee Extra	icts and Es	sen <u>ces</u>		
	(1b)	10,304	939,166	- 928,862
1 /	(M\$)	95,702	20,551,172	- 20,455,470
Total of Va	lue	35,052,660	28,182,698	6,869,962

 $[\]underline{1}/:$ Values of exports and imports mean FOB price and cif price respectively.

Table I-29 External Trade of Peninsular Malaysia for 1977

Coconut and Coconut Products

	Exports	Imports	Difference
Coconut Fresh			
Quantity (x 10	0) 80,976.71	24.02	80,952.69
$Value^{1/}$ (M\$)	1,284,495	382	1,284,113
Copra	tina da series de la compansión de la comp La compansión de la compa		
Quantity (ton)	878.61	371.08	507.53
$Value^{1/}$ (M\$)	1,116,421	191,939	924,482
Coconut Oil Refi	.ned	en e	
Quantity (ton)	2,492,57	92.09	2,400.48
$Value^{\frac{1}{2}}$ (M\$)	3,769,931	113,951	3,655,980
Coconut Oil Crud	di le kayan bajan di di		
Quantity (ton)		443.47	20,966.55
$Value^{1/} \qquad (M\$)$	35,414,227	423,106	34,991,121
Total of Value	41,585,074	729,378	40,855,696

^{1/:} Values of exports and imports mean FOB price and cif price
 respectively.

Table I-30 External Trade of Peninsular Malaysia for 1977

		Fruits	
	Exports	Imports	Difference
Oranges			
Quantity (ton)	8.21	11,136.19	- 11,127.98
Value (M\$)	$4,889\frac{1}{}$	$14,005,469^{2/}$	- 14,000,580
Other Citrus Fru	its		
Quantity (ton)	423.44	80.28	343.16
Value (M\$)	$160,794\frac{1}{}$	$126,096^{2/}$	34,698
Apples			
Quantity (ton)	0.14	6,611.29	- 6,611.15
Value (M\$)	1051/	$9,357,396^{\frac{2}{2}}$	- 9,357,291
Grapes			
Quantity (ton)	0.33	454.95	- 354.62
Value (M\$)	165 ¹ /	$1,170,700^{2/}$	- 1,170,535
Pears & Quinces			
Quantity (ton)		2,118.19	÷ 2,118.19
Value (M\$)	0	$2,371,392^{2/}$	- 2,371,392
Plums			
Quantity (ton)	2.80	163.21	- 160.41
Value (M\$)	$2,159\frac{1}{}$	$326,447^{2/}$	- 324,288

1/: FOB price

2/: cif price

Table I-31 External Trade of Peninsular Malaysia for 1977

Fruits and Juice

			<u></u>
	Exports I	mports	Difference
Bananas			
Quantity (ton) Value (M\$)	25,286.26 4,495,886 $\frac{1}{}$ 86	2.28 2 ² /	25,283.98 2,295,024
Pineapple			
Quantity (ton) Value (M\$)	$19,414.87 \\ 2,127,307 \frac{1}{}$	0	19,414.87 2,127,307
Pineapple Juice			
Quantity (ton) Value (M\$)	$ \begin{array}{ccc} 23,805.78 & 12 \\ 1,179,245 & 8,5 \end{array} $		23,685.57 1,170,676

1/: FOB price

2/: cif price

Table I-32 External Trade of Peninsular Malaysia for 1977

Vegetables

			<u> </u>	
		Exports	Imports	Difference
Tomatoes				
Quantity	(ton)	6,288.54	208	6,080.54
Value ^{1/}	(M\$)	2,667,384	71,769	2,595,615
Cabbages				
Quantity	(ton)	9,534.69	5,074	4,460.69
Value ¹ /	(M\$)	3,625,565	1,770,446	1,855,119
Chillies F	resh_			
Quantity	(ton)	5,135.45	421.59	4,713.85
Value ¹ /	(M\$)	2,724,718	270,654	2,454,064
Other Vege	tables	Fresh/Frozen		
Quantity	(ton)	51,945.46	5,864.73	46,080.73
Value ^{1/}	(M\$)	13,842,225	4,656,717	9,185,508
Total of V	alue	22,859,892	6,769,586	16,090,306

^{1/:} Values of exports and imports mean FOB price and cif price respectively.

Table I-33 Exports by Country of Destination, 1977

Vegetables: Tomatoes

	<u>Tc</u> Quantity	Tomatoes:v %	Value	60	Quantity	Whole %	Vegetables 1/Value	0/0	$\frac{\text{Ratio}^2}{\text{A/C} \times 100 \text{ B/D}}$	$\frac{22}{B/D}$ × 100
	(ton)		(M\$)		(ton)		(%W)			
Hong Kong	6.50	0.1	1,800	0	110.62	0.15	47,789	0.21	മ	8° ° °
Singapore	6,282.04	6.66	2,665,584	6.66	72,761.69	99.8 22	22,781,684	7 66	9 . 8	11.7
Sarawak	l	ı	t .		9.12	0.01	9,112	0.04		. 1
Brunei	T	1		i pi	14.22	0.02	12,000	0.05		1
Bali & Lombak	1	1		1	0.35	#	465	*		
Kuwait	.1	-1	* () () () () () () () () () (, I	2.67	**	1,360	#=		ı
Netherlands	i	, i	1	T	2.17	-11-	6,532	4‡=	1 - 4. 1 - 1	1 ()
U.S.A.	Ī	1 ,	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0.25	#	850	 #≃	1	1
United Kingdom	ı	ı		·-1	0.05	#	100		l	
Total	6,288.54 100	100	2,667,384	100	72,904,14	100 22	22,859,892	100	9.8	11.7
						. :				

Consist of tomatoes, cabbages, chillies (fresh) and other vegetables (fresh/frozen). $\frac{2}{\cdot}$: Ratio of tomatoes to whole vegetables.

Table I-34 Imports by Country of Origin, 1977

1	-0										_	7																					•
	$\frac{2}{5}$ /s/D x 10			50.3			v	•	in				1	26.8	(50.6	1) (U	ກ	c		₽ C	> c) C	•	١,	74-7	ı	1	55.5	$ \cdot $	71.0	feeding
	A/C x 100 B		71.7		100		خ	•	9 0		9		•	27.1	•	52.9	1	\. \.	Ġ	6		#= C	> c	4 H	n N		74.8	1	1	5 <u>1</u>	∞	72.3	for animal
•	ογο		21.5	##=	=#=	0.3		- - - -	•	: =11	= ≐#≒		٦. ١.	•		 		٠	η Ο =			- ! - =	l ⊨ ≒		- - ->:=		63.9	#= :		1.7		100	maize
	Products ¹ /Value(D)	(\$W)	0	12,763	3,6	D D		10.0	14, 704,	, c	75,571		,450,5	150,06		151,730	C C C C	21,32	~	2/2	ή (r	χ (ມູ່ ທູ່ເ	7.00	TO' /	3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3	5,30	9	2,60	09	,554,57	26,173,321	groats) and
	e Maize		22.6	#		T. 0	=	σ + -) •	= 4 #	⊨ =11=		•	7.7		H. 0		2.8	٠	#=		٠ ٠	#=	#=	# = :	#	64.4	#		J. 6	•	100	(meal &
	Whole Quantity(C	(ton)	9.0		10.7	ຜູ້	ָר ר) 	0.4		105.27		053.2	6,701.51		436.90	0.0	113.1	,024.3	163.6	tha	,097.4	8. H.	2.4	63.2	10.0	70.9	0	7.2	6,181.6	,013.8	391,042.18	lour, maize
	0/0		21.8		# =	#=		- #= († 1 ≠	⊭⊐	⊨ † ‡		ı	9.0		≠		4.1	•	1 -	*#= :	+ #= :	# :	 -	#	1	8.99	1		1.3	•	100	maize fl
Maize	(Unhulled) & Value(B)	(M\$)	∞	6,420	61	ന		ン () (, C	10	9 00 00 00 00 00 00 00 00 00 00 00 00 00)	1	577,151		76,834	ă.		98,25		m	က က	9	54,260	ر ار	l	6 59,835,430	ı	ı	1,172,65	5 2,050,240	89,540,107	Consist of maize (unhulled), n
	Z 6		22.	=1 1=	#	₩		# = €	` \	⊨ ≠	⊨ -#	•	1	0		#	. 2	m			#	#	=##==	# #=, :	#=	1	99	1	t.	-	2	100	f maiz
	Mai Quantity(A)	(ton)	63,299.14	0.7	10.76	0.0	. (9. V	0 C) c	0 C) •		1,813.85		231.00	. 1	11,077.72	882.8	1	g	0 . 4	∞.	179	54.3		188,457		шо	3,209.6	7,038		Consist o
			Argentina	Australia	Ůij		Luxembourg	Brazıl	Burma	Cultud	Germany	ביים הפקד	France France	Indonesian	Rep.	Sumatra	Japan	North Korea	Korea Rep.	India	Mexico	Netherlands	Columbia	Philippines	Singapore	Vietnam Rep.	Thailand	New Zealand	United Kingd	U.S.A.	Mozambique	Total	

#: less than 0.18; ##: less than 0.018 $\pm/:$ Consist of maize(unhulled), maize flour, maize(meal & groats) and maize 2/: Maize(unhulled) to whole maize products. #: less than 0.1%; ##: 1

8,000 3,920 939,166 20,551,172 7,023 895,529 519,948 547,372 1,166,957 4,765 654,993 15,762,147 1,634,537 /T(SM)Coffee Extracts Value And Essence 70,706 529 88,742 32,556 009 57,903 31,920 Quantity (ton) 48,185 4,408 17,824 1,299 11,624 12,997 /T(SW) Value Coffee Powder Imports of Coffee and Relative Products, Malaysia, 1977 Quantity. 3,480 132 9,164 4,804 (ton) 168,037 168,007 (MS)1/ Value Coffee Beans (roasted) Quantity. 32,600 (ton) · 0£4 21.606 39,605 7,415,304 132,152 132 408,18 6,826,744 23,247 89,587 √₹(\$W).. Quantity Value Coffee Beans unreaosted 1,059 (ton) Country of Origin Indonesian Republic Table I-35 Thailend United Kingdom Cambodia U.S.A. China Switzerland New Zealand NetherLands Philippines Italy France Burma Singapore Autsralia Sumatra India Japan Total

