Table III.3.2.15 (a) Income Statement and Cash Flow of the Pilot Project Project (Full Construction) (3/4)

Unit: RM

	14	15	16	17	18	19	20
I. Income Statement	2009	2010	2011	2012	2013	2014	2015
A. Revenue	26,844,021	27,625,711	28,361,842	28,361,842	28,361,842	28,361,842	28,361,842
Basic Facilities							
1) Fish landing	425,000	440,000	458,120	458,120	458,120	458,120	458,120
2) Vehicles	360,500	370,000	379,590	379,590	379,590	379,590	379,590
3) Rental	562,000	562,000	564,660	564,660	564,660	564,660	564,660
4) Auction	1,390,000	1,450,000	1,551,816	1,551,816	1,551,816	1,551,816	1,551,816
Functional Facilities							
1) Surimi	4,650,000	4,750,000	4,860,000	4,860,000	4,860,000	4,860,000	4,860,000
2) Cuttlefish	12,950,000	13,350,000	13,653,900	13,653,900	13,653,900	13,653,900	13,653,900
3) Roundscad	761,000	788,000	868,000	868,000	868,000	868,000	868,000
4) Dried/salted fish	565,500	565,500	565,500	565,500	565,500	565,500	565,500
5) Ice plant	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000
6) Shipyard	1,843,800	1,848,200	1,855,600	1,855,600	1,855,600	1,855,600	1,855,600
AFA,s Rev. (incl. LKIM)	2,256,221	2,422,011	2,524,656	2,524,656	2,524,656	2,524,656	2,524,656
B. Expense	23,733,094	24,258,866	24,707,528	24,576,972	24,439,918	24,296,002	24,144,841
1) Basic facilities	807,300	807,300	807,300	807,300	807,300	807,300	807,300
2) Functional facilities	17,706,000	18,263,739	18,821,200	18,821,200	18,821,200	18,821,200	18,821,200
3) AFA activities	1,160,200	1,246,800	1,262,400	1,262,400	1,262,400	1,262,400	1,262,400
4) Depreciation	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177
5) Interest	1,889,417	1,770,850	1,646,451	1,515,895	1,378,841	1,234,925	1,083,764
C. Income before D & I	7,170,521	7,307,872	7,470,942	7,470,942	7,470,942	7,470,942	7,470,942
D. Net Income	3,110,927	3,366,845	3,654,314	3,784,870	3,921,924	4,065,840	4,217,001
II. Cash Flow							
A. Sources of Funds	5,281,104	5,537,022	5,824,491	5,955,047	6,092,101	6,236,017	6,387,178
1) Loan							
2) Equity							
3) Depreciation	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177
4) Net income	3,110,927	3,366,845	3,654,314	3,784,870	3,921,924	4,065,840	4,217,001
B. Uses of Funds	2,784,918	16,503,820	3,027,884	3,158,440	3,295,494	3,439,410	4,947,121
1) Construction							
Basic Portion							
Functional Portion							
2) Reinvestment		13,600,335					1,356,550
3) Repayment of loan	2,784,918	2,903,485	3,027,884	3,158,440	3,295,494	3,439,410	3,590,571
C. Net cash flow	2,496,186	-10,966,798	2,796,607	2,796,607	2,796,607	2,796,607	1,440,057

Remarks: Interest rates considered are 3% for basic portion and 6.5% for functional portion.

Table III.3.2.15 (a) Income Statement and Cash Flow of the Pilot Project Project (Full Construction) (4/4)

Unit: RM

	21	22	23	24	25
I. Income Statement	2016	2017	2018	2019	2020
A. Revenue	28,361,842	28,361,842	28,361,842	28,361,842	28,361,842
Basic Facilities					
1) Fish landing	458,120	458,120	458,120	458,120	458,120
2) Vehicles	379,590	379,590	379,590	379,590	379,590
3) Rental	564,660	564,660	564,660	564,660	564,660
4) Auction	1,551,816	1,551,816	1,551,816	1,551,816	1,551,816
Functional Facilities					
1) Surimi	4,860,000	4,860,000	4,860,000	4,860,000	4,860,000
2) Cuttlefish	13,653,900	13,653,900	13,653,900	13,653,900	13,653,900
3) Roundscad	868,000	868,000	868,000	868,000	868,000
4) Dried/salted fish	565,500	565,500	565,500	565,500	565,500
5) Ice plant	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000
6) Shipyard	1,855,600	1,855,600	1,855,600	1,855,600	1,855,600
AFA,s Rev. (incl. LKIM)	2,524,656	2,524,656	2,524,656	2,524,656	2,524,656
B. Expense	23,986,026	23,819,126	23,643,681	23,459,206	23,265,185
1) Basic facilities	807,300	807,300	807,300	807,300	807,300
2) Functional facilities	18,821,200	18,821,200	18,821,200	18,821,200	18,821,200
3) AFA activities	1,262,400	1,262,400	1,262,400	1,262,400	1,262,400
4) Depreciation	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177
5) Interest	924,949	758,049	582,604	398,129	204,108
C. Income before D & I	7,470,942	7,470,942	7,470,942	7,470,942	7,470,942
D. Net Income	4,375,816	4,542,716	4,718,161	4,902,636	5,096,657
II. Cash Flow					
A. Sources of Funds	6,545,993	6,712,893	6,888,338	7,072,813	7,266,834
1) Loan					
2) Equity					
3) Depreciation	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177
4) Net income	4,375,816	4,542,716	4,718,161	4,902,636	5,096,657
B. Uses of Funds	3,749,385	3,916,286	4,091,730	4,276,206	4,470,227
1) Construction					
Basic Portion					
Functional Portion					
2) Reinvestment					
3) Repayment of loan	3,749,385	3,916,286	4,091,730	4,276,206	4,470,227
C. Net cash flow	2,796,607	2,796,607	2,796,607	2,796,607	2,796,607

Remarks: Interest rates considered are 3% for basic portion and 6.5% for functional portion.

