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THE GOVERNMENTS OF MALAYSIA AND THE STATE OF JOHOR

183H MALAYSIA Johor

w.p. ECONOMIC AND FINANCIAL
EVALUATION OF
THE MASTER PLAN

WORKING PAPER

JOHOR TENGAH AND TANJONG PENGGERANG REGIONAL MASTER PLAN

1971

JOHOR-183H-W.P.

HUNTING TECHNICAL SERVICES LTD.

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1834 MALAYSIA Johor Tengah.

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THE MASTER PLAN

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THE MASTER PLAN

This working paper shows the detailed calculations of the figures shown in the tables in Chapter 10 of the Master Plan. The general principles used in the evaluation are explained in the Working Paper entitled 'Objectives and Appraisal Methods', and the text of Chapter 10 of the Master Plan comments on and interprets the figures in the tables.

Thus the tables in this Working Paper merely show the detailed calculations. Each table has a reference column showing the tables from which more detailed figures have been derived. Thus Table 1 refers to other tables in this Working Paper; Table 2 refers to tables in Supporting Volumes 3 and 8; and so on. Thus the interested reader can follow the calculations through from the other Working Papers and the recommended pattern of development in the Master Plan to the tables in Chapter 10 of the Master Plan.

TABLE 1 JOHOR TRIGGARA MASTER PLAN - SUMMARY

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
<u>Net Social (Costs) Benefits (Table 10.1, Master Plan)</u>												
Infrastructure	(4.9)	(20.8)	(20.9)	(18.3)	(30.6)	(17.3)	(5.2)	(3.2)	(4.1)	(12.1)	(0.9)	(3.1)
Forestry	-	(0.8)	(4.1)	(6.3)	5.0	9.3	9.3	4.1	6.5	7.5	10.8	14.0
Tourism - Medium Growth	-	-	(2.9)	(5.7)	(1.7)	(3.6)	2.9	(10.2)	2.4	17.5	36.0	51.7
Agriculture	(2.1)	(10.9)	(16.9)	(22.1)	(25.7)	(25.4)	(24.1)	(4.1)	10.6	22.2	55.2	71.9
Total	(7.0)	(32.5)	(44.8)	(52.4)	(53.0)	(37.0)	(17.1)	(4.1)	10.6	22.2	55.2	71.9
Infrastructure	(4.9)	(20.8)	(20.9)	(18.3)	(30.6)	(17.3)	(5.2)	(3.2)	(4.1)	(12.1)	(0.9)	(3.1)
Agriculture	(2.1)	(10.9)	(16.9)	(22.1)	(25.7)	(25.4)	(24.1)	(10.2)	2.4	17.5	36.0	51.7
Initial Tourist Project	-	-	(2.9)	(5.7)	(1.7)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Total	(7.0)	(31.7)	(40.7)	(46.1)	(58.0)	(38.2)	(24.8)	(3.9)	2.8	9.9	39.6	53.1
Infrastructure	(4.9)	(20.8)	(20.9)	(18.3)	(30.6)	(17.3)	(5.2)	(3.2)	(4.1)	(12.1)	(0.9)	(3.1)
Agriculture	(2.1)	(10.9)	(16.9)	(22.1)	(25.7)	(25.4)	(24.1)	(10.2)	2.4	17.5	36.0	51.7
Total	(7.0)	(31.7)	(37.8)	(40.4)	(56.3)	(42.7)	(29.3)	(13.4)	(1.7)	5.4	35.1	48.6
<u>Gross Revenue (Table 10.2, Master Plan)</u>												
Agriculture	-	-	-	0.6	2.5	7.7	15.0	30.2	47.4	67.1	36.9	104.4
Forestry	-	-	-	2.6	7.7	12.6	12.6	12.6	12.6	12.6	12.6	12.3
Tourism - (Medium Growth)	-	-	-	-	2.8	9.0	18.0	23.4	29.8	35.1	43.2	51.3
Total	-	-	-	3.2	13.0	29.3	45.6	66.2	89.8	114.8	142.7	168.3
Duties/Taxes on Rubber and Oil Palm (Table 10.2, Master Plan)	-	-	-	-	0.1	0.3	0.8	1.7	2.8	4.0	5.3	6.4
<u>Royalties, Premia, Land Rents (Table 10.2, M.P)</u>												
Agriculture	-	1.1	0.7	1.0	0.9	1.2	1.5	1.7	2.1	2.2	2.3	2.4
Forestry	-	-	-	0.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Total	-	1.1	0.7	1.8	2.5	2.8	3.1	3.3	3.7	3.8	3.9	4.0
<u>Foreign Exchange Effects (Direct Only) - (Table 10.4, Master Plan)</u>												
<u>"Direct Exports"</u>												
Oil Palm/Rubber - 100% of Revenue	-	-	-	-	1.1	4.6	10.3	23.2	39.6	56.3	73.6	89.7
Others - 75% of Revenue	-	-	-	0.4	1.1	2.4	3.5	5.2	6.5	8.1	9.8	11.1
Forestry - As in S.V.5, Table 2.3	-	-	-	0.9	3.1	7.4	7.4	7.4	7.4	7.4	7.4	7.4
Tourism - (Medium Growth) - 75% of Revenue	-	-	-	-	2.1	6.8	13.5	17.6	21.6	26.3	32.4	38.5
Total	-	-	-	1.3	7.4	21.2	34.7	53.4	74.3	98.1	123.4	148.7
<u>"Direct Imports"</u>												
Infrastructure (10% of Development Exp.)	0.5	2.1	2.2	2.3	3.5	2.2	1.0	0.7	0.9	1.7	0.6	0.6
Agriculture	-	0.1	0.6	2.4	3.7	7.0	9.4	10.5	12.2	14.5	16.4	16.0
Forestry (20% of Financial Costs)	-	0.2	1.1	2.3	1.1	1.2	1.2	1.6	1.9	1.2	1.2	1.2
Tourism (33.3% of Financial Costs)	-	-	1.2	2.5	2.6	5.3	6.3	6.0	9.3	11.5	13.5	15.1
Total	0.5	2.4	5.1	9.5	10.9	15.7	17.9	20.7	24.3	28.9	31.7	33.1