1/: c.i.f. value

(Prepared based on the data of the "Quarterly Commodity Statistics, FAMA", Vol. 9; No. 2, April/June 1978)

Average Wholesale and Retail Prices of Various Vegetables, Kuala Trengganu, 1977

				Wholesa	ale Pri	ces				Retai	1 Price	ωl		:	
			e S												
Types of Vegetabl	S	Annual Average 1977	II 1977	111 1977	1V 1977	1 1978	11 1978	111	Annual Average 1977	11.	111 1977	1V 1977	1 1978	11 1978	111
														107	٠,
Daun Kubis: Lo	Local	×	×	×	×	×	7,041	875	×	××	××	××	××		1,437
	Imported	×	×	×	×	×o	×	x c	×	Уи ×	ν. Χ -		1.156	1,404	530
Kubis Bulat: I.	Local	၃ (၃)	31 7 20 3	, ,	977		T 2 2	o 2 2 3) 1 ×	`	`	`	×	i x
	Lmported	x o	x C	× 0	070	(00 (00	6 6 6 7 8	×	1.239	1.321	1.239	1,239	1,156	1,156	×
900	Tubbat	1 \ \ \		\)) X		×	×	×	×		×	×		×
	Highland Lit	1.437	1.404	1.170	1,04.1	1.057	1,470	1,404	1,817		α	U)	1,486	2,064	1,817
	Lowland	×		.: *			x	×		`` x ∴	×	×	×		×
2 × × × ×		30	1,453	1,140	1 040		628	578	1,321		ഹ	$^{\circ}$	166	908	908
900		628	727	1119			661	9††	0		\sim	œ	826		826
			908	628	1.024		760	678	'n		17	5	J.	1,156	908
			×	×	1,305		1,189	1.239	ıΛ		\mathbf{r}	S,	1,652	•	1,652
Ast Lan	The second second second	208	277	.092	92,5		793	875	S			2	Τ,	•	1,321
ಗ್ರಾಣಗಳಿಗೆ ನಿರ್ಣ) t	า บ - บ	306	/ -4 		578	495	661		~₁	-7	806	908	743
Limin		1-7	ングン	200	7779		710	7.78	\circ	Ö	VO.	\circ	Ç	1,239	1,239
ang Fanjang		7 C) i	7.00	711		900	0.1	ប		~	-	٣,	٠. '	€,
ang Buncis		866	V 1	177	0 to 0		777	1 1 1 - 1	٠,	i õ	าก	1 6	, ,	041	,
Kacang Bendeh		793	727	2.70	0.0		- 1 - 1 0 (0 0	100		Na	1 4	000	•	1000
lato:	Highland	_	1,007	1,189	1,321		1,425	1361	0		n	· ;	n)	, , , , , , , , , , , , , , , , , , ,	• >
Ã	owland	-			×		7	χ,	1	્ય	< ?		3	νς α	•
Lobak Putih	10.00mm	H S S S S S S S S S S S S S S S S S S S	2,097	7.00.T	× 6	0 C	0 00	ι - ο α	- c	*	1,1	F) 3	1 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3) 1 0 0 0	10.1
dek ner				163	, cr		٠.	{ .	t :	•			١.	Y	
1 1		14 C	;	,	0		. 000	្ស	· c	×	. ×		32	. 56	-7
		, a ,	× •	Ç	, 1 7 7 7		2 0	٦٥	0.00	:		2.147	, .c.	00	7
Halia (muda)		0.7)	7 CO T	((0))	Λ.	7.0 7.0	ν α α	777	, , ,	· ×	ł l x	į ×	1.486	1,569	1,321
ាន (ខាង)		x (X	x c	, 207	~ 0) () () ()	17	1 6 5 2	()		890	80	6.7	
Call Higgs			7011	7	ο.	٦.	1	г	;	()	,	١	<u>`</u> >	` >	. >
Cili Padi		X 1	× .	(×	έ q	()	080	()	1.652	086	2.147		۳,
C111 Meran		n :	; ; ;	()(',') ; ;	_) V		١.)	· •			. >	7.267	Ö
Kacang wangi		×	× :	× x	× >	ے '	,	100 f	()	(×	ı x	×	0,0	366	908
Ketulo Segn		×	x :	×	× >		3 0	יוני ייני ייני	< >	()	· : ×	: ×	120		, vo
Dunga Auole		×	x :	Κ:	< ;	V	i a) (· •		· >	· .	00		. 7
ratio (F	ak choy)	×	x	×:	× ;) v	1 , 14	0.45	< >	ं ं	· >	Ċ	50	700	١.
		×	×	×	×	+ .	,	,	<	()	()	()	11:	•	r
	Local	×	×	×	×	×.	V.	Ú,	×	x :	× :	x :	× ì	•	νс
	Imported	x	×	×	×	×	×	٠,	×	x :	×	x :	χū		Λ.
rah (Imported)	×	×	×	×	20	2,213	J.	×	×	×	×	, c	•	4 (
Pon Choy		×	×	×	×	2,312	•	1,707	×	×	×	×	4,000	4,000	7,714
Peria		X	X	×	×	y (2,70	-	×	× :	ĸ:	κ :	, c	•	
Sadri		x	x	×	×	20 (70/7	3 (×	× :	x]:	k 3	, r	•	
Labu Manis		×	×	×	×	· `	265	m (×	×	×	Κ:)))) 	r ¢
		×	x	×	×	٠,	x c	N C	×	х :	x i	ς >	ς ζ		<u>,</u>
Bawang Merah: Bi	9	×	×	×	×		147 117	0 -	×	X	()	k :	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		100
S	Small	×	×	×	×	Ж	1,652	1,480	×	×	×	×	Ţ.	•	ž

1/: x indicates "not available".

(prepared based on the data of the " quarterly Commodity Statistics, FAMA; July/September 1978)

(Unit: M\$/ton) Table I-37 Average Prices of Coffee and Relative Products, Malaysia, 1977

•				O	Quarterly	y Average	ige	
Coffee and Relative Produ	Products	Annual Average 1977	1 1977		III 1977	IV 1977	I 1978	11 1978
					• .			
Coffee Beans (unroasted); Who	Wholesale Ex-	Le Ex-Klang						
Local No. 1		7,564	8,951	9,067	5,962	6,259	6,045	5,334
Local No. 2		7,002	8,423	8,439	5,384	5,764	5,533	4,872
Local No. 3		7,828	8,340	8,406	5,120	$\frac{1}{na^{\frac{1}{2}}}$	na	n B
Coffee; FOB Singapore					:			
Coffee A.P. 1		10,355	12,238 13,014	13,014	8,390	7,762	7,349	6,160
Coffee A.P. 2		9,645	11,643	12,238	7,729	6,953	6,524	5,483
Coffee A.P. 3		656,6	11,841	12,502	8,059	7,432	7,019	5,714
Coffee Robusta (20-26%)		8,968	11,462	12,023	6,573	5,797	5,500	5,136
						٠		

1/: not available

(Prepared based on the data of the "Quarterly Community Statistics, FAMA" Vol.9 No.1, January/March 1978 and Vol.9; No.2, April/June 1978)

Table I-38	Consumer Price Indices	ice Indices			· .				
	(001=2961)	100)							
	Weight	1972	1973	1974	1975	1976	1977	1978	1979=/
	(%)								
Peninsular Malaysia									
5000	8.94	103.8	120.3	151.7	1.57.4	165	169.3	177.7	184.8
Rice, bread and	· · · · · · · · · · · · · · · · · · ·	5 O	112.4	154.0	159.1	154.9	155.2	154.5	ı
other cereals	ή α Η 0	301.2	119.3	151.3	151.5	142.9	148.1	153.7	ι
Me o u	, ,	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	141.8	179.0	4.881	210.6	224.9	249.5	1
II STATE	χ α	103.2	112.9	126.2	128.8	130.0	131.6	130-2	ı
Oils and fats	9.1	102.7	7:4:1	179.5	139.4	132.7	162.8	168.5	1
Fruits and vege-	Q	102.0	118.0	139.5	148.9	161.2	180.9	207.8	ı
tables		136.3	140.9	1.59.4	6.961	203.2	203.0	203.1	ι
Sugar Coffee and tea	0.9	103.4	107.8	117.5	125.1	147.9	224.1	209.0	1
Heverages and tobacco	6.8	107.2	108.6	110.7	121.2	122.8	127.3	133.8	1
Clothing and footwear	ა - 7	105.8	129.0	1-441	143.3	146.9	152.6	167.9	ŧ
Rent, fuel and power	4.6	102.8	104.3	111.5	118.9	125.6	133.2	139.9	•
Furniture and house- hold equipment	9.9	114.0	128.6	150.5	157.8	161.7	167.3	174.2	i
Transport and communication	10.4	106.5	ħ.601	119.7	127.1	133.4	138.1	146.3	<u>,</u> 1

1/: Estimated.