Table III 3.2.15 (b) Income Statement and Cash Flow of the Pilot Project (Phase Construction) (1/4)

Unit: RM

	0	1	2	3	4	5	6	7
I. Income Statement	1995	1996	1997	1998	1999	2000	2001	2002
A. Revenue		2,105,816	2,285,609	2,540,207	2,836,742	3,098,694	20,212,091	21,023,252
Basic Facilities								
1) Fish landing		142,350	160,000	220,000	285,000	305,000	341,000	350,000
2) Vehicles		122,400	132,000	175,000	210,000	250,000	286,950	290,000
3) Rental		440,275	460,000	480,000	520,000	560,000	559,590	562,000
4) Auction		354,275	435,000	510,000	605,000	700,000	793,260	840,000
Functional Facilities								
1) Surimi		-	-	-	-	-	3,442,500	3,580,000
2) Cuttlefish		-	-	-	-	-	9,444,700	9,950,000
3) Round scad		-	-	-	-	-	581,000	598,000
4) Dried/salted fish		-	-	-	-	-	565,500	565,500
5) Ice plant		-	-	-	-	-	1,080,000	1,080,000
6) Shipyard		-	-	-	-	-	1,761,000	1,771,000
AFA,s Rev. (incl. LKIM)		1,046,516	1,098,609	1,155,207	1,216,742	1,283,694	1,356,591	1,436,752
B. Expense		3,058,504	3,074,962	3,103,262	3,134,032	3,167,512	19,978,945	20,455,753
1) Basic facilities		747,300	747,300	747,300	747,300	747,300	807,300	807,300
2) Functional facilities		-	-	-	-	-	13,815,500	14,250,688
3) AFA activities		532,842	549,300	577,600	608,370	641,850	691,740	733,360
4) Depreciation		1,064,570	1,064,570	1,064,570	1,064,570	1,064,570	2,170,177	2,170,177
5) Interest	0	713,792	713,792	713,792	713,792	713,792	2,494,228	2,494,228
C. Income before D & I	0	825,674	989,009	1,215,307	1,481,072	1,709,544	4,897,551	5,231,904
D. Net Income	0	-952,688	-789,353	-563,055	-297,290	-68,818	233,146	567,499
II. Cash Flow								
A. Sources of Funds	29,793,083	111,882	275,217	501,515	767,280	34,416,409	2,403,323	2,737,676
1) Loan	23,793,083					33,420,657		
2) Equity	6,000,000							
3) Depreciation		1,064,570	1,064,570	1,064,570	1,064,570	1,064,570	2,170,177	2,170,177
4) Net income	0	-952,688	-789,353	-563,055	-297,290	-68,818	233,146	567,499
B. Uses of Funds	29,793,083	0	0	0	0	33,870,657	0	0
1) Construction								
Basic Portion	29,793,083					11,197,357		
Functional Portion	-					22,223,300		
2) Reinvestment						450,000		
3) Repayment of loan	0	0	0	0	0	0	0	0
C. Net cash flow	0	111,882	275,217	501,515	767,280	545,752	2,403,323	2,737,676

Remarks: Interest rates considered are 3% for basic portion and 6.5% for functional portion.

Table III 3.2.15 (b) Income Statement and Cash Flow of the Pilot Project (Phase Construction) (2/4)

Unit: RM

	8	9	10	11	12	13	14	15
I. Income Statement	2003	2004	2005	2006	2007	2008	2009	2010
A. Revenue	21,787,103	22,760,828	23,569,515	24,158,071	25,053,495	25,976,903	26,844,021	27,625,711
Basic Facilities								
1) Fish landing	365,000	370,000	380,000	390,000	405,000	415,000	425,000	440,000
2) Vehicles	295,000	300,000	310,000	320,000	340,000	350,000	360,500	370,000
3) Rental	562,000	562,000	562,000	562,000	562,000	562,000	562,000	562,000
4) Auction	945,000	1,030,000	1,100,000	1,150,000	1,250,000	1,300,000	1,390,000	1,450,000
Functional Facilities								
1) Surimi	3,750,000	3,950,000	4,080,000	4,150,000	4,350,000	4,580,000	4,650,000	4,750,000
2) Cuttlefish	10,300,000	10,850,000	11,300,000	11,600,000	12,000,000	12,450,000	12,950,000	13,350,000
3) Round scad	619,000	641,000	664,000	687,000	711,000	736,000	761,000	788,000
4) Dried/salted fish	565,500	565,500	565,500	565,500	565,500	565,500	565,500	565,500
5) Ice plant	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000
6) Shipyard	1,781,400	1,791,800	1,802,200	1,812,600	1,823,000	1,833,400	1,843,800	1,848,200
AFA,s Rev. (incl. LKIM)	1,524,203	1,620,528	1,725,815	1,840,971	1,966,995	2,105,003	2,256,221	2,422,011
B. Expense	20,950,090	21,432,741	21,933,754	22,454,040	22,994,594	23,556,447	24,081,796	24,627,490
1) Basic facilities	807,300	807,300	807,300	807,300	807,300	807,300	807,300	807,300
2) Functional facilities	14,699,585	15,162,622	15,640,244	16,132,912	16,641,099	17,165,293	17,706,000	18,263,739
3) AFA activities	778,800	828,900	883,690	943,650	1,009,330	1,081,300	1,160,200	1,246,800
4) Depreciation	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177
5) Interest	2,494,228	2,463,742	2,432,342	2,400,000	2,366,688	2,332,377	2,238,119	2,139,474
C. Income before D & I	5,501,418	5,962,006	6,238,281	6,274,209	6,595,766	6,923,010	7,170,521	7,307,872
D. Net Income	837,013	1,328,087	1,635,761	1,704,031	2,058,901	2,420,456	2,762,225	2,998,221
II. Cash Flow								
A. Sources of Funds	3,007,190	3,498,264	3,805,938	3,874,208	4,229,078	4,590,633	4,932,402	5,168,398
1) Loan								
2) Equity								
3) Depreciation	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177
4) Net income	837,013	1,328,087	1,635,761	1,704,031	2,058,901	2,420,456	2,762,225	2,998,221
B. Uses of Funds	1,016,179	1,046,664	2,434,614	1,110,406	1,143,718	2,341,949	2,436,206	3,891,402
1) Construction								
Basic Portion								
Functional Portion								
2) Reinvestment			1,356,550					1,356,550
3) Repayment of loan	1,016,179	1,046,664	1,078,064	1,110,406	1,143,718	2,341,949	2,436,206	2,534,852
C. Net cash flow	1,991,012	2,451,600	1,371,324	2,763,802	3,085,360	2,248,684	2,496,195	1,276,996