(1971-1995) - (MILLION DOLLARS)

Contd. Table 1.

1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Check
6.9	5.8	9.3	9.1	9.1	9.1	9.6	2.4	-	-	-	64.1	79.2	1,
17.3	19.8	21.2	25.9	30.6	32.2	39.9	43.9	48.9	54.0	59.0	115.4	112.3	1,
66.0	77.8	89.2	95.7	95.6	107.0	108.6	112.2	114.4	114.2	115.2	181.9	194.0	1,
89.9	101.9	119.7	131.6	136.7	149.3	159.7	160.3	165.4	170.5	176.5	2.4	2.5	(
(0.3)	(1.5)	-	0.9	1.4	1.0	1.6	1.8	2.1	2.3	2.3	115.4	112.3	1,
66.0	77.8	89.2	95.7	95.6	107.0	108.6	112.2	114.4	114.2	115.2	4.5	4.5	1,
4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	122.0	122.3	1,
70.2	80.8	93.7	101.1	101.5	112.5	114.7	118.5	121.0	121.0	122.0	122.3	119.3	1,
(0.3)	(1.5)	-	0.9	1.4	1.0	1.6	1.8	2.1	2.3	2.3	2.4	2.5	(
66.0	77.8	89.2	95.7	95.6	107.0	108.6	112.2	114.4	114.2	115.2	115.4	112.3	1,
65.7	76.3	89.2	96.6	97.0	108.0	110.2	114.0	116.5	116.5	117.5	117.8	114.8	1,
121.8	136.6	149.3	157.5	163.7	171.6	172.9	176.0	178.7	179.0	179.5	179.8	176.1	2,
12.6	12.6	12.6	12.6	12.6	12.6	12.6	2.5	-	-	-	-	-	1,
59.4	67.5	76.5	88.2	99.9	111.6	123.3	135.0	147.6	160.2	172.8	185.4	198.0	1,
193.8	216.7	238.4	258.3	276.2	295.8	308.8	313.5	326.3	339.2	352.3	365.2	374.1	4,
7.5	8.4	9.2	9.8	10.2	10.5	10.5	10.7	10.9	10.8	10.8	10.8	10.6	4,
2.5	2.9	2.8	3.1	3.3	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.6	55.5
1.6	1.6	1.6	1.6	1.6	1.6	1.4	-	-	-	-	-	-	21.6
4.1	4.5	4.4	4.7	4.9	4.6	4.4	3.0	3.0	3.0	2.9	2.9	2.8	79.9
105.3	118.1	129.5	137.2	143.2	147.6	149.6	151.4	153.8	154.0	154.4	154.7	157.0	2,
12.4	13.9	14.8	15.3	15.3	18.0	18.2	18.5	18.7	18.7	18.8	18.9	18.8	238.4
7.4	7.4	7.4	7.4	7.4	7.4	7.4	1.8	-	-	-	-	-	109.4
44.6	50.6	57.4	66.2	74.9	83.7	92.5	101.3	110.7	120.5	129.6	139.1	148.5	1,
169.7	190.0	209.1	226.1	240.8	256.7	266.7	273.0	283.2	293.2	302.8	312.7	318.3	3,
0.5	0.7	0.5	0.5	0.4	0.5	0.4	0.4	-	-	-	-	-	22.4
17.1	18.6	17.5	18.2	19.0	17.1	19.8	20.0	19.7	19.7	19.7	19.7	19.7	538.6
1.7	1.9	1.2	1.2	1.2	1.2	1.1	-	-	-	-	-	-	23.7
17.5	19.8	23.0	25.9	28.8	31.8	34.7	37.9	41.1	44.2	47.4	50.5	49.5	527.8
36.8	41.0	42.2	45.8	49.4	50.6	56.0	58.3	60.8	63.9	67.1	70.2	69.2	912.5

Reference

Table 2, This W.P.
Table 3, This W.P.
Table 4, This W.P.
Table 5, This W.P.
Table 2, This W.P.
Table 5, This W.P.
Table 4, This W.P.
Table 2, This W.P.
Table 5, This W.P.
Table 5, This W.P.
Table 3, This W.P.
Table 4, This W.P.
Table 5, This W.P.
Table 5, This W.P.
Table 3, This W.P.
Table 5, This W.P.
Table 5, This W.P.
Table 5, This W.P.
S.V. 5, Table 2.3.
From Gross Revenue in this Table.
From Table 2, This W.P.
Calculated From The Crop
Working Papers.
From Table 3, This W.P.
From Table 4, This W.P.