(Prepared based on the data of the "Economic Report, 1979/80")

Table I-39

Various Paddy Production and Unit Yield, Trenggamu, 1978

Kind of Paddy and District	Planted Acreage	Hervested Acrenge	Production	Unit Yield
	(acre)	(acre)	(ton)	(ton/acre
Main season paddy, 1977/78	71,131	68,727	55,766,208	0.751
Kuala Trengganu Kemaman Dungun Besut Marang Ulu Trengganu	31,360 1,398 3,980 24,366 5,232 4,795	30,407 1,347 3,728 23,481 5,109 4,655	27,031,823 855,345 2,604,008 17,892,522 3,244,215 4,138,295	0.889 0.635 0.699 0.762 0.635 0.889
Dry field paddy, 1977/78	6, 269	5,922	3,790.353	0.537
Kuala Trengganu Kemaman Dungun Besut Marang Ulu Trengganu	1,316 	1,197 	912,114 268,034 6,706 - 2,603,500	0.762 0.445 0.305 0.635
Hill paddy, 1977/78	3,752	3,611	1,820.723	0.437
Kuala Trengganu Kemaman Dungun Besut Marang Ulu Trengganu	22 200 30 3,500	20 169 22 3,400	9.550 77.267 6.706	0.478 0.457 0.305 0.508
Off-season paddy, 1978	13,208	12,276	12,061.635	1,016
Kuala Trengganu Kemaman Dungun Besut Marang	3,248 - 9,410	3,015	3,829.050 	0.889
Ulu Trengganu	550	400	355.600	0.889
Total	94,360	90,536	73,438.918	

(Prepared based on the "Agricultural Report", Trenggamu, 1978)

Table I-40 Planted Acreage, Cultivated Acreage and Unit Yield of Varieties of Paddy Applied in Trengganu, 1977/78

Varieties of Paddy	Planted Acreage	Harvested Acreage	Actual Unit Yield
	(acre)	(acre)	(ton/acre)
		0.050	a. 01-a
. Mahsuri	9,580	9.353	0.843
Kuala Trengganu Kemaman	3,404 18	3,369 16	0.919
Dungun	· -		
Besut Marang	5,083 135	4,913 135	0.762
Ulu Trengganu	940	920	1.016
1000 Cantang	1,846	1,761	1,016
Kuala Trengganu	. 93	88	1.016
Kemaman	-	-	·
Dungun Besut	1,753	1,673	1.016
Marang	-	-	_
Ulu Trengganu			
. Mat Candu	2,484	2.351	0.681
Kuala Trengganu Kemaman	150 2	147	0,889 0,254
Dungun	150	130	0.762
Besut	2,062	1,999	0.889
Marang Vlu Trengganu	120	74	0.610
*	208	<u>316</u>	0.762
	<u>398</u>	210	OLIOR
Kuala Trengganu Kemaman	- 9	- 9	0.635
Dungun	<u>.</u> 1	-	
Besut Marang	389	307	0.889
Ulu Trengganu	=:	-	** -
. Apollo	<u>85</u>	80	1.143
Kuala Trenggonu	85	80	1.143
Kemaman	- 1	_	= "
Dungun Besut	·	· -	
Marang		· = · · · .	-
Ulu Trengganu	en e	. -	- 1.0 ± 1.0
. Padi Hitam	2,175	<u>9.017</u>	0.729
Kuala Trengganu	5,350	5,255	0.813
Kemaman Dungun	500	460	0.762
Besut	, i.e	- .	<u> </u>
Marang Vlu Trengganu	2,535 790	2,522 780	0.711 0.635
	2,254	2.184	0.699
. <u>Jintan</u> Kuala Trengganu	349	328	0.610
Kemaman Kemaman	45	43	0.724
Dungun		1,813	0.762
Besut Marang	1,860	1,017	0. Tok
Ulu Trengganu	_		
Mg. Segumpal	4,918	4,687	0.681
Kuala Trengganu	1,600	1,425	0.737
Kemaman	. 60	58	0.483
Dungun Besut	2,890	2,840	0.635
Marang	236	234	0.660 0.889
Ulu Trengganu	132	130	
Tangkai Emas	<u>3,425</u>	<u>2,329</u>	0.726
Kuala Trengganu	2,520 135	2,490 135	0.838 0.470
Kemaman Dungun	-		
Besut	-	104	0.711
Marang Ulu Trengganu	110 660	610	0.889
	400	302	0.699
	100	90	0.889
Kuala Trengganu Kemaman	, -	- <u>-</u> -	= -
Dungun	200	212	0.508
Besut Marong	300		
Marang Ulu Trengganu	· · · · -		
k. Jenis Tempatan	36,566	35.339	0.846
. Kuala Trengganu	17,709	17,135	0.762
Kemaman	1,129	1,086 3,138	0.635 0.689
Dungun Besut	3,330 10,029	9,725	0.635 - 0.762
Marang	2,096	2,040	0.635 0.813
Ulu Trengganu	2,273	2,215	
Total	71,131	68,727	0.802
Total	71,131	00,121	0.002

Distribution of Vegetable Acreage by State, 1970, 1972 and 1976^{2} Table I-41

	rd	1970	1972	7.2	13.6	
4. 6. 6. 6.	Acreage	Percentage	Acreage	Percentage	Acreage	Percentage
	(acre)	(%)	(acre)	(%)	(acre)	(5)
Johore	1,411	2	1,604	7	1,673	œ
Kedah	202	e	101	/₹*	177	H
Kelantan	2,819					٠
Melaka	767	1.5	2,750	13	2,183	. 11
Negri Sembilan	359	m	765	7	1,063	in
Pahang	3,680	cq.	329	લ	292	rl
Pulau Pinang and S. Perai	794	19	6,756	32	9,072	t 5
Perak	6.248	33	5,663	27	2,003	10
Perlis	180	Ħ	50	*	270	: ' H
Selangor	2,124	T T	1,337	· Ø	1,816	ο ο
Trengganu	7.58	4	1,093	5	932	20
Peninsular Malaysia	19,072	100	21,360	100	20,221	100
	٠,			-		

^{1/}i Less than 1 2/i. Prepared based on the data of the "Agriculture in Peninsular Malaysia".

(ton/acre) Dry Paddy 0.434 0.480 0.472 0.521 0.513 0.559 0.556 0.556 0.483 0.531 0.394 Unit Yield Acreage, Production and Unit Yield of Paddy Malaysia (10³ tons) (10³ tons)(10³ tons)(ton (ton /acre) 1.113 1.222 1.285 1.295 1.156 1.179 1.334 1.298 1.394 1.313 1.257 Off-Wet Paddy 0.988 1.095 1.085 1.123 Main Scason 1.054 1,130 1.133 1.189 1.128 1.107 1.069 628,016 405,349 479,698 608,558 529,410 562,449 680,002 715,760 616,188 675,648 687,571 8,799 9,708 10,609 10,996 7,029 5,395 5,258 4,697 3,460 9,987 4,837 Wet Dry Puddy Paddy. Production 396,550 598,571 066,694 551,453 624,556 518,801 710,923 670,390 509,159 674,607 682,874 Total Total Flanted Harvested acres) $(\frac{10^3}{acres})$ 1,314 1,376 1,434. 1,445 1,405 : 1,297 1,087 971 1,183 1,137 1,227 1,431 1,433 1,234 1,365 1,386 1,318 1,462 1,476 1,414 1,471 Area (103 Table I-42 1976/77 (Estimated) 1966/67 1967/68 1968/69 1969/70 12/0261 1971/72 1972/73 1974/75 1975/76 1973/74

Prepared based on the data of Monthly Statistical Bulletin, Peninsular Malaysia, March 1979.

able I-43

(Unit: '000 acres)

	Total									Miscella-	j	
	vated.	Per-	Rubber	Per-	Per- Coconut centage	Paddy	Per- centage	Oil palm	Per- centage	neous	rer- centage	0)
State	ar re	(%)		(%)			(%)		(%)		(R	
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	e e	α υ	96	135.3 25	9	Н	350.1	33	88.0	22	
Johore	t . Coo. t] =	425.8	. 01		296.8	32	10.8	rd	27.6	L -	
Kelantan	486.1		208.9	<u>ب</u>		179.5		12.9	् स	41.1	07	
Melaka	507.0	-3	252.0	9	12.0 2	27.1	т	10.1	- .	5.8	ч	
Negri Sembilan	6.77.9	010	576.1	14	7.2 1	23.3	Ŋ	65.9	9	4.80	ત	
Pahang	822.0	12	7.144	11	17.0 3	48.1	'n	280.8	56	34.4	∞	
Penang and Province Welleley	162.7	Ŕ	6.59	<u>ب</u>	38.6 7	39.0	-7	7.4	႕	11.8	n	
Derrak	਼ਰ	71	593.1	1.4	109.8 21	127.2	1.4	107.0	10	91.3	23	
Perlis	106.8	⊶	14.2	*	3.3	65.9	7	ı	.	23.4	\$	
Selangor	758.2	71	372.3	6	110 3 21	49.5	ις ·	183.1	17	43.0	ָרָד ·	
Trengganu	336.6	ŔŲ	150.3	7	31.5 6	73.9	∞	51.8	'nΛ	29.1	7	
Peninsular Malaysia	7,141.1	100	4,185.5	100	537.7 100	937.1	100	14076.9	оот	403.9	100	
1960	5,900		3,889		520	929		110		452		
1965	6,504		4,328		527	950		540		644		

1/: Prepared based on the data of "Agricultural Malaysia.