Remarks: Interest rates considered are 3% for basic portion and 6.5% for functional portion.

Table III 3.2.15 (b) Income Statement and Cash Flow of the Pilot Project (Phase Construction) (3/4)

Unit: RM

	16	17	18	19	20	21	22	23
I. Income Statement	2011	2012	2013	2014	2015	2016	2017	2018
A. Revenue	28,361,842	28,361,842	28,361,842	28,361,842	28,361,842	28,361,842	28,361,842	28,361,842
Basic Facilities								
1) Fish landing	458,120	458,120	458,120	458,120	458,120	458,120	458,120	458,120
2) Vehicles	379,590	379,590	379,590	379,590	379,590	379,590	379,590	379,590
3) Rental	564,660	564,660	564,660	564,660	564,660	564,660	564,660	564,660
4) Auction	1,551,816	1,551,816	1,551,816	1,551,816	1,551,816	1,551,816	1,551,816	1,551,816
Functional Facilities								
1) Surimi	4,860,000	4,860,000	4,860,000	4,860,000	4,860,000	4,860,000	4,860,000	4,860,000
2) Cuttlefish	13,653,900	13,653,900	13,653,900	13,653,900	13,653,900	13,653,900	13,653,900	13,653,900
3) Round scad	868,000	868,000	868,000	868,000	868,000	868,000	868,000	868,000
4) Dried/salted fish	565,500	565,500	565,500	565,500	565,500	565,500	565,500	565,500
5) Ice plant	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000
6) Shipyard	1,855,600	1,855,600	1,855,600	1,855,600	1,855,600	1,855,600	1,855,600	1,855,600
AFA,s Rev. (incl. LKIM)	2,524,656	2,524,656	2,524,656	2,524,656	2,524,656	2,524,656	2,524,656	2,524,656
B. Expense	25,097,285	24,989,151	24,875,890	24,757,223	24,632,860	24,502,489	24,365,783	24,222,394
1) Basic facilities	807,300	807,300	807,300	807,300	807,300	807,300	807,300	807,300
2) Functional facilities	18,821,200	18,821,200	18,821,200	18,821,200	18,821,200	18,821,200	18,821,200	18,821,200
3) AFA activities	1,262,400	1,262,400	1,262,400	1,262,400	1,262,400	1,262,400	1,262,400	1,262,400
4) Depreciation	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177
5) Interest	2,036,208	1,928,074	1,814,813	1,696,146	1,571,783	1,441,412	1,304,706	1,161,317
C. Income before D & I	7,470,942	7,470,942	7,470,942	7,470,942	7,470,942	7,470,942	7,470,942	7,470,942
D. Net Income	3,264,557	3,372,691	3,485,952	3,604,619	3,728,982	3,859,353	3,996,059	4,139,448
II. Cash Flow								
A. Sources of Funds	5,434,734	5,542,868	5,656,129	5,774,796	5,899,159	6,029,530	6,166,236	6,309,625
1) Loan								
2) Equity								
3) Depreciation	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177
4) Net income	3,264,557	3,372,691	3,485,952	3,604,619	3,728,982	3,859,353	3,996,059	4,139,448
B. Uses of Funds	2,638,118	2,746,251	2,859,513	2,978,179	7,408,878	3,232,913	3,369,619	3,513,008
1) Construction								
Basic Portion								
Functional Portion								
2) Reinvestment					4,306,335			
3) Repayment of loan	2,638,118	2,746,251	2,859,513	2,978,179	3,102,543	3,232,913	3,369,619	3,513,008
C. Net cash flow	2,796,617	2,796,617	2,796,617	2,796,617	-1,509,718	2,796,617	2,796,617	2,796,617

Remarks: Interest rates considered are 3% for basic portion and 6.5% for functional portion.