Cash Flows - Infrastructure - 1971-1975 (Million Dollars)

Contd. Table 2

1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Check Total	Reference
0.5	0.5	0.4	0.2	0.2	0.2	0.2	0.1						59.1	S.V.8 Table 8.3.1
0.5	0.5	0.6	-	-	-	-	-						57.7	S.V.8 Table 8.3.1
0.3	0.3	0.3	-	-	-	-	-						10.1	S.V.8 Table 8.3.1
0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3						10.4	S.V.8 Table 8.3.2
1.8	1.8	1.8	0.5	0.5	0.5	0.5	0.4						137.3	
-	1.3	-	0.4	-	0.4	-	0.1							S.V.3 Table 4.1
0.2	0.2	0.1	0.1	0.1	0.1	0.1	-							S.V.8 Table 8.3.3
0.2	1.5	0.1	0.5	0.1	0.5	0.1	0.1						27.0	
1.9	1.9	1.9	3.1	3.1	3.1	3.1	3.2						37.4	S.V.8 Table 8.3.8
0.3	0.3	0.2	0.4	0.4	0.4	0.4	0.3						5.5	S.V.8 Table 8.3.7
0.3	0.3	0.4	0.1	0.1	-	-	-						7.1	S.V.8 Table 8.3.4 & 8.3.5
0.1	0.1	0.1	-	-	-	-	-						1.8	S.V.8 Table 8.3.9
0.4	0.4	0.4	0.1	-	-	-	-						2.3	S.V.8 Table 8.3.10
0.1	0.2	0.2	-	-	-	-	-						1.5	S.V.8 Table 8.3.11
0.2	0.1	0.1	0.1	0.1	0.1	0.1	-						1.9	S.V.8 Table 8.3.12
-	-	-	0.1	0.1	-	-	-						1.8	S.V.8 Table 8.3.13
1.1	1.1	1.2	0.4	0.3	0.1	0.1	-						16.4	
5.3	6.6	5.2	4.9	4.4	4.6	4.2	4.0						223.6	
1.0	1.0	0.9	1.8	1.8	1.8	1.8	1.7						25.7	S.V.8 Table 8.3.6
1.3	1.3	1.3	0.2	0.2	0.2	0.2	0.1	-	-	-	-	-	126.9	S.V.8 Table 8.3.6
0.2	1.5	0.1	0.5	0.1	0.5	0.1	0.1	-	-	-	-	-	27.0	S.V.8 Table 8.3.6
0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	11.1	S.V.3 Table 4.1
0.7	2.0	0.7	1.1	0.7	1.2	0.8	0.8	0.8	0.8	0.8	0.8	0.8	38.1	
1.7	1.8	2.0	2.2	2.3	2.4	2.6	2.7	2.9	3.1	3.1	3.2	3.3	40.1	
(1.0)	0.2	(1.3)	(1.1)	(1.6)	(1.2)	(1.8)	(1.9)	(2.1)	(2.3)	(2.3)	(2.4)	(2.5)	(2.0)	
0.3	1.5	-	(0.9)	(1.4)	(1.0)	(1.6)	(1.8)	(2.1)	(2.3)	(2.3)	(2.4)	(2.5)	114.9	
4.60	4.98	5.55	5.99	6.32	6.66	7.00	7.52	7.88	8.39	8.57	8.74	9.00		S.V.3 Table 4.1
1679.0	1817.7	2025.8	2186.4	2306.8	2430.9	2555.0	2744.8	2876.2	3062.4	3128.1	3190.1	3285.0		Daily Demand x 365

TABLE 3. JOHOR TENGGARA MASTER PLAN - FORESTRY - FINANCIAL AND SOCIAL CASH FLOWS - 1971 - 1990 - (M)