Table I-44 Planted Acreage, Harvested Acreage and Production of Various Vegetables, Trengganu, 1978

Kind of	Planted	llarvested	
Vegetables	Acreage	Acreage	Production
	(acre)	(acre)	(kg)
a. Snyur-sayuran Daum	1.916	965	422,154
Very 1 - Comment of the latest	1,210 644		
Kuala Trengganu Kemaman	644 41	478 38	393,636 27,611
Dungun	65	57	27,611
Besut	219.5	173	57,220
Marang	50.5	49	16,349
Ulu Trengganu 2/	193	170	81,379
b. Sayur-sayuran Buah	928	<u>813</u>	<u>525,998</u>
Kuala Trengganu	528	487	353,854
Kemaman Dungun	36 60	33 55	15,985
Desut	174	122	42,385 51,044
Marang	44	32	21,798
Ulu Trengganu	86	. 84	40,932
c. Ubi Keledek ^{2/}	858.5	<u>768</u>	3,162,670
Kuala Trengganu	550	510	2,316,038
Kemaman	46	33	159.852
Dungun Besut	30 171.5	25 140	151,375
Marang	36	35	678,160 190,733
Ulu Trengganu	25	25	166,513
d. Japong 4/	1,495.8	1,369.8	1,267,130
Kuala Trengganu	525	480	133,210
Kemaman	128	110	800,471
Dungun	111	90	27,248
Besut Marang	354 10	317	123,522 4,541
Ulu Trengganu	267.8	367.8	178,138
e. Kacang Tanah	3,193	2,612.3	1,115,150
Kuala Trengganu	876.3	628	215,679
Kemaman	118	82	36,390
Dungun	222	190	82,954
Besut Marang	432.5	408	122,553
narang Ulu Trengganu	1,544.3	1,304.3	657,573
f. Ubi Knyu ⁶	670	222	2,917,585
Kuain Trengganu	350	267	2,425,028
Koara Trengganu Kemamnu	56	48	435,960
Dungun	15	10	90,825
Besut	79 145	65 . 125	393,575 511,648
Marang Ulu Trengganu	25	125	60,550
g. Timun Cina	1,407	1,283	33,348,094
Kuala Trengganu	200	160	1,453,200
Kemaman Dungun	68 133.5	62 128.5	733,563 618,821
Besut	333	308	2,797,410
Marang	664	616	27,731,900
Ulu Trengganu	8.5	8.5	13,200
h. Kacang Hijau8/	141.5	<u>83</u>	10,536
Kunia Trenggnau	-	-	. <u>-</u>
Kemaman	13.5	8	1,453
Dungun Besut	128	75	9,083
Marang		12	7,503
Ulu Trengganu	-3.5	- ,	
i. Kacang Soya ²	197	<u>50</u> :	4,602
Kuala Trengganu	79	20	969
Kemaman	· 1	.	
Dungun	<u>-</u>		- 1 − 1 − 1 − 1 − 1 − 1 − 1 − 1 − 1 − 1
Besut Marang	.:. o		

l/: Leaf vegetables

^{2/:} Fruit vegetables

^{3/:} Sweet potatoes

^{4/:} Maize

^{5/:} Groundnuts

<u>6</u>/: Tapioca

^{7/:} Watermelon

^{8/:} Green peas

^{9/1} Soybeans

 $^{1\}underline{0}/\imath$ Calculated based on the data of Lapuran Tahunan, 1978,

Table I-45 Acreage under Fruits, Trengganu, 1975

ype of Fruits	Trengganu	Whole Malaysia	Percentag
	(acre)	(acre)	(%)
			_
Rambutan	1,638	- 27 ; 237	6.0
Durian	2,317	24,826	9.3
Duku/Langsat	254	4,340	•
Mangsteen	51	3,985	5.9
Rambai	21	1,023	2.1
Mango	466	4,913	9.5
Banana	2,144	36,216	5.9
Pineapple(dessert)	1,332	8,523	15.6
Watermelon	806	5,075	15.9
Mandarin orange	95	2,321	4.1
Citrus	149	2,848	5.2
Cempedak	79	3,440	5.3
Papaya	37	1,486	2.5
Jackfruit	475	1,626	29.2
Pomelo	13	1,511	1.1
Ciku	148	951	15.6
Other fruits	135	467	28.9
Cashew nut	12,246	15,393	79.6
Total	22,406	145,881	15.4

^{1/:} Prepared based on the data of the "Agriculture in Peninsular Malaysia"

Table I-46 Gross Domestic Product by Industry of Origin, Trengganu State, 1975

(M\$ million in constant 1970 prices)

Sector	Trengganu	Total Malaysia	Ratio of Trengganu to Total Malaysia
			(%)
			•
Agriculture, Forestry, Livestock and Fishing	171.2	4,804	3.6
Mining and Quarrying	6.3	792	0.8
Manufacturing	23.4	2,850	0.8
Construction	13.2	654	2.0
Services 1/	143.7	8,265	1.7
Gross Domestic Product (G.D.P.)	357.8	17.365	2.1
Population (000)	485	12,298	3.9
Per Capita G.D.P. (M\$)	737.7	1,412.02/	52.2
Ratio to Malaysian Average	0.52	1.00	

^{1/:} Includes - (a) Utilities;

⁽b) Transport, storage and communication;

⁽c) Wholesale and retail trade;

⁽d) Banking and insurance;

⁽e) Public administration and defence;

⁽f) Ownership of dwellings and real estate;

⁽q) Other services.

^{2/:} Malaysian average

Table I-47 Public Development Expenditure for Rural Water Supply Programme, Trengganu State, 1976-80

(M\$ million)

		to the second second	
	Trengganu (A)	Total Malaysia (B)	A/B x 100
Original TMP allocation, 1976-80	12.3	100.0	12.3
Estimated expenditure, 1967-78	8.0	69.9	12.9
Achievement (%)	65.0	69.9	93.0
Revised TMP allocation, 1967-80	16.5	184.9	9.0

Table I-48 New Approvals for Industrial Development, Trengganu State, 1973-78

4		Trengganu	Total Malaysia	$A/B \times 100$
		(A)	(B)	(%)
Tumber of a	oprovals			
1973-75	Number	18	1,459	1.2
	8	1.2	100	
1976-78	Number	22	1,253	1.8
	Q	1.8	100	
•				
Proposed ca	pital investmen	<u>t</u>		
1973-75	(M\$ million)	35.5	4,242.3	0.8
	8	0.8	100	
1976-78	(M\$ million)	37.7	3,225.7	1.2
	%	1.2	100	

Table I-49 Rural Roads Approved Programme, Trengganu, State, 1976-80

	<u> </u>		
	Trengganu	Total Malaysia ^{2/}	A/B x 100
	(A)	(B)	(%)
			4 42 44
Total cost (M\$ million)	47.6	417.5	11.5
Total Mileage	350.2	2,568.2	:13.6
Rural road category			
A (Existing project)			
Cost (M\$ million)	22.2	194.2	11.4
Mileage	124.0	1,051.8	11.8
Mileage completed, (1976-78)	9.3	422.6	0.2
B (New project)			
Cost (M\$ million)	6.0	125.9	4.8
Mileage	51.8	756.3	6.9
Mileage completed, $(1976-78)^{\frac{1}{2}}$	- .		
C (Upgrading)			
Cost (M\$ million)	19.4	97.4	19.9
Mileage	174.4	850.1	20.5
Mileage completed, (1967-78)	26.6	137.3	19.4

 $[\]underline{1}/:$ Rural road category B projects are new projects still in the design stage.

^{2/:} Means Peninsular Malaysia in this table.

Table I-50 Airport Passenger and Freight Traffic,
Trengganu State, 1975 and 1978

	Trengganu ^l / (A)	Peninsular Malaysia (B)	A/B x 100 (%)
Passenger traffic (000)	¥ .		
1975	14.8	2,194.0	0.7
1978	40.3	2,795.1	1.4
Average annual growth rate (%) 1976-78	39.6	8.4	
Freight traffic (tonnes)	and the second		
1975	14.0	16,489.0	0.1
1978	35.0	36,139.0	0.1
Average annual growth rate (%) 1976-78	35.7	29.9	

^{1/:} The airport is located at Kuala Trengganu.

Table I-51 Number of Doctors and Population per Doctor Trengganu State, 1975-78

	Trengganu (A)	Total Malaysia (B)	A/B x 100 (%)
Number of doctors $^{1/}$	ger di		
1975	51	2,757	1.8
1978	61	3,058	2.0
Growth rate (1975-78)		
8	19.6	10.9	
Population per doctor			gradient de la company de la c
1975	9,509	4,460	213.2
1978	8,622	4,347	198.3
Growth rate (1975-78	· · · · · · · · · · · · · · · · · · ·		
8	- 9.3	- 2.5	

^{1/:} Includes the private practioner.

Table I-52 Number of Settlers from Various States in Settled FELDA Schemes 1/, Trengganu State

	Trone	gganu	Total Ma	laveia	
State of origin	Number of setllers	Per- centage (%)	Number of setllers (B)	Per- centage (%)	A/B x 100 (%)
Johore	3	0.2	9,482	26.7	0.0(0.03)
Kedah	2	0.1	3,208	9.0	0.1(0.06)
Kelantan	184	10.0	1,804	5.1	10.2
Melaka	1	0.1	2,179	6.1	0.0(0.04)
Negeri Sembilan	2	0.1	4,040	11.4	0.1(0.05)
Pahang	10	0.5	4,505	12.7	2.2
Perak	1	0.1	4,006	11.3	0.0(0.02)
Perlis	: =	. .	301	0.8	
Pulau Pinang	.	-	959	2.7	-
Selangor	2	0.1	2,652	7.5	0.1(0.08)
Trengganu	1,625	88.7	2,255	6.3	72.1
Others ^{2/}	1	0.1	140	0.3	0.7
Total	1,831	100	35,531	100	5.2

^{1/}: Based on FELDA Settler Census 1976.

^{2/ :} Settlers not born in eninsular Malaysia.

Table I-53 Land Development, Trengganu State, 1976-78

(Unit: acre)

 Agency	Trengganu	Total Malaysia	TMP Targets ³ /	Achievement	Ratio of Trengganu to Total Malaysia
				(%)	(%)
State Agencies 1/	17,700	246,200	500,000	49.2	7.2
FELDA	25,000	313,700	$350,000^{2/}$	89.6	8.0
FELCRA	5,400	28,700	50,000	57.4	18.8
RISDA (New planning)	18,300	58,900	100,000	58.9	31.1
Total land development	66,400	647,500	1,000,000	64.7	10.3

 $[\]underline{1}/:$ Includes joint-ventures with the private sector.

^{2/:} Revised TMP target for FELDA is 500,000 acres for 1976-80.

^{3/:} For total Malaysia.

Table I-54 Financial Allocation for Trengganu State, 1976-80

	Trengganu (A)	Total Malaysia (B)	A/B x 100 (%)
Original TMP Allocation, (M\$ million)	911	18,554	4.9
Pevised TMP Allocation, (M\$ million)			
Total (M\$ million)	1,491	32,076	4.6
Per oapita (M\$)	2,835	2,413	117.5
Percentage increase(%) $\frac{1}{}$	63.7	72.9	
Percentage of Revised Allocation(%)	4.6	100.0	
Population	526	13,294	4.0

 $[\]underline{1}/:$ Ratio of original TMP allocation to revised TMP allocation.