Table III 3.2.15 (b) Income Statement and Cash Flow of the Pilot Project (Phase Construction) (4/4)

Unit: RM

	24	25	26	27	28	29	30
I. Income Statement	2019	2020	2021	2022	2023	2024	2025
A. Revenue	28,361,842	28,361,842	28,361,842	28,361,842	28,361,842	28,361,842	28,361,842
Basic Facilities							
1) Fish landing	458,120	458,120	458,120	458,120	458,120	458,120	458,120
2) Vehicles	379,590	379,590	379,590	379,590	379,590	379,590	379,590
3) Rental	564,660	564,660	564,660	564,660	564,660	564,660	564,660
4) Auction	1,551,816	1,551,816	1,551,816	1,551,816	1,551,816	1,551,816	1,551,816
Functional Facilities							
1) Surimi	4,860,000	4,860,000	4,860,000	4,860,000	4,860,000	4,860,000	4,860,000
2) Cuttlefish	13,653,900	13,653,900	13,653,900	13,653,900	13,653,900	13,653,900	13,653,900
3) Round scad	868,000	868,000	868,000	868,000	868,000	868,000	868,000
4) Dried/salted fish	565,500	565,500	565,500	565,500	565,500	565,500	565,500
5) Ice plant	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000
6) Shipyard	1,855,600	1,855,600	1,855,600	1,855,600	1,855,600	1,855,600	1,855,600
AFA,s Rev. (incl. LKIM)	2,524,656	2,524,656	2,524,656	2,524,656	2,524,656	2,524,656	2,524,656
B. Expense	24,071,954	23,914,073	23,748,269	23,626,139	23,496,807	23,359,829	23,214,729
1) Basic facilities	807,300	807,300	807,300	807,300	807,300	807,300	807,300
2) Functional facilities	18,821,200	18,821,200	18,821,200	18,821,200	18,821,200	18,821,200	18,821,200
3) AFA activities	1,262,400	1,262,400	1,262,328	1,262,328	1,262,328	1,262,328	1,262,328
4) Depreciation	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177
5) Interest	1,010,877	852,996	687,264	565,134	435,802	298,824	153,724
C. Income before D & I	7,470,942	7,470,942	7,471,014	7,471,014	7,471,014	7,471,014	7,471,014
D. Net Income	4,289,888	4,447,769	4,613,573	4,735,703	4,865,035	5,002,013	5,147,113
II. Cash Flow							
A. Sources of Funds	6,460,065	6,617,946	6,783,750	6,905,880	7,035,212	7,172,190	7,317,290
1) Loan							
2) Equity							
3) Depreciation	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177	2,170,177
4) Net income	4,289,888	4,447,769	4,613,573	4,735,703	4,865,035	5,002,013	5,147,113
B. Uses of Funds	3,663,448	14,471,880	2,257,090	2,379,220	2,508,552	2,645,530	2,790,630
1) Construction							
Basic Portion							
Functional Portion							
2) Reinvestment		10,650,550					
3) Repayment of loan	3,663,448	3,821,330	2,257,090	2,379,220	2,508,552	2,645,530	2,790,630
C. Net cash flow	2,796,617	-7,853,933	4,526,660	4,526,660	4,526,660	4,526,660	4,526,660

Remarks: Interest rates considered are 3% for basic portion and 6.5% for functional portion.

Table III.3.2.16 (a) Financial Evaluation of the Pilot Project (Full Construction)

Unit: RM

	Investment Cost	Re-invest Cost	Income bef. D & I	Net Benefit
1995	57,213,740	0	0	-57,213,740
1996		0	2,795,774	2,795,774
1997		0	3,488,461	3,488,461
1998		0	4,214,965	4,214,965
1999		0	4,554,501	4,554,501
2000		450,000	5,348,515	4,898,515
2001		0	4,897,551	4,897,551
2002		0	5,231,904	5,231,904
2003		0	5,501,418	5,501,418
2004		0	5,962,006	5,962,006
2005		1,356,550	6,238,281	4,881,731
2006		0	6,274,209	6,274,209
2007		0	6,595,766	6,595,766
2008		0	6,923,010	6,923,010
2009		0	7,170,521	7,170,521
2010		13,600,335	7,307,872	-6,292,463
2011		0	7,470,942	7,470,942
2012		0	7,470,942	7,470,942
2013		0	7,470,942	7,470,942
2014		0	7,470,942	7,470,942
2015		1,356,550	7,470,942	6,114,392
2016		0	7,470,942	7,470,942
2017		0	7,470,942	7,470,942
2018		0	7,470,942	7,470,942
2019		0	7,470,942	7,470,942
2020		0	7,470,942	7,470,942

FIRR= 7.38%

Table III.3.2.16 (b) Financial Evaluation of the Pilot Project (Phase Construction)

Unit: RM

	Investment Cost	Re-invest Cost	Income bef. D & I	Net Benefit
1995	23,793,083	0	0	-23,793,083
1996		0	825,674	825,674
1997		0	989,009	989,009
1998		0	1,215,307	1,215,307
1999		0	1,481,072	1,481,072
2000	33,420,657	450,000	1,709,544	-32,161,113
2001		0	4,897,551	4,897,551
2002		0	5,231,904	5,231,904
2003		0	5,501,418	5,501,418
2004		0	5,962,006	5,962,006
2005		1,356,550	6,238,281	4,881,731
2006		0	6,274,209	6,274,209
2007		0	6,595,766	6,595,766
2008		0	6,923,010	6,923,010
2009		0	7,170,521	7,170,521
2010		1,356,550	7,307,872	5,951,322
2011		0	7,470,942	7,470,942
2012		0	7,470,942	7,470,942
2013		0	7,470,942	7,470,942
2014		0	7,470,942	7,470,942
2015		4,306,335	7,470,942	3,164,607
2016		0	7,470,942	7,470,942
2017		0	7,470,942	7,470,942
2018		0	7,470,942	7,470,942
2019		0	7,470,942	7,470,942
2020		10,650,550	7,470,942	-3,179,608
2021		0	7,471,014	7,471,014
2022		0	7,471,014	7,471,014
2023		0	7,471,014	7,471,014
2024		0	7,471,014	7,471,014
2025		0	7,471,014	7,471,014