	1971	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	92	93	94	95	CHECK TOTAL	REFERENCE			
FINANCIAL CASH FLOWS																													
Revenue	-	-	-	2.6	7.7	12.6	----->															12.6	2.5	-	-	-	-	189.2	SV.5 Table 2.3
Costs	-	0.8	5.6	11.4	5.5	6.2	6.2	8.1	9.7	6.2	6.2	6.2	8.6	9.7	6.2	6.2	6.2	6.2	5.3	0.2	-	-	-	-	120.7	SV.5 Table 2.3			
Royalties/Premia	-	-	-	0.8	1.6	1.6	----->															1.6	1.4	-	-	-	-	24.6	SV.5 Table 2.3
Net Cash Flow	-	(0.8)	(5.6)	(9.6)	0.6	4.8	4.8	2.9	1.3	4.8	4.8	4.8	2.4	1.3	4.8	4.8	4.8	4.8	5.9	2.3	-	-	-	-	43.9	SV.5 Table 2.3			
SOCIAL COSTS AND BENEFITS																													
Financial Cash Flow	-	(0.8)	(5.6)	(9.6)	0.6	4.8	4.8	2.9	1.3	4.8	4.8	4.8	2.4	1.3	4.8	4.8	4.8	4.8	5.9	2.3	-	-	-	-	43.9	SV.5 Table 2.3			
Add back																													
- Road costs already included in the costs of infrastructure			1.5	0.2	0.2	0.2	0.2	1.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-	-	-	-	-	-	-	-	-	4.7	Estimated from Appendix I, SV.5			
- Royalties/Premia	-	-	0.8	1.6	----->															1.6	1.4	-	-	-	24.6	SV.5 Table 2.3			
- Bad Debts	-	-	0.1	0.2	0.3	----->															0.3	0.1	-	-	-	4.6	SV.5 Table 2.3		
- Difference between market cost of unskilled labour and social cost(1).	-	-	2.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.0	-	-	-	-	37.8	See foot note(1)				
Net Social (costs) Benefits	-	(0.8)	(4.1)	(6.3)	5.0	9.3	9.3	8.2	5.8	9.3	9.3	9.3	6.9	5.8	9.3	9.1	9.1	9.1	9.6	2.4	-	-	-	-	115.6				

(1) The Social Cost is assumed to be \$40 per month, or about 20-25 per cent of the Financial Cost. The total wage bill for unskilled labour is about \$3.0 million per annum.

TABLE 4. JOHOR TENGGAR MASTER PLANS - TOURISM

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
TOURISM INITIAL PROJECT												
<u>Financial Cash Flows</u>												
Revenue	-	-	-	--	2.8	11.1						
Operating Costs	-	-	-	-	2.1	8.4						
Capital Expenditure ⁽¹⁾	-	-	3.7	7.5	3.7	-						
Net Cash Flow	-	-	(3.7)	(7.5)	(3.0)	2.7						
<u>Social Costs and Benefits</u>												
Revenue					2.8	11.1						
Operating Costs					1.6	6.6						
Capital Expenditure ⁽²⁾			2.9	5.7	2.9	-						
Net (costs) Benefits	-	-	(2.9)	(5.7)	(1.7)	4.5						

Number of Beds (Capacity)

1,000 →

(1) Based on SV.7, Appendix D - 50% in 1974, 25% in 1973 and 1975.

(2) Excludes housing for workers and roads.

TOURISM MEDIUM GROWTH

Financial Cash Flows

Revenue⁽¹⁾

Operating Costs⁽²⁾

Capital Expenditure⁽³⁾

Net Cash Flow

Social Costs and Benefits

Revenue

Operating Costs⁽⁵⁾

Capital Expenditure⁽⁶⁾

Net (costs) Benefits

Number of Beds (Capacity)

Revenue ⁽¹⁾	-	-	-	-	2.8	9.0	18.0	23.4	28.8	35.1	43.2	51.3
Operating Costs ⁽²⁾	-	-	-	-	4.1	6.8	13.5	18.5	21.6	26.3	32.4	38.5
Capital Expenditure ⁽³⁾	-	-	3.7	7.5	3.7	9.0	5.4	5.4	6.3	8.1	8.1	8.1
Net Cash Flow	-	-	(3.7)	(7.5)	(5.0)	(6.8)	(0.9)	(0.5)	0.9	0.7	2.7	4.7
Revenue			-	-	2.8 ⁽⁴⁾	9.0	18.0	23.4	28.8	35.1	43.2	51.3
Operating Costs ⁽⁵⁾			-	-	1.6	5.4	10.8	14.0	17.3	21.1	25.9	30.8
Capital Expenditure ⁽⁶⁾			2.9	5.7	2.9	7.2	4.3	4.3	5.0	6.5	6.5	6.5
Net (costs) Benefits			(2.9)	(5.7)	(1.7)	(3.6)	2.9	5.1	6.5	7.5	10.8	14.0
Number of Beds (Capacity)					1,000	1,000	2,000	2,600	3,200	3,900	4,800	5,700

(1) Based on the medium number of tourists in Supporting Volume 7, Table 4.1. Income assumed to be \$40 per tourist per day - implies \$15,000 per annum on the basis of 100% occupancy and \$9,000 per bed per annum on the basis of 60% occupancy.

(2) Assumed to be 75 per cent of revenue.

(3) As for the Initial Tourist Project from 1973 to 1975 and then an average of \$9,000 for each additional bed available. This cost is assumed to be incurred in the year previous to capacity being available.

(4) 30% occupancy only.

(5) Assumed to be 60% of revenue as for the Initial Tourist Project.

(6) Assumed to be 80% of the Financial Capital Expenditure.

- FINANCIAL AND SOCIAL CASH FLOWS - 1971-1995 (\$M).