Summary of Area and Production of All Types of Paddy, Trengganu State, 1974/1975 Table I-55

And the second s	Total:	Total: All Types 1975	Wet Paddy Main Crop	Wet Paddy Main Crop 1974/1975	Off Season Wet Paddy	Off Season Wet Paddy 1975	Dry Paddy Upland and Lowland 1974,	Dry Paddy Upland and Lowland 1974/1975
State	Area	Production	Area	Production	Area	Production	Area	Production
	(ha)	(ton)	(ha)	(ton)	(ha)	(ton)	(ha)	(ton)
Trengganu (A)	38,584	44,968		29,910 37,005	6,726	6,759	1,918	1,220
Total Peninsular Malaysia(B) 59	llar 595,589	1,116,188	372,187	372,187 666,357	213,225 441,504	441,504	9,704	6 8 9 8
A/B x 100(%)	ა	4.0	8.0	5.5	3.1	J.5	8.61	14.1

Table I-56	Some	me Social	Indica	tors on	Indicators on Standards of		Living, 1975	75 and 1978,	11	Malaysia			- 1
	High Income		Σ.	Middle Ir	Income Sta	States				Low	Income	States	
	State Selangor ¹ /	Johor	Мејака	Negeri Sembilan	Pahang	Perak	Pulau Pinang	Sabah	Sarawak	Kedah/ Perlis	Kelantan	n Trengganu	
Doctors per						. :						: 1	
1,000 persons	0.56	0.17	0.23	0.22	0.17	0.18	0.32	0.14	0.13	0.14	0.10	0.11	
1978	0.58	0.17	0.21	0.23	0.20	0.19	0.34	0.13	0.13	0.21	0.11	0.12	
Dentists per 1,000 persons		. 0	80	0.07	0.07	0.0	0.08	ю ц	ю ц	0.0	0.04	70.0	
1978	0.10	0.07	0.08	0.09	0.09	90.0	60.0	n.a.	й	90.0	000	90.0	
Acute hospital beds													
per 1,000 persons 1975	1.85	1.65	1.71	2.53	1.75	1.55	1.58	1,15	1.42	1.11	1.07	1.45	
1978	1.91	1.67	1.63	2.55	1.64	1.54	1.78	1.41	1.51	1.09	1.08	1.18	
Enrolment ratio (primary schools)			-		1	t		S	\$	7 90	7 06	92.1	
1975	97.1		4.79	90 Y	0.47	- 0	ر د د د د د	76.0	80.3	92.2	94.5	92.7	
1978	98.7	94.9	χ. Ο .	87.5	1.66	W-1%	74.7) }					
Enrolment ratio (secondary schools) 1975	61.1	51.4	59.0	57.3	55.0	53.2	61.3	а	г е	52.0	55.4	47.7	
1978	63.6	63.1	71.6	9.69	56.2	61.9	0 69	8.94	8 44	61.0	9.49	58.8	
Private cars per					1								
100 per sams	7.4	3.2	3.9	4.2	2.5	3•₽	5.1	n.a	ю. П	о. Н (ጣ (መ	7 .	
1978	0.6	4.0	8.1	5.0	ب بر	ب و.	7.9	n n	ช	7.) • ٢	
Motorcycles per					•	7.1					٠	,	
1975	6.1	0 0 0 8	0 0 0 0	10.5	9 6: 4 8	00 00 00	10.0	n n	ល ល ជ ជ	8 0 1	ン か な な	7.4 1.0	

1/: Includes Federal Territory. (Source: Mid-Term Review of the Third Malaysia Plan)

Table I-57 Projected Demand and Required Rete of Growth
to Achieve Self-sufficiency, Peninsular Malaysia

	and the second second			
	Demand Pi	rojections	Average Rate Req	Annual Growth uired
	1980	1990	1972-80	1972-90
	(10 ³ tons)	(10 ³ tons)	(%)	(%)
Rice	1,429	1,930	5.3	5.1 (3.5) <u>1</u> /
Beef & Mutton	40	66	20.4	18.3 (6.3)
Poultry	101	161	5.9	7.5 (6.0)
Pork	62	98	4.9	6.5 (5.6)
Eggs	95	156	5.9	7.9 (6.5)
Fish	399	588	1.9	3.9 (4.8)
Vegetables	327	497	5.4	6.5 (5.2)
Fruits	564	863	·	2.0 (5.3)
Milk	355	545.	233.1	162.1 (5.4)
Sugar	459	669	162.6	103.5 (4.7)
Fats & Oils $^{2/}$	192	296	13.3	14.1 (5.5)
*		* · · · · · · · · · · · · · · · · · · ·		

 $[\]underline{1}/:$ Figures in brackets denote required growth rates from 1980 to 1990 if self-sufficiency is achieved in 1980.

^{2/:} Excluding palm oil and kernel.

Table I-58 BPM's Loan Operations, 1975-77

	1975	1976	1977
Loan approved	47.9	55.6	66.8
Loadn utilised	31.5 (65.8)	43.1 (77.1)	46.7 (69.9)
Loan repaid	22.7	28.7	38.8
Loan outstanding	52.5	72.0	87.2
Of which:		a.	
(i) Short-term (1 year)	11.5	14.0	16.2
(ii) Int. term (1 year but 5 years)	8.0	9.7	12.4
(iii) Long-term (5 years)	33.0	48.3	58.6

Remarks: Figures in brackets indicate percentage to the total loans approved.

Table	I-59		Number o	of Poor H	of Poor Households by	by Sector,	tor, 1970-80	္ကု				
		1970	-			197	2			1980		
					,	Total		Percen-		Total	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	Total houser	poor house-	Incidence	tage among	Total house-	poor house-	Incidence	tage among	noter-	poor pouse-	incidence	
	holds		poverty		holds	holds	poverty	poor	holds	holds	poverty	poor
	(000)	(000)	(4)2/	(%)	(000)	(000)	/ <u>s</u> (%)	(%)	(000)	(000)	/ 2 (%)	(%)
Agriculture	852.9	582.4	68.3	73.6	945.2	576.5	63.0	0.69	957.5	8.474	49.3	4.19
Rubber smallholders	350.0	226.4	2.49	28.6	396.3	233.8	59.0	28.0	423.4	169.4	0.04	22.0
Oil palm smallholders	9.9	5	30.3	0.3	6.6	0.9	9.1	0.1	24.5	5.0	8	٠ د.
Cocnnut smallholder	32.0	16.9	52.8	2.1	34.4	17.5	50.9	۲. د د	34.0	16.0	47.1	ਦ ੍ ਲ
Padi farmers	140.0	123.4	88.1	15.6	148.5	114.3	17.0	13.7	150.1	9.601	73.0	14.2
Other agrien1 to culture	137.5	126.2	91.8	16.0	157.4	124.1	78.8	14.9	171.5	110.3	64.3	77.71
Fishermen	38.4	28.1	73.2	3.5	41.6	26.2	63.0	3.1	42.5	22.1	52.0	2.9
Estate workers	148.4	59.4	40.1	7.	127.0	59-7	0.74	7.1	111.5	42.4	38.0	5.5
Non-Agricul ture	753.1	209.4	27.8	26.4	7986	258.6	26.2	31.0	1,313.0	296.5	22.6	38.6
Mining	32.4	11.1	34.3	7.4	31.8	10.1	31.8	1.2	32.4	9.6	29.6	1.3
Manufacturing	150.2	48.5	32.3	6.1	206.9	59.6	28.8	7.1	299-3	75.2	25.1	8.6
Construction	35.0	12.8	36.6	1.6	0.44	13.4	30.5	9.T	26.0	14.5	25.9	л. 9
Utilities	12.8	4 7	36.7	9.0	16.4	8.4	29.3	9.0	20.3	4.8	23.4	9 . 0
Com erce	162.3	49.2	30-3	6.2	209.4	55.6	26.6	6.7	265.1	6.09	23.0	4.9
Transport	61.3	22.4	36.5	2.8	91.7	24.2	7.92	2.9	115.9	29.5	25.5	3.8
Services	299.1	2.09	20.3	7.7	386.1	6.06	23.5	10.9	523.8	102.0	19.5	13.3
Total 1	1,606.0	791.8	6-64	100.0	1,901.5	835.1	43.9	100.0	2,270.5	768.3	33.8	100.0

1/: Two target groups namely, residents of New Villages and agricultural labourers are included among these households, especially in other agriculture, rubber and padi.

(Prepared based on the data shown in "Mid-Term Review of Third Malaysia Plan".)

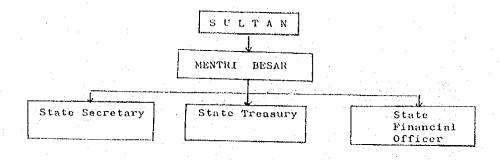
^{2/1 (%)} refers to the percentage of poor households in the total.

Table I-60 Public Development Expenditure for Rural Water Supply Programme, Malaysia, 1976-80 (M\$ million)

	Original TMP		Estimated		Revised TMP	
State	allocation, 1976-80	Share	expenditure, 1976-78	Achievement	allocation, 1976-80	Share
		(%)		(%)		(%)
Peninsular Malaysia	100.0	100.0	6.69	6.69	146.7	79.3
Johor	<u>ት</u> ሚ	4.5	0.4	6. 88	15.5	8 4
Kedah	26.3	26.3	19.8	75.3	31.6	17.0
Kelantan	25,8	25.8	18.6	72.1	26.0	14.1
Melaka	4.	4.2	4.0	95.2	7.0	ထ္ က
Negri Sembilan	5.1	5.1	2.7	52.9	5.1	2.8
Pahang	9.9	9.9	3.6	54.5	19.5	10.5
Perak	10.0	10.0	4.7	47.0	13.1	7.1
Perlis	4.1	4.1	3.6	87.8	4.6	2.5
Pulau Pinang	9.0	9-0	0.7	116.7	2.7	다 오
Selangor	0.5	0.5	0.2	40.0	4.1	2.2
Trenggann	12.3	12.3	0.8	65.0	16.5	ω σ,
Wilayah Persekutuan		1	1	1	ਹ ਼ ਪ	0 0
Sabah) 	1	1	ı	22.5	12.2
Sarawak		1	•	•	15.7	8 2
Whole Malaysia	100.0	100.0	6.69	6.69	184.9	100.0

Prepared on the basis of Table 13-2 shown in the Mid-Term Review of TMP.