FIRR= 8.45%

Table III.2.3.17 (a) Income Statement of Basic Facilities and Group A of Functional Facilities (1/2)

Unit: RM

	0	1	2	3	4	5	6
I. Income Statement	1995	1996	1997	1998	1999	2000	2001
A. Revenue		1,060,625	1,190,680	1,391,864	1,611,207	1,791,768	1,980,800
Service charge							
1) Fish landing		142,350	160,000	220,000	285,000	305,000	341,000
2) Vehicles		122,400	132,000	175,000	210,000	250,000	286,950
3) Auction		354,275	435,000	510,000	605,000	700,000	793,260
4) Rentals		441,600	463,680	486,864	511,207	536,768	559,590
B. Expense		3,095,860	3,095,860	3,095,860	3,095,860	3,095,860	3,095,860
1) O/M cost		807,354	807,354	807,354	807,354	807,354	807,354
2) Depreciation		1,238,805	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805
4) Interest		1,049,701	1,049,701	1,049,701	1,049,701	1,049,701	1,049,701
C. Income before D & I		253,271	383,326	584,510	803,853	984,414	1,173,446
D. Net Income		-2,035,235	-1,905,180	-1,703,996	-1,484,653	-1,304,092	-1,115,060

Unit: RM

	7	8	9	10	11	12	13
I. Income Statement	2002	2003	2004	2005	2006	2007	2008
A. Revenue	2,039,870	2,165,150	2,260,430	2,350,710	2,420,990	2,556,270	2,626,550
Service charge							
1) Fish landing	350,000	365,000	370,000	380,000	390,000	405,000	415,000
2) Vehicles	290,000	295,000	300,000	310,000	320,000	340,000	350,000
3) Auction	840,000	945,000	1,030,000	1,100,000	1,150,000	1,250,000	1,300,000
4) Rentals	559,870	560,150	560,430	560,710	560,990	561,270	561,550
B. Expense	3,095,860	3,095,860	3,051,029	3,004,852	2,957,290	2,908,301	2,857,843
1) O/M cost	807,354	807,354	807,354	807,354	807,354	807,354	807,354
2) Depreciation	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805
4) Interest	1,049,701	1,049,701	1,004,870	958,693	911,131	862,142	811,684
C. Income before D & I	1,232,516	1,357,796	1,453,076	1,543,356	1,613,636	1,748,916	1,819,196
D. Net Income	-1,055,990	-930,710	-790,599	-654,142	-536,300	-352,031	-231,293

Remarks: 1) Service charge of auction refers to 2% commission earned from auction price.

2) Includes equity (50%) of the basic facilities.

3) Interest rate of 3% for both basic and group A facilities is considered.

Table III.2.3.17 (a) Income Statement of Basic Facilities and Group A of Functional Facilities (2/2)

Unit: RM

	14	15	16	17	18	19	20
I. Income Statement	2009	2010	2011	2012	2013	2014	2015
A. Revenue	2,737,330	2,822,110	2,954,186	2,954,186	2,954,186	2,954,186	2,954,186
Service charge							
1) Fish landing	425,000	440,000	458,120	458,120	458,120	458,120	458,120
2) Vehicles	360,500	370,000	379,590	379,590	379,590	379,590	379,590
3) Auction	1,390,000	1,450,000	1,551,816	1,551,816	1,551,816	1,551,816	1,551,816
4) Rentals	561,830	562,110	564,660	564,660	564,660	564,660	564,660
B. Expense	2,805,870	2,752,339	2,697,202	2,640,410	2,581,915	2,521,665	2,459,608
1) O/M cost	807,354	807,354	807,354	807,354	807,354	807,354	807,354
2) Depreciation	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805
4) Interest	759,711	706,180	651,043	594,251	535,756	475,506	413,449
C. Income before D & I	1,929,976	2,014,756	2,146,832	2,146,832	2,146,832	2,146,832	2,146,832
D. Net Income	-68,540	69,771	256,984	313,776	372,271	432,521	494,578

Unit: RM

	21	22	23	24	25
I. Income Statement	2016	2017	2018	2019	2020
A. Revenue	2,954,186	2,954,186	2,954,186	2,954,186	2,954,186
Service charge					
1) Fish landing	458,120	458,120	458,120	458,120	458,120
2) Vehicles	379,590	379,590	379,590	379,590	379,590
3) Auction	1,551,816	1,551,816	1,551,816	1,551,816	1,551,816
4) Rentals	564,660	564,660	564,660	564,660	564,660
B. Expense	2,395,688	2,329,851	2,262,039	2,192,193	2,120,251
1) O/M cost	807,354	807,354	807,354	807,354	807,354
2) Depreciation	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805
4) Interest	349,529	283,692	215,880	146,034	74,092
C. Income before D & I	2,146,832	2,146,832	2,146,832	2,146,832	2,146,832
D. Net Income	558,498	624,335	692,147	761,993	833,935

Remarks: 1) Service charge of auction refers to 2% commission earned from auction price.

2) Includes equity (50%) of the basic facilities.