Contd. Table 4

1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	CHECK TOTAL	REFERENCE
													224.8	SV. 7, Appendix D
													170.1	SV. 7, Appendix D
													14.9	SV. 7, Appendix D
													39.8	
													224.8	SV. 7, Appendix D
													133.6	SV. 7, Appendix D
													11.5	SV. 7, Appendix D
													79.7	
59.4	67.5	76.5	88.2	99.9	111.6	123.3	135.0	147.6	160.2	172.8	185.4	198.0	1,837.0	See foot note (1)
44.6	50.6	57.4	66.2	74.9	83.7	92.5	101.3	110.7	120.2	129.6	139.1	148.5	1,381.0	See foot note (2)
8.1	9.0	11.7	11.7	11.7	11.7	11.7	12.6	12.6	12.6	12.6	12.6	-	203.9	See foot note (3)
6.7	7.9	7.4	10.3	13.3	16.2	19.1	21.1	24.3	27.4	30.6	33.7	49.5	252.1	
59.4	67.5	76.5	88.2	99.9	111.6	123.3	135.0	147.6	160.2	172.8	185.4	198.0	1,837.0	See foot note (1)
35.6	40.5	45.9	52.9	59.9	70.0	74.0	81.0	88.6	96.1	103.7	111.2	118.8	1,105.1	See foot note (5)
6.5	7.2	9.4	9.4	9.4	9.4	9.4	10.1	10.1	10.1	10.1	10.1	-	163.0	See foot note (6)
17.3	19.8	21.2	25.9	30.6	32.2	39.9	43.9	48.9	54.0	59.0	64.1	79.2	568.9	
6,600	7,500	8,500	9,800	11,100	12,400	13,700	15,000	16,400	17,800	19,200	20,600	22,000		

TABLE 5 JOHOR TENGGARA DISTRICT - SUMMARY OF AGRICULTURE - 1971-85 - \$M

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Gross Revenue																
Oil Palm	-	-	-	-	1.11	4.56	10.31	19.08	30.45	43.31	59.39	80.66	89.97	97.80	102.52	
Rubber	-	-	-	-	-	-	-	4.16	8.32	12.64	20.27	24.63	28.10	31.69	34.84	
Beef	-	-	-	0.13	0.43	0.73	0.99	1.26	1.64	2.02	2.62	2.62	2.62	2.62	2.62	
Dairy - Multiplication Scheme	-	-	-	0.44	0.90	1.76	2.32	2.66	2.94	3.08	3.07	3.12	3.09	3.20	3.21	
-- After 1977	-	-	-	-	-	-	-	0.86	1.40	1.94	2.98	3.80	5.24	6.08	6.08	
Tapioca	-	-	-	-	0.05	0.41	1.03	1.40	1.64	2.28	3.31	4.16	4.31	4.54	4.35	
Other	-	-	-	-	0.04	0.25	0.30	0.75	1.00	1.48	2.30	2.77	3.27	3.52	4.08	
Total	-	-	-	0.57	2.53	7.71	14.95	30.17	47.59	67.05	104.42	121.76	136.60	149.25	157.50	
Duties																
Oil Palm	-	-	-	-	0.08	0.34	0.77	1.43	2.28	3.27	5.20	6.05	6.75	7.34	7.67	
Rubber (Export Tax and Research Cess)	-	-	-	-	-	-	-	0.25	0.50	0.76	1.22	1.48	1.69	1.90	2.09	
Total	-	-	-	-	0.08	0.34	0.77	1.68	2.78	4.03	6.42	7.53	8.44	9.24	9.76	
Land Rent/Premia																
Oil Palm	-	-	-	-	0.09	0.19	0.38	0.56	0.78	0.99	1.29	1.57	1.56	1.56	1.62	
Rubber	-	0.80	0.43	0.51	0.47	0.53	0.66	0.45	0.58	0.62	0.47	0.47	0.71	0.61	0.53	
Beef	-	0.08	0.10	0.11	0.10	0.14	0.16	0.18	0.19	0.11	0.11	0.11	0.11	0.11	0.11	
Dairy	-	0.05	0.03	0.04	0.04	0.07	0.06	0.06	0.06	0.07	0.15	0.11	0.07	0.07	0.22	
Tapioca and other	-	-	0.04	0.21	0.13	0.16	0.11	0.29	0.27	0.16	0.14	0.12	0.12	0.12	0.23	
Total For Planted Acres	-	0.93	0.60	0.87	0.83	1.09	1.37	1.54	1.83	1.95	2.14	2.18	2.57	2.47	2.71	
Total For Acres Cleared (Planted x 112.5%)	-	1.05	0.68	0.98	0.93	1.23	1.54	1.73	2.12	2.19	2.41	2.45	2.89	2.78	3.05	
Special Costs																
Oil Palm	2.07	4.96	9.82	14.52	18.13	23.61	26.25	28.77	29.91	33.72	35.95	37.77	38.37	40.30	41.79	
Rubber	-	5.61	4.05	4.98	4.30	5.18	7.70	6.41	6.43	6.98	9.25	9.28	11.50	11.53	11.18	
Beef	-	0.37	0.50	0.63	0.64	0.94	1.10	1.27	1.43	1.12	1.12	1.12	1.12	1.12	1.12	
Dairy - Multiplication Scheme	-	-	2.42	2.03	2.33	1.73	1.13	1.16	0.97	0.93	0.86	1.01	0.94	0.90	0.88	
- After 1977 Schemes	-	-	-	-	-	-	1.00	1.02	1.26	1.51	2.32	3.40	3.36	2.76	2.76	
Tapioca	-	-	0.01	0.16	0.67	0.98	0.72	0.81	1.51	1.90	1.45	1.32	1.27	1.28	1.31	
Other	-	-	0.06	0.41	0.61	0.88	1.06	0.94	1.44	1.37	1.85	1.91	2.23	2.10	2.74	
Total	2.07	10.94	16.86	22.63	28.18	33.12	39.01	40.38	44.95	49.53	52.72	55.01	58.84	60.09	61.78	
Social (Costs) Benefits	(2.07)	(10.94)	(16.86)	(22.63)	(28.18)	(33.12)	(39.01)	(40.21)	2.44	17.52	51.70	65.95	77.76	89.16	95.72	