Offices and Departments in Trengganu State



Office of the Election Commission Office In-Charge Civil Defence Office District Officer District & Land Office Dungun District Officer District & Land Office, Tanah Kemaman District Officer District & Land Office, Besut District Officer District Office. Kuala Trengganu

Government Departments

Agricultural Department Audit Department Department of Co-Operative Development Education Department Printing Department Public Works Department Drainage and Irrigation Department Factories & Machinery Department Fisheries Department Department of Information Labour Department Medical & Health Department Mines Department Police Department

Postal Service Department
Registration Department
State Development Office
Survey Department
Telecommunication Department
Veterinary Department
Registry of Motor Vehicles
Legal Advisor's Chambers
Judicial Department
Public Trustee Department
Religious Affairs Department
Lembaga Kemajuan Tanah
Persekutuan (FELDA)
Lembaga Kemajuan Trengganu
Tengah (KETENGAH)

II. CLIMATE AND HYDROLOGY

II-1 Climate

Peninsular Malaysia is running between Lat. 7° N and lat. 2° N northwest to southwest, and is high in both temperature and humidity.

On the east coast, the intertropical convergence zone runs down when the northern hemisphere is in winter, and the converging northeast wind - Northeast Monsoon - prevails. This wind gets loaded with much moisture while coming over the South China Sea and Thai Bay, bringing about rainy season and stormy weather in the region.

1-1 Rainfall

Peninsular Malaysia is plubial with an annual rainfall of over 100 inches. There are more of rainfalls the deeper going into the inland from the shoreline.

160 to 170 inches on the steeps of mountains.

In the October to January period when the Northeast Monsoon is prevalent, it rains most (about 60% of annual rainfall) to create a rainy season.

Usually, it downpours in a short duration, particularly from evening to night, and in many cases assumes a thoundershower.

Table II-1 Monthly Rainfall

(Unit: inch)

	NAU	FEB	MAR	APR	мач	JUN	JUL	AUG	SEPT	ост	NOV	DEC	Annual rainfal	Period
Station			<u>, (1</u> . 44. 3.1	all age		e, Lite	Α							
Kuala	7.53	5.41	5.09	5.03	4.16	4.25	3.92	5.43	7.42	11.00	25.56	23.51	108.17	1941∿70
Treng- ganu	4.06	1.62	9.17	1.05	2.94	2.82	5.83	2.63	7.83	18.33	21.67	46.34	124.24	1973
Kuala	16.92	9.82	6.23	5.34	8.34	7.98	8.03	11.05	13.65	14.84	21.45	30.32	153.59	1939∿70
Berang	12.8	3.6	11.5	1.4	2.6	9.9	16.3	8.8	17.79	18.74	20.25	58.85	182.53	1973

Table II-2 Daily Rainfall Distribution

(Unit:%)

Station	AM 6 - 12hr	PM 12 - 18hr	PM AM 18 - 6hr
Kuala Trengganu	20	20	60

(Data: 1973)

Fig. II-1 Rainfall Distribution in Trengganu (R.F. 1:1,140,480)

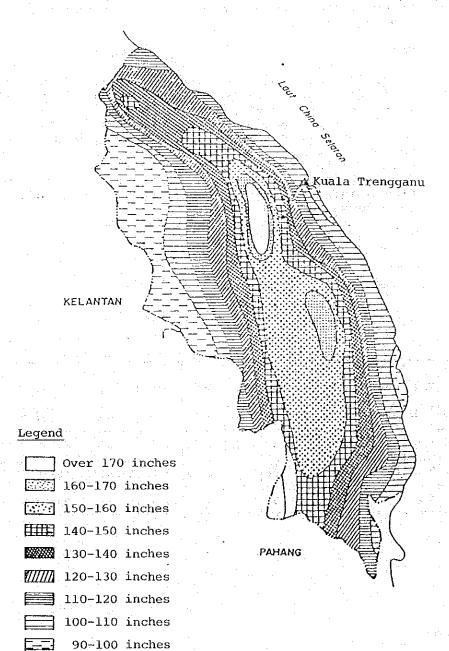


Table II-3 Number of Rainy Days and Thoundershower Days

Item	Station	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NON	DEC	Total
Number of	Kuala Trengganu	17	14	17	5	12	14	14	18	22	25	27	29	214
rainy days	Kuala Berang	14	7	15	4	7	14	12	15	20	23	20	27	178
Number of thounder- storn days	Kuala Trenggnu	-	. –	1	4	11	10	11	8	12	13	3	11	74

1-2 Temperature

The annual mean temperature is 26.4°C (79.5°F), and inter-month temperature difference is not so conspicuous, but the temperature in the dry season is a little higher than that in the rainy season. The daily difference is larger than the annual difference.

Table II-4 Mean Temperature by Month and by the Time Zone of the Day

(Unit: °F)

Item	1	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	ост	иои	DEC	Annual mean
Time: hr		74.1	75.1	74.0	76.1	75.8	76.0	75.1	74.7	74.7	74.8	74.9	74.2	75. 0:
13		82.8	84.9	85.4	87.9	37.4	37.9	86.5	86.4	85.4	84.8	81.0	78.0	84.9
19	- :	79.0	80.2	80.9	82.3	32.3	31.9	31.3	80.3	80.0	78.9	78.7	76.1	80.2
Daily mean	, ' ' ' - 13	78.3	79.9	79.5	81.7	31.1	8i.2	80.2	79.9	79.2	78.9	78.9	75.9	79.5

(Kuala Trengganu 1973)

1-3 Humidity

In the rainy season when the Northeast Monsoon blows, the humidity is high. In the dry season, the humidity becomes a little lower. Generally speaking, the humidity in the region is higher than the world average.

The daily difference is large on account of daily rainfall distribution and the temperature difference between day and night.

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	Table II	-5	Mean	Humi	idity	рÀ	Mont	h an	d by	the	Time	Zone	of	the Day
					٠	·:	. * .		. ert.		•	r i e	(Unit	z: %)
	Time	JAN	FEB	MAR	APR	мач	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	Annual mean
	hr 7	95	95	98	97	98	97	97	97	97	98	98	95	97
	13	75	72	72	72	72	71	74	71	74	75	83	86	75
	19	83	81	82	81	84	84	85	86	88	88	87	87	85
	24	90	90	92	94	95	95	93	94	95	96	96	93	94
	Daily mean	85	84	86.	85	87	86	87	86	87	89	91	91	87
1					. 		·—			· I	(Kual	a Tre	nggan	u 1973)
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II-2 Hydrology

2-1 Flood stage

A flood analysis was conducted about the following rivers according to DID's hydrorecords.

River Station		Record period					
Sg. Marang	Peng Setor Kanan	Oct. 1966 - Dec. 1978					
Sg. Dungun	Kg. Keliyu	Sep. 1962 - Dec. 1978					
Sg. Kijal	Jam Kijal	Sep. 1971 - Dec. 1977					

At these stations, the water levels are recorded at 6:00 AM and 6:00 PM every day. The probable flood stage was determined for each return period according to the data obtained from these stations.

a) Estimate of flood stage

The probable flood stage was studied according to the data concerning the annual highest water levels. At Sg. Dungun Kg. Keliyu Station, the data for the years 1973 and 1974 are missing. For this reason, the annual highest flood stages for the same years were estimated in correlation to the rainfall data as follows.

Table II-6 Correlation Between Water Level and Rainfall

	the state of the s	and the control of th
Year	Water level (Kg. Keliyu St.)	Rainfall (Delong U. Dungun)
1962	17.3 (feet)	26.09 ^(inch)
1963	19.6	29.18
1964	19.5	23.74
1965	22.1	30.84
1966	25.0	39.26
1967	24.6	35.64

Note: The rainfall data refers to the maximum monthly rainfall for the year.

(Station No. 9078)

Correlation coefficient: R = 0.911

Probable water level: W.L. = 0.481r + 6.54

where, r : rainfall (inches)

Thus, the probable annual maximum flood stage is estimated as follows.

Year	Water level	Rainfall
1973	35.8 feet	60.90 inches
1974	12.4	12.15

b) Return period

What is protected from the flood is the farmland for which the master plan study was made, and the return period was set at ten years.

2-2 Flood analysis

The probable flood stages for the rivers were estimated from the annual maximum water levels as follows.