3) Interest rate of 3% for both basic and group A facilities is considered.

Table III.2.3.17 (b) Income Statement of Basic Facilities and Group A of Functional Facilities (1/2)

Unit: RM

	0	1	2	3	4	5	6
I. Income Statement	1995	1996	1997	1998	1999	2000	2001
A. Revenue		1,060,625	1,190,680	1,391,864	1,611,207	1,791,768	1,980,800
Service charge							
1) Fish landing		142,350	160,000	220,000	285,000	305,000	341,000
2) Vehicles		122,400	132,000	175,000	210,000	250,000	286,950
3) Auction		354,275	435,000	510,000	605,000	700,000	793,260
4) Rentals		441,600	463,680	486,864	511,207	536,768	559,590
B. Expense		4,320,512	4,320,512	4,320,512	4,320,512	4,320,512	4,320,512
1) O/M cost		807,354	807,354	807,354	807,354	807,354	807,354
2) Depreciation		1,238,805	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805
4) Interest		2,274,353	2,274,353	2,274,353	2,274,353	2,274,353	2,274,353
C. Income before D & I		253,271	383,326	584,510	803,853	984,414	1,173,446
D. Net Income		-3,259,887	-3,129,832	-2,928,648	-2,709,305	-2,528,744	-2,339,712

Unit: RM

	7	8	9	10	11	12	13
I. Income Statement	2002	2003	2004	2005	2006	2007	2008
A. Revenue	2,039,870	2,165,150	2,260,430	2,350,710	2,420,990	2,556,270	2,626,550
Service charge							
1) Fish landing	350,000	365,000	370,000	380,000	390,000	405,000	415,000
2) Vehicles	290,000	295,000	300,000	310,000	320,000	340,000	350,000
3) Auction	840,000	945,000	1,030,000	1,100,000	1,150,000	1,250,000	1,300,000
4) Rentals	559,870	560,150	560,430	560,710	560,990	561,270	561,550
B. Expense	4,320,512	4,320,512	4,250,337	4,175,602	4,096,008	4,011,241	3,920,965
1) O/M cost	807,354	807,354	807,354	807,354	807,354	807,354	807,354
2) Depreciation	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805
4) Interest	2,274,353	2,274,353	2,204,178	2,129,443	2,049,849	1,965,082	1,874,806
C. Income before D & I	1,232,516	1,357,796	1,453,076	1,543,356	1,613,636	1,748,916	1,819,196
D. Net Income	-2,280,642	-2,155,362	-1,989,907	-1,824,892	-1,675,018	-1,454,971	-1,294,415

Remarks: 1) Service charge of auction refers to 2% commission earned from auction price.

2) Includes equity (50%) of the basic facilities.

3) Interest rate of 6.5% for both basic and group A facilities is considered.

Table III.2.3.17 (b) Income Statement of Basic Facilities and Group A of Functional Facilities (2/2)

Unit: RM

	14	15	16	17	18	19	20
I. Income Statement	2009	2010	2011	2012	2013	2014	2015
A. Revenue	2,737,330	2,822,110	2,954,186	2,954,186	2,954,186	2,954,186	2,954,186
Service charge							
1) Fish landing	425,000	440,000	458,120	458,120	458,120	458,120	458,120
2) Vehicles	360,500	370,000	379,590	379,590	379,590	379,590	379,590
3) Auction	1,390,000	1,450,000	1,551,816	1,551,816	1,551,816	1,551,816	1,551,816
4) Rentals	561,830	562,110	564,660	564,660	564,660	564,660	564,660
B. Expense	3,824,820	3,722,426	3,613,376	3,497,238	3,373,551	3,241,824	3,101,535
1) O/M cost	807,354	807,354	807,354	807,354	807,354	807,354	807,354
2) Depreciation	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805
4) Interest	1,778,661	1,676,267	1,567,217	1,451,079	1,327,392	1,195,665	1,055,376
C. Income before D & I	1,929,976	2,014,756	2,146,832	2,146,832	2,146,832	2,146,832	2,146,832
D. Net Income	-1,087,490	-900,316	-659,190	-543,052	-419,365	-287,638	-147,349

Unit: RM

	21	22	23	24	25
I. Income Statement	2016	2017	2018	2019	2020
A. Revenue	2,954,186	2,954,186	2,954,186	2,954,186	2,954,186
Service charge					
1) Fish landing	458,120	458,120	458,120	458,120	458,120
2) Vehicles	379,590	379,590	379,590	379,590	379,590
3) Auction	1,551,816	1,551,816	1,551,816	1,551,816	1,551,816
4) Rentals	564,660	564,660	564,660	564,660	564,660
B. Expense	2,046,159	2,048,155	13,760,914	14,538,546	2,046,159
1) O/M cost	807,354	807,354	807,354	807,354	807,354
2) Depreciation	1,238,805	1,238,805	1,238,805	1,238,805	1,238,805
4) Interest	0	1,996	11,714,755	12,492,387	0
C. Income before D & I	2,146,832	2,146,832	2,146,832	2,146,832	2,146,832
D. Net Income	908,027	906,031	-10,806,728	-11,584,360	908,027

Remarks: 1) Service charge of auction refers to 2% commission earned from auction price.
2) Includes equity (50%) of the basic facilities.
3) Interest rate of 6.5% for both basic and group A facilities is considered.