Contd. Table 5

1987	1988	1989	1990	1991	1992	1993	1994	1995	Check Total	Reference
105.72	108.24	108.03	108.80	108.16	106.95	104.54	103.21	99.07	1,558.86	) This W.P. - Tables 6 and 8.
37.52	39.31	40.52	42.55	45.65	47.37	49.33	51.48	51.96	587.41	
2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	46.28	) This W.P. - Tables 7/8 S.V. 6, Part 3, Table A.10
5.24	3.25	3.28	3.30	3.31	3.33	3.33	3.33	3.33	62.58	
6.08	8.96	8.96	8.96	8.96	8.96	8.96	8.96	8.96	108.60	) This W.P. - Tables 7 and 8.
4.35	4.50	4.68	4.70	4.73	4.75	4.75	4.75	4.75	72.81	
4.17	4.69	4.79	5.08	5.27	5.34	5.47	5.50	5.47	67.53	
163.70	171.57	172.88	176.01	178.68	179.00	179.48	179.85	176.14	2,504.07	
7.93	8.12	8.10	8.16	8.11	8.00	7.84	7.74	7.43	116.90	) 7.5 Percent of G.P. 6.0 Percent of G.P.
2.25	2.36	2.43	2.55	2.74	2.84	2.99	3.09	3.12	35.26	
10.18	10.46	10.53	10.71	10.85	10.84	10.83	10.85	10.55	152.16	
1.67	1.70	1.74	1.77	1.75	1.70	1.66	1.61	1.56	26.69	) This W.P. - Tables 6, 7 and 8.
0.88	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	14.01	
0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	2.82	
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.08	
0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	3.43	
2.89	2.63	2.67	2.70	2.68	2.65	2.59	2.54	2.49	49.03	
3.25	2.96	3.00	3.04	3.02	2.96	2.91	2.86	2.80	55.17	
42.09	42.12	41.70	41.44	41.54	41.41	41.19	40.94	40.49	794.74	) This W.P. - Tables 6 and 8.
13.65	12.08	12.48	12.43	12.64	13.37	13.09	13.47	13.31	234.48	
1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	24.30	) This W.P. - Tables 7/8. S.V. 6, Part 3, Table A.15.
0.88	0.94	0.88	0.88	0.88	0.88	0.88	0.88	0.88	26.22	
6.12	4.07	4.07	4.07	4.07	4.07	4.07	4.07	4.07	59.76	) This W.P. - Tables 7 and 8.
1.54	1.52	1.58	1.39	1.39	1.39	1.39	1.39	1.39	27.88	
2.66	2.69	2.66	2.53	2.64	2.58	2.54	2.61	2.63	42.42	
68.06	64.54	64.29	63.86	64.28	64.62	64.28	64.48	63.89	1,210.30	
95.64	107.03	108.49	112.15	114.40	114.18	115.20	115.35	112.25	1,293.77	Gross Revenue Less Social Costs.

TABLE 6. JOHOR TENGGARA MASTER PLAN - UNIT REVENUE

\$ Per Net (planted) Acre (unless otherwise specified)		Year	1	2	3	4	5	6	7	8	9	10	11
Oil Palms⁽¹⁾													
Gross Revenue													
- Yield ⁽¹⁾ (FFB-tons per acre)							2.0	5.5	7.0	8.5	10.0	10.0	10.0
- Oil and Kernel Extraction Percentage							19.5	21.75	23.0	24.25	25.25		
- Oil and Kernels (tons per acre)							0.39	1.20	1.61	2.06	2.53	2.53	2.53
Land Rent/Premium ⁽¹⁾ (CAC)							13	13	13	13	13	13	13
Social Costs⁽²⁾													
- Clearing, Planting, Harvesting Roads ⁽³⁾		240	80	70	-	-							
- Processing (Capital/Fixed Costs ⁽⁴⁾)		-	163	163	162	14	→						
- Fertiliser (Fixed), Management, and cost of buildings ⁽⁵⁾		60	90	85	85	→							
- Weeding, Harvesting and Collecting Labour ⁽⁶⁾		-	47	41	58	60	60	60	54	55	→		
- Social Costs (per acre)		300	380	359	305	159	159	159	153	154	→		
Social Costs (other per ton of oil and kernels) ⁽⁷⁾		-	-	-	-	64							
Prices (\$ per ton-FOB)													
		1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	
Palm Oil		-	-	-	-	420	410	400	390	385	380	376	
Palm Kernels		-	-	-	-	370	360	366	364	362	360	358	
Weighted Average ⁽⁸⁾		-	-	-	-	411	403	394	385	381	377	373	

(1) Assumed to be FLDA yields because the majority of the oil palm acreage is to be developed by FLDA (Table 8) and Land Rent/Premium therefore assumed to be a consolidated annual charge.