Table II-7 Probable Flood Stages

(unit: feet)

Returnd period		Sg, Marang	Sg. Dungun	Sg. Kijal
	2 (year)	5.9	20.5	7.5
	5	7.2	26.8	9.1
	10	8.0	30.3	10.2
•	20	8.8	33.4	11.2
	30	9.3	35.0	11.8
	50	9.8	36.9	12.5
	100	10.6	39.4 ,	13.5

Table II-8 Annual High Water Level Record (1)

River: Marang Station: Peng Setor Kanan Year Day Month High water level Remarks 8.0 (feet) 1966 29 12 M.S.L 1967 7 1 8.9 (Highest) 1968 30 10 5.0 1969 1 12 6.6 1970 1 12 5.5 1971 21 11 5.2 1972 1.8 12 5.5 1973 23 12 7.8 1974 30 12 6.3 1975 21 12 6.7 1976 6.1 23 11 1977 11 4.3 19 1978 7 4.6 12

Probable Flood Level

Return period T.	Water level
2 (year)	5.9(feet)
5 	7.2
	8.0
20	8.8
30	9.3
50	9.8
100	10.6

Table II-8 Annual High Water Level Record (2)

	River:	Dungun	Station: Kg. Kel	<u>iyu</u>
Year	Day	Month	High water level	Remarks
1962	1.9	12	17.3 (feet)	M.S.L.
1963	3	12	19.6	
1964	18	12	19.5	
1965	3	12	22.1	
1966	31	12	25.0	
1967	7	1	24.6	
1968	18	12	16.8	
1969	3	12	17.9	
1970	15	1	18.7	
1971	5	. 1	25.9	
1972	19	12	24.1	
1973	. 4	1	(35.8)	(Highest)
1974	27	11	(12.4)	
1975	17	1	32.0	
1976	30	, 11	22.1	
1977	2	1	15.9	
1978	8	12	5.0	•

Probable Flood Level

¥-	
Return period T.	Water level
2(year)	20.5 (feet)
5	26.8
10	30.3
20	33.4
30	35.0
50	36.9
100	39.4

Table II-8 Annual High Water Level Record (3)

River: Kijal

Station: Jam Kijal

Year	Day	Month	High water leve	l Remarks
1971	10	12	7.7 ^(feet)	M.S.L.
1972	14	4	5.6	
1973	30	11	8.1	
1974	25	11	7.0	
1975	28	11	8.0	
1976	29	11	11.6	(Highest)
1977	-	_	-	11 · · · · · · · · · · · · · · · · · ·
1978	10	12	6.9	

Probable Flood Level

Return period T.			Water level		
2 (year)			7.5 ^(feet)		
5	•	- · ·	9.1		
10	* .	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10.2		
20	16		11.2		
30	*		11.8		
50			12.5		
100	:		13.5		

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	feet 160,00 140,00 120,00 100,00 60,00 60,00 20,00 -20,00	Lefthand bank ground level	Flood stage	Riverbod	Distance of section(miles)
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III. SOILS AND GEOLOGY

III-1 Surveys and Their Methodology

1) Preliminary survey

The Soil Map of the World, FAO-UNESCO, 1974, the Generalized Soil Map of West Malaysia, 1970, the Reconnaissance Soil Map of Peninsular Malaysia, 1968, and other existing data were used for the preliminary survey. In addition, reconnaissance study was carried out using vehicles, boats and light plane for clearing up the topography, soils, vegetation, land use, swamps and their relation to rivers, etc.

2) Stick boring survey

For mineral soils and shallow organic soils, a metal soil auger of 100 cm long was used. For deep organic soils, a metal peat sampler of 300 cm long was employed. Where the organic layer exceeded 300 cm, its thickness was examined by measuring the penetration resistance up to a depth of 500 cm.

3) Soil profile survey

In principle, pits of 100 cm or deeper were dug at sites for soil profile survey. In most swamps, it was not possible to make clear the soil profile over a depth of 100 cm because of high ground water level. In such places, the soil profile up to the groundwater level was examined at site according to the ordinary method, and the profile below the groundwater level was estimated based on the sampled soils.

The study items covered by the soil profile survey included types of swamps, land category, geography, geology, topography, vegetation, parent materials and cumulative modes, horizons, textures, colors, structures, porosity, mottles, compactness, consistency, water permeability, groundwater level, rooting, soil units, etc. The survey methods and classification standards of these items are as specified in Table III-1-1.

4) Soil bearing power survey

A cone penetrometer was used to measure the penetration resistance from the surface to a depth of about 60 cm at an interval of 5 cm. The compactness of soil in the profile was measured using Yamanaka's soil hardness meter.

5) Groundwater level

The groundwater levels at pits were measured.

6) Water quality survey

At the groundwater level survey sites, groundwater was sampled. The surface water was also sampled from the rivers within the swamp areas, canals, and puddles, etc. Water temperature, pH and EC were measured for the sampled water. For the measurements, portable pH meter and EC meter were employed.

7) Survey of peat decomposition degree

The Von Post's ten-step grading method (h_1 - h_{10}) was employed.

- 8) Analytical survey
 - (i) Analysis of physical properties of soils

A 100 cc metal sampling tube was used to take representative layers from the major profile at the profile test spots. Samples were placed on 30 cm sand columns on the free water surface and left to stand for 48 hrs. to establish a PF 1.5 state. Evaporation from the sand columns and samples was checked.

For the samples stabilized at PF 1.5, the total weight and actual volume were measured using a volumeter provided by Dr. S. Misono, a member the Japanese Survey Team. The results were then used to determine the solid ratio, water ratio, air ratio, porosity, volume weight, water content by weight, saturation percentage, unfilled percentage, etc. The samples being held at PF 1.5, the water ratio determined was equal to the capillary pore percentage, and the air ratio determined was equal to the noncapillary percentage. For those samples for which the true density was not measured, the true density, d, was assumed to be 2.60.

(ii) Analysis of chemical properties of soils

Samples were taken from the representative layers in the major profile at each soil profile survey spot. The samples were air dried at a room and pulverized for analysis. Yagi's soil test kit was used to measure pH ($\rm H_2O$), pH(KCl), contents of $\rm P_2O_5$, NH₄-N, NO₃-N, K₂O, CaO, MgO, MnO₂,

Al203, NaCl, Fe^{III}, Fe^{II}, etc. and also the P205 absorption coefficient. The lime requirement was also determined with the soil conditioning target set at pH 5.5 and 6.0.

9) Analysis on contract basis

For typical samples, the measurement of cation exchange capacity and exchangeable bases (K, Na, Ca, Mg, Mn, etc.) was commissioned to a testing laboratory.

10) Soil classification

The soils are classified according to FAO-UNESCO's Soil Map of the World 1974. Table III-1-2 show the relationship between Soil Units by FAO-UNESCO and Soil Classification by Malaysia in 1968 and 1970.

III-2 Survey Results

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2-1 Type of swamps and soils

In the projected site, there are 47 swamps measuring more than 100 acres (40 ha) or 129,150 acres (51,600 ha) in all. They consist of 22 large swamps of 700 acres (280 ha) or larger each or 120,156 acres (48,062 ha, 93.0% of the total) in all; and 25 small swamps of 100 to 700 acres (40 to 280 ha) or 8,994 acres (3,598 ha, 7.0%) in all.

As already discussed, the swamps are classified into 5 types, viz water-logged and seasonal types in inland swamps, and sand-dune, tide-influenced and mangrove types in coastal swamps. As shown in Table III-2-1, the large swamps fall under inland water-logged type, inland seasonal type or coastal sand-dune type.

There are no large swamps which are classed among the coastal tide-influenced type and coastal mangrove type. Of the three types (inland water-logged type, inland seasonal type and coastal sand-dune type), the inland water-logged type accounts for 105,756 acres (42,302 ha, 88.0%), inland seasonal type for 7,825 acres (3,130 ha, 6.5%) and the coastal sand-dune type for 6,575 acres (2,630 ha, 5.5%).

The swamps were assigned type, numbers and soil units for classification. The water-logged type and seasonal type into which the inland swamps are classified are defined as follows. The former has a groundwater level of within 30 cm from the surface at the dry season, while the groundwater level of the latter is more than 30 cm below the surface. While a swamp is hydraulically indiscrete, it sometimes has parts which are different in type from the remainder. For example, there is an inland swamp which is composed of a water-logged part and a seasonal part. In such a case, if a minor part accounts for more than one sixth, the swamp is classified among two types. In other case, the swamp is classified among the type which is prevalent in it.

As already discussed, the soils are classified according to FAO-UNESCO's Soil Map of the World (1974). Classification into Eutric and Dystric of Histosols (0) and Gleysols (G) follows this way: where pH of the groundwater measured at the time of soil profile survey was 5.5 and above, the soil is classed as Eutric while pH was up to 5.5, the soil is classed as Dystric.

(1) Large-scale inland water-logged swamps and their soils

Swamp numbers and soil units are as follows. No. 7 (Deep Oe, Deep Od), No. 10 (Ge), No.11 (Shallow Od, Ge, Gd), No.12 (Deep Od, Gh, Gd), No. 13 (Deep Od), No. 14 (Shallow Od, Ge), No. 15 (Ge), No. 17 (Shallow Oe), No. 18 (Deep Od), No. 20 (Deep Oe, Deep Od, Shallow Od, Ge, Gd), No. 21 (Ge), No. 22 (Ge).

The soils of the inland water-logged swamps are classified into Histosols (0) and Gleysols (G). Both types include Eutric and Dystric components. In the case of Histosols, Dystric component is much. Eutric type is found mostly in the paddy fields. In the case of Gleysols, Eutric component is present much, typically in a floodplain of fine-textured soil influenced by mineral-rich river water.

(2) Large-scale inland seasonal swamps and their soils

Swamp numbers and soil units are as follows. No. 3 (Gd), No. 4 (Gd) No. 7 (Gd), No. 8 (Gd), No. 9 (Gd), No. 14 (Gd, Gh), No. 16 (Ge). Soils of the inland seasonal swamps are accounted for chiefly by Dystric Gleysols (Gd). The

surface organic layer is thin and usually shorter than 5 cm. Histosols (0) was not found. At a higher level of fluvial terrace, there was found, if not often, Gleyic Podzoluvisolos (Dg).

(3) Large-scale coastal sand-dune swamps and their soils

Swamp numbers and soil units are as follows. No. 1 (Rd), No. 2 (Rd), No. 5 (Shallow Oe), No. 6 (Rd), No. 19 (Deep Oe, Gh), Paya Baroh Tasek (Shallow Od). The soils of the coastal sand-dune swamps are chiefly Regosols (R) and Histosols (O). The former is Dystric Regosols (Rd) poor in both soil evolution and maturity. The latter is Eutric where used as farmland, and is considered Dystric rather than Eutric under natural conditions.

(4) Small-scale coastal tide-influenced swamps and their soils

There was only one coastal tide-influenced swamp surveyed. Its soil was Dystric Gleysols (Gd). All the rivers within the project area are tidal, and their tidal zones usually extend about 10 km back from respective estuaries. However, there are few tidal swamps in the lower reaches of these rivers.