Table III.2.3.17 (c) Income Statement of Group B of Functional Facilities (1/2)

Unit: RM

	0	1	2	3	4	5	6
I. Income Statement	1995	1996	1997	1998	1999	2000	2001
A. Revenue		11,363,700	12,409,700	13,484,700	14,449,700	15,754,700	16,874,700
1) Surimi		2,227,500	2,450,000	2,650,000	2,900,000	3,180,000	3,442,500
2) Cuttlefish		5,251,500	6,050,000	6,900,000	7,600,000	8,600,000	9,444,700
3) Selayang		581,000	581,000	581,000	581,000	581,000	581,000
4) Dry fish		565,500	565,500	565,500	565,500	565,500	565,500
5) Ice plant		1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000
6) Shipyard		1,658,200	1,683,200	1,708,200	1,723,200	1,748,200	1,761,000
B. Expense		11,769,513	12,286,161	12,860,955	13,752,184	14,491,642	16,191,413
1) O/M cost		9,393,600	9,910,248	10,485,042	11,376,271	12,115,729	13,815,500
2) Depreciation		931,372	931,372	931,372	931,372	931,372	931,372
3) Interest	0	1,444,541	1,444,541	1,444,541	1,444,541	1,444,541	1,444,541
C. Income before D & I	0	1,970,100	2,499,452	2,999,658	3,073,429	3,638,971	3,059,200
D. Net Income	0	-405,813	123,540	623,746	697,517	1,263,059	683,288

Unit: RM

	7	8	9	10	11	12	13
I. Income Statement	2002	2003	2004	2005	2006	2007	2008
A. Revenue	17,544,500	18,095,900	18,878,300	19,491,700	19,895,100	20,529,500	21,244,900
1) Surimi	3,580,000	3,750,000	3,950,000	4,080,000	4,150,000	4,350,000	4,580,000
2) Cuttlefish	9,950,000	10,300,000	10,850,000	11,300,000	11,600,000	12,000,000	12,450,000
3) Selayang	598,000	619,000	641,000	664,000	687,000	711,000	736,000
4) Dry fish	565,500	565,500	565,500	565,500	565,500	565,500	565,500
5) Ice plant	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000
6) Shipyard	1,771,000	1,781,400	1,791,800	1,802,200	1,812,600	1,823,000	1,833,400
B. Expense	15,182,060	15,630,957	15,093,994	16,571,616	17,064,284	17,572,471	18,096,665
1) O/M cost	14,250,688	14,699,585	14,162,622	15,640,244	16,132,912	16,641,099	17,165,293
2) Depreciation	931,372	931,372	931,372	931,372	931,372	931,372	931,372
3) Interest	0	0	0	0	0	0	0
C. Income before D & I	3,293,812	3,396,315	4,715,678	3,851,456	3,762,188	3,888,401	4,079,607
D. Net Income	2,362,440	2,464,943	3,784,306	2,920,084	2,830,816	2,957,029	3,148,235

Remarks: 1) Interest rate of 6.5% considered.

2) O/M cost includes raw materials, utility, administrative, etc.

Table III.2.3.17 (c) Income Statement of Group B of Functional Facilities (2/2)

Unit: RM

	14	15	16	17	18	19	20
I. Income Statement	2009	2010	2011	2012	2013	2014	2015
A. Revenue	21,850,300	22,381,700	22,883,000	22,883,000	22,883,000	22,883,000	22,883,000
1) Surimi	4,650,000	4,750,000	4,860,000	4,860,000	4,860,000	4,860,000	4,860,000
2) Cuttlefish	12,950,000	13,350,000	13,653,900	13,653,900	13,653,900	13,653,900	13,653,900
3) Selayang	761,000	788,000	868,000	868,000	868,000	868,000	868,000
4) Dry fish	565,500	565,500	565,500	565,500	565,500	565,500	565,500
5) Ice plant	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000
6) Shipyard	1,843,800	1,848,200	1,855,600	1,855,600	1,855,600	1,855,600	1,855,600
B. Expense	18,637,372	19,195,111	19,752,572	19,752,572	19,752,572	19,752,572	19,752,572
1) O/M cost	17,706,000	18,263,739	18,821,200	18,821,200	18,821,200	18,821,200	18,821,200
2) Depreciation	931,372	931,372	931,372	931,372	931,372	931,372	931,372
3) Interest	0	0	0	0	0	0	0
C. Income before D & I	4,144,300	4,117,961	4,061,800	4,061,800	4,061,800	4,061,800	4,061,800
D. Net Income	3,212,928	3,186,589	3,130,428	3,130,428	3,130,428	3,130,428	3,130,428

Unit: RM

	21	22	23	24	25
I. Income Statement	2016	2017	2018	2019	2020
A. Revenue	22,883,000	22,883,000	22,883,000	22,883,000	22,883,000
1) Surimi	4,860,000	4,860,000	4,860,000	4,860,000	4,860,000
2) Cuttlefish	13,653,900	13,653,900	13,653,900	13,653,900	13,653,900
3) Selayang	868,000	868,000	868,000	868,000	868,000
4) Dry fish	565,500	565,500	565,500	565,500	565,500
5) Ice plant	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000
6) Shipyard	1,855,600	1,855,600	1,855,600	1,855,600	1,855,600
B. Expense	19,752,572	20,279,972	20,279,972	20,279,972	20,279,972
1) O/M cost	18,821,200	18,821,200	18,821,200	18,821,200	18,821,200
2) Depreciation	931,372	931,372	931,372	931,372	931,372
3) Interest	0	527,400	527,400	527,400	527,400
C. Income before D & I	4,061,800	4,061,800	4,061,800	4,061,800	4,061,800
D. Net Income	3,130,428	2,603,028	2,603,028	2,603,028	2,603,028

Remarks: 1) Interest rate of 6.5% considered.