(2) Derived from Table 3 of the Working Paper, "Oil Palm Profitability".

(3) Assumed to be 70 percent of the Financial Costs in Table 3 of the Working Paper, "Oil Palm Profitability".

(4) Excludes rent and rates.

(5) As in Table 3 of Working Paper, "Oil Palm Profitability".

(6) Taken as 30 percent of Wage Costs in Working Paper.

(7) Assumed to be as follows:- (\$ per ton FFB)

	Financial (Table 3 of Working Paper)	Social
Other costs (Fertiliser (variable); Processing Operating, Distribution Cost, other collection costs)	18.6	16.0

(8) Weighted in accordance with output proportions (SV.6, Part 2, App. I, Table 1.1)

E AND COSTS FOR OIL PALMS AND RUBBER - YEAR 1-25.

Contd. Table 6

12	13	14	15	16	17	18	19	20	21	22	23	24	25	WEEK TOTAL	REFERENCE
10.0	10.0	9.8	9.6	9.4	9.2	9.0	8.8	8.6	8.4	8.2	8.0	7.8	7.6	-	SV.6 Part 2, Table F1.
2.53	2.53	2.47	2.42	2.37	2.32	2.27	2.22	2.17	2.12	2.07	2.02	1.97	1.92	-	SV.6 Part 2, Table F1.
13	13	13	13	13	13	13	13	10	10	10	10	10	10	-	From FFB Yield and Extraction.
														390	
														782	
														2,105	See Working Paper "OIL PALM PROFITABILITY".
														1,310	
														4,587	
1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995		
372	369	365	361	358	354	351	347	344	340	337	333	330	327	-	SV.6 Part 2 App.I,
357	355	353	351	350	348	346	344	343	341	339	337	336	334	-	" Table 1.1 "
369	367	363	359	357	353	350	346	344	340	337	334	334	328	-	" "

Contd. Table 6.

Rubber	Year	1	2	3	4	5	6	7	8	9	10	11
Gross Revenue												
- Yield (lbs per acre) ⁽¹⁾		-	-	-	-	-	-	620	1010	1260	1420	1500
- Revenue (\$ per acre at 50 cents per lb)		-	-	-	-	-	-	310	505	630	710	750
Land Rent/Premium		60	10	→								
Social Costs - Clearance, Planting, Harvesting Roads ⁽²⁾		290	15	14	-	-	-	-				
- Machinery, MUT., Buildings, Fertiliser, others		99	101	97	96	88	92	85	85	85	85	80
- Factory Capital		-	-	-	-	-	108	-	33	-		
- Labour ⁽³⁾		30	30	30	30	20	20	62	75			
- Social Costs Per Acre		419	146	141	126	108	220	147	193	160	160	155
- Other Operating Costs ⁽³⁾ (cents per lb)		-	-	-	-	-	-	4	→			

(1) From page 6 of the Working Paper, "RUBBER".

(2) From Appendix A, of the Working Paper on "RUBBER". 70 per cent of the Financial Costs.

(3) At \$40 per month, or about 30 per cent of the costs on Appendix A, page viii of "RUBBER" Working Paper.

(4) Transport cost of 1.1 cents per lb. and factory production costs of 4.1 cents per lb. Total Financial Costs are 5.2 cents per lb. or about 4 cents per lb. in social terms.

Contd. Table 6.

12	13	14	15	16	17	18	19	20	21	22	23	24	25
600	1700	1800	1800	1800	1800	1800	1800	2000	2000	1900	1900	1800	1800
800	850	900	900	→				1000	1000	950	950	900	900

319

See Working
Paper - "RUBBER".

2,113

141

1,572

4,145

TABLE 7. JOHOR TENGGARA MASTER PLAN - UNIT COSTS AND REVENUES FOR BEEF, DAIRY, TAPIOCA AND OTHER ACTIVITIES - YEAR 1 - 25