(5) Small-scale coastal mangrove swamps and their soils

There are no large coastal mangrove swamps. The rivers in Trengganu are tidal without exception, and form brackish waters in the lower basins. But they lack conditions helping the formation of mangrove type swamps. Mangrove type swamps are formed on a small scale along the banks near the estuary. Two rivers, Chukai and Paka, were surveyed. In every case, the soils were found to be Dystric Regosols (Rd). The soils are poor in evoluation and maturity.

(6) Small swamps and their soils

As shown in Table III-2-2, the small swamps were classified into three, namely inland water-logged, inland seasonal and coastal sand-dune. Their soils were just the same as classified for the large swamps. In the study, the swamps of up to 100 acres (40 ha) were omitted, and are considered to follow the classification already discussed.

2-2 Classification of soils

Typical soil units are as follows:

(1) Eutric Gleysols (Ge)

This is one of the typical soil units found in inland water-logged swamps. When the acreage of slope of hills surrounding the swamps is larger compared with that of the swamps, the swamps are formed in basins where could often be flooded with river water abundant in mineral matter. typical examples are Swamp Nos. 10, 15, 16, 21 and 22. Areas extending along the upstream of Swamp No. 20, Kg. Ibok, is another good example. The soil of which parent materials are riverine alluvium is fine-textured ranging from SiC to C. Master horizons consist of A, B and C in that Affected by flooding of a river abundant in mineral matter, new organic substances are easily decomposed but no formation of 0 horizon is found.

The groundwater level normally lies within 30 cm below the surface during the dry season and the soil has relatively high chroma, even below the groundwater level. pH value of the groundwater ranges 5.5 to 6.3, while it of the soil ranges 5.0 to 5.5 (H₂O) and 4.0 to 4.5 (KCl). It is expected that better farmlands could be developed by the adequate soil improvement.

(2) Dystric Gleysols (Gd)

This is one of the typical soil units found in inland seasonal swamps. The typical examples are found in Swamp Nos. 3, 8 and 9. It is also found in inland water-logged swamps of which water comes from rainfall with very little mineral matters and their hydrological characteristics are similar to those of seasonal swamps during the dry season. The examples are Swamp Nos. 11, 12 and 14.

Master horizons consist of A, B and C in that order with a thin layer little new organic matter. The texture of a typical layer varies widely from C, SiC, SC to S ranging from fine to medium to coarse-textured. During the dry season, the groundwater level is low for seasonal swamps while high for water-logged swamps. The latter has a pH value of around 5.0 and the former between 4.4 to 5.3. The soil has a pH value of 5.0 to 5.5 (H2O) and 4.2 to 4.7 (KCl). A typical layer is white grey, possibly indicating reduction and leaching.

(3) Humic Gleysols (Gh)

Decomposition of organic matter is slow and a thin layer of peat (H), relatively well decomposed, and a layer of new organic matter (O) not well decomposed, are found on the surface. The total thickness of the two layers, however, does not exceed 40 cm. The soil occupies a transitional position between Gleysols and Histosols.

The above-said conditions are not limited to particular swamps. The soil is found in all three types of swamps, coastal sand-dune, inland seasonal and inland water-logged ones although its acreage is relatively small. The examples are Swamp Nos. 12, 14 and 19. Master horizons consist of 0, H, A and B in that order.

It is difficult to identify a typical texture and color which characterizes the soil. The groundwater level is relatively high. But, in the inland seasonal swamps, it is found at 70 cm below O horizon. The soil is found to have a pH value of 5.0 to 5.5 (H2O) and 4.0 to 4.5 (KCl).

(4) Eutric Histosols (Oe)

a. Shallow Eutric Histosols (Oe.s): This soil is found in coastal sand-dune and inland waterlogged swamps. Swamp No. 5 is an example for the former and Swamp Nos. 17 and 20 for the latter. In both cases, master horizons consist of 0, H and B in that order and the formation of 0 horizon consisting new organic matter decomposed to h_1 - h_2 , and H horizon consisting mainly of muck are found. Peat soils in Malaysia are normally ombrogenousic and poor in nutrition, and activities of the microorganisms are weak.

This soil is found very little in the area. However, the formation of this soil is very possible for Swamp No. 5 where nutritious substances flow in from farmlands on slopes of hills surrounding the swamps. The same applies to Swamp Nos. 17 and 20 of which formation was influenced by river water. The depth of layer (O+H) consisting organic matter does not exceed 100 cm. Peat is well decomposed h7 to h8, the pH value of groundwater ranges 5.5 to 6.2 while the soil has a pH value of 5.0 to 5.5 (H2O) and 4.0 to 4.5 (KC1).

b. Deep Eutric Histosols (Oe.d): This is one of the soil units found in inland water-logged and coastal sand-dune swamps. It is normally found in paddy fields rather than under natural and primitive conditions. Swamp Nos. 7 and 20 are the examples for the former and Swamp No. 19 for the latter. The entire layer consists of organic matter (H) of mainly muck and no new organic matter (O) is found. Peat is well decomposed to ha and ha. The layer of organic matter (H) is 150 to 250 cm thick and it is supported by mineral soils of extremely fine to medium-textured, SiC to SC.

Deep peat soils in the tropical zone are formed with ombrogenousic woody peat as their parent material. Under such conditions, oligotrophic, which is poor in nutrition, is formed and it has very little microorganisms. Consequently, it may turn out to be Deep Dystric Histosols (Od.d) but not Oe.d. It is not exceptional in Malaysia, and therefore, the soil is interesting.

The examples were always found in paddy fields. One of them is Swamp No. 7, Paya Ketapi, used to be a tropical rain forest which has been cleared and burnt to use for paddy fields. During the survey period of the dry season, the growing paddy was covered with weeds and water buffaloes were grazed there. It appeared to have been converted into paddy fields since long ago.

In Swamp No. 20, Paya Paman, preparations were being made for cultivating paddy, where there was formerly a tropical rain forest. It had been cleared and burnt, but then allowed to overgrow with weeds.

Although it is not known when it was reclaimed, paddy was grown in Swamp No. 19. Decomposition of peat indicated was hg. In the area, mucky soils with considerable clay soils were found, probably due to flooding of Sg. Kijal. The survey results indicate that proper soil improvement measures and fertilization will improve the ombrogenousic woody peat soils allowing a reasonable crop growing. Layers of peat soils used for paddy fields are normally 200 cm thick or so. It seems that peat soils in such a thickness are relatively easy to use among layers classified as deep.

(5) Dystric Histosols (Od)

a. Shallow Dystric Histosols (Od.s): This is one of the soil units found in inland water-logged and coastal sand-dune swamps. The examples for the former are Swamp Nos. 11, 14 and 20. The example for the latter is Paya Baroh Tasek which is connected to Swamp No. 7 hydraulically.

Master horizons consist of O, H and B in that order. The layers of organic matter are usually up to 100 cm thick. Below the layers, mineral soils of B horizon are found. They are fine-textured, C to SiC (Swamp Nos. 14 and 20) or coarse-textured, S (Swamp No. 11 and Paya Baroh Tasek).

Peat soils in Paya Baroh Tasek retain plant tissues with <u>Juncus effusus</u> L. Bar decipieno Buchen as the main constituent.

Meanwhile, peat soils in the three inland water-logged swamps retain wood tissues. Decomposition of peat indicated was h8. Some peat soils were muck or organic clay mixed with clay soils. The groundwater level is up to 30 cm for all the areas with pH value between 4.2-5.0. That of soils is $5.0~({\rm H}_2{\rm O})$ and $4.0-4.5~({\rm KCl})$.

b. Deep Dystric Histosols(Od.d): This is one of the typical soils found in inland water-logged swamps such as Swamp Nos. 7, 12, 13, 18 and 20. This soil units occupies the largest in the area surveyed.

Master horizons consist of O and H in that order. Thickness of organic matter (O + H) ranges between 200 and 500 cm.

The thickness of O Horizon is normally around 10 cm with decomposition of h2 to h3. All the H horizon are peat soil still retaining the structure of wood or plant tissues seen in Swamp No. 13. Decomposition was found to be well advanced h8 or h9.

The groundwater level during dry seasons lies near the surface, normally up to around 10 cm, with a pH value between 3.7 and 4.3. Groundwater often has a value of pH 4.9 was found for Swamp No. 13 which contains mucky soil mixed with clay soil. The soil has a pH value between 4.0 - 5.0 (H₂O) and 3.8 - 4.0 (KCl). This soil units is most typical among deep peat soils of ombrogenousic in the tropical zone.

(6) Dystric Regosols (Rd)

This is the typical soil found in coastal sanddune swamps such as Swamp Nos. 1, 2 and 6. Although the area is narrow this soil is found among coastal mangrove and tide-influenced swamps. Examples for the former are Sg. Chukai estuary and Sq. Paka estuary.

Small coastal swamps, dominated by Nipa fruticans Wurmb, are examples for the latter. Differentiation of soil layers is not clear and the soil is often immature except for coastal sand-dune swamps which have master horizons of A, B and C in that order. Differentiation is especially unclear for the coastal mangrove and tide-influenced swamps. The soil is coarse-textured S and it has different shades of grey. Normally, the soil has pH value between 4.5 - 5.0 (KCl) and 5.0 - 5.5 (H2O).

(7) Other soils

River terraces are often found between inland swamps and rivers, forming undulating areas. Under the natural conditions, these terraces are also covered with tropical rain forests and Fluvisols and Podzoluvisols are seen in addition to Gleysols.

The former is fine to medium-textured Eutric Fluvisols (Je), which is relatively fertile. On the other hand, the latter has a typical E horizon below the A horizon although the layer of new organic matter (O) is thin on the surface. Further, Gleyic Podzoluvisols (Dg) with advanced graying is found in layer B.

The soil is fine-textured, SiC. The area of Fluvisols and Podzoluvisols is very limited. Orthic Acrisols (Ao) is found in hilly areas in the surrounding areas or in swamps.

Master horizons consist of A, B and C in that order. The soil is often medium-textured, SL. Soil units are tabulated in relation to their principal features alone as shown in Tables III-3.