(₹ per net acre)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	CHECK TOTAL	REFERENCE				
BEEF (Working Paper on Beef)																															
Revenue	-	-	100	230	→																								→ 230	5160	} Working Paper "Beef".
Social Costs	-	286	98	→																								→ 98	2540		
Net (costs) Benefits	-	(286)	2	132	→																								→ 132	2620	
Land Rent/Premium	60	10	10	10	→																								→ 10	-	
DAIRY (After 1977)																															
Revenue - Financial ⁽¹⁾	-	1200	→																								→ 1200	28,800	}		
Social Costs	1400	545	→																								→ 545	13,080			
Net (costs) Benefits	(1400)	655	→																								→ 655	15,720			
Land Rent/Premium	60	10	10	10	→																									→ 10	-
TAPIOCA (See Working Paper - "TAPIOCA")																															
Revenue	-	-	150	325	350	375	→																				→ 375	8325	} Working Paper "Tapioca".		
Social Costs	37	265	240	107	110	→																				→ 110	2959				
Net (costs) Benefits	(37)	(265)	(90)	218	240	265	→																				→ 265	5366			
Land Rent/Premium	56	6	→																								→ 6	-			
OTHER (See Working Paper - "MIXED FARMING")																															
Revenue	-	-	125	137	215	341	402	451	482	465	559	594	692	650	→													→ 650	12,263	} Working Paper "Mixed Farming"	
Social Costs	178	338	143	158	172	202	219	235	318	332	478	318	304	298	→													→ 298	6,971		
Net (costs) Benefits	(178)	(338)	(18)	(21)	43	139	183	216	164	133	81	276	388	352	→													→ 352	5,292		
Land Rent/Premium	56	6	→																								→ 6	-			

TABLE 8. JOHOR TENGGARA MASTER PLAN - AGRICULTURE - ACREAGES DEVELOPED - 1971-87

NET ACRES	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	88	89	90	91	92	93	94	95	CHECK TOTAL	REFERENCE			
BY AGENCY																														
<u>FLDA</u>																														
Oil Palms	6,900	7,800	14,600	11,800	15,200	15,200	10,400	10,200	5,300	11,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108,500	MP.TABLES 4.4/4.5	
Rubber	-	9,200	900	1,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11,900	MP.TABLES 4.4/4.5	
Other	-	-	-	-	-	700	-	1,500	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,200	MP.TABLES 4.4/4.5	
Total FLDA	6,900	17,000	15,500	13,600	15,200	15,900	10,400	11,700	6,300	11,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	123,600		
<u>NON-FLDA</u>																														
Oil Palms	-	-	-	1,750	1,750	8,000	1,800	900	1,300	3,200	-	4,400	4,400	2,300	2,800	3,500	-	-	-	-	-	-	-	-	-	-	-	-	-	
Rubber	-	4,200	4,100	3,600	3,850	4,250	5,650	1,250	3,100	3,400	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28,900	MP.TABLES 4.4/4.5/4.6	
Beef	-	1,300	1,300	1,300	900	1,650	1,650	1,650	1,650	-	-	-	-	4,000	1,600	-	5,800	-	-	-	-	-	-	-	-	-	-	46,800	" " "	
Dairy	-	850	450	450	450	850	450	450	450	400	700	1,200	700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11,400	" " "	
Tapioca	-	-	350	1,950	1,800	-	1,000	2,750	2,450	950	350	-	-	-	-	2,400	-	-	-	-	-	-	-	-	-	-	-	9,800	" " "	
Other	-	-	350	1,650	-	1,500	-	-	-	-	700	300	-	-	-	1,000	-	-	-	-	-	-	-	-	-	-	-	12,600	" " "	
Total Non-FLDA	-	6,350	6,550	10,700	8,750	16,250	10,550	7,000	8,950	7,950	3,750	5,900	5,100	6,300	4,400	7,900	5,800	-	-	-	-	-	-	-	-	-	-	115,000		
Research	-	850	450	450	450	450	450	450	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,000	" " "	
Total	6,900	24,200	22,500	24,750	24,400	32,600	21,400	19,150	15,700	19,050	3,750	5,900	5,100	6,300	4,400	7,900	5,800	-	-	-	-	-	-	-	-	-	-	249,800		
<u>BY CROP</u>																														
Oil Palms	6,900	7,800	14,600	13,550	16,950	16,000	12,200	11,100	6,600	14,300	-	4,400	4,400	2,300	2,800	3,500	-	-	-	-	-	-	-	-	-	-	-	-	-	
Rubber	-	13,400	5,000	5,400	3,850	4,250	5,650	1,250	3,100	3,400	2,000	-	-	4,000	1,600	-	5,800	-	-	-	-	-	-	-	-	-	-	137,400		
Beef	-	1,300	1,300	1,300	900	1,650	1,650	1,650	1,650	-	-	-	-	4,000	1,600	-	5,800	-	-	-	-	-	-	-	-	-	-	58,700		
Dairy	-	850	450	450	450	850	450	450	450	400	700	1,200	700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11,400		
Tapioca	-	-	350	1,950	1,800	-	1,000	2,750	2,450	950	350	-	-	-	-	2,400	-	-	-	-	-	-	-	-	-	-	-	9,800		
Other Commercial	-	-	350	1,650	-	2,200	-	1,500	1,000	-	700	300	-	-	-	1,000	-	-	-	-	-	-	-	-	-	-	-	12,600		
Research	-	850	450	450	450	450	450	450	450	-	-	-	-	-	-	1,000	-	-	-	-	-	-	-	-	-	-	-	8,700		
Total	6,900	24,200	22,500	24,750	24,400	32,600	21,400	19,150	15,700	19,050	3,750	5,900	5,100	6,300	4,400	7,900	5,800	-	-	-	-	-	-	-	-	-	-	249,800		

See Above.