2) O/M cost includes raw materials, utility, administrative, etc.

3.3 Other Benefits

Other benefits that are anticipated as indirect benefits, due to the implementation of the Project are summarized below.

(1) Land use

After the existing LKIM area and the private jetties are demolished, the land will be put to use for other purposes which will be the source of indirect benefits.

(2) Effects of development in the Study Area

In order to determine the changes that may be derived from this Project, a survey was carried out in order to grasp the changes created in the surrounding area, before and after construction of the LKIM complex in Mersing.

1) Changes created by construction of the Mersing LKIM complex

Current conditions of the area surrounding the LKIM complex are shown in Fig.III.3.3.1. Prior to construction of the complex, there was only one restaurant in area A, as shown in the figure. With the construction of the complex, restaurants, coffee shops, and small shops were successively built; and presently there are a total of 13 restaurants and coffee shops.

In downtown Mersing where a tourist jetty for the resort area of Tioman Island is located, resort facilities such as restaurants, coffee shops, hotels, etc. have been developed,. It has been concluded that this development in the downtown area has had no direct bearing on the existence of the complex area.

2) Projections on anticipated changes in Endau

Although a detailed history of Endau will be given in the following section, in brief, the current downtown area developed along an arterial road to a port which was formerly used by ferry boats. Upon completion of the bridge to Pahang state, the ferry port was closed and the present day LKIM complex was constructed at the same place.

A map depicting the current conditions of Endau is given in Fig.III.3.3.2. The land behind the Project area is vacant and a residential area is adjacent to it.

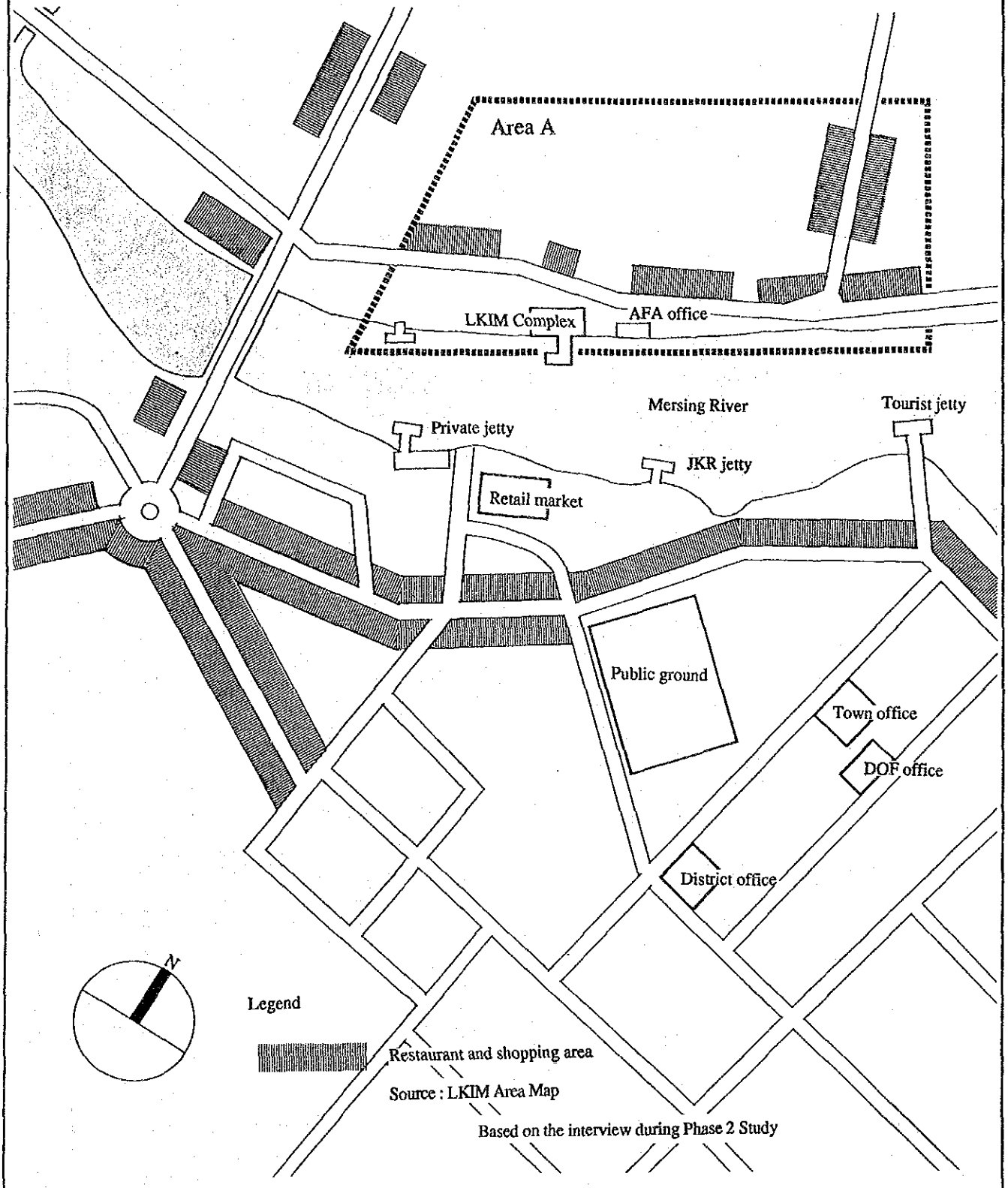

Fig.III.3.3.1 Existing Activity Area in Mersing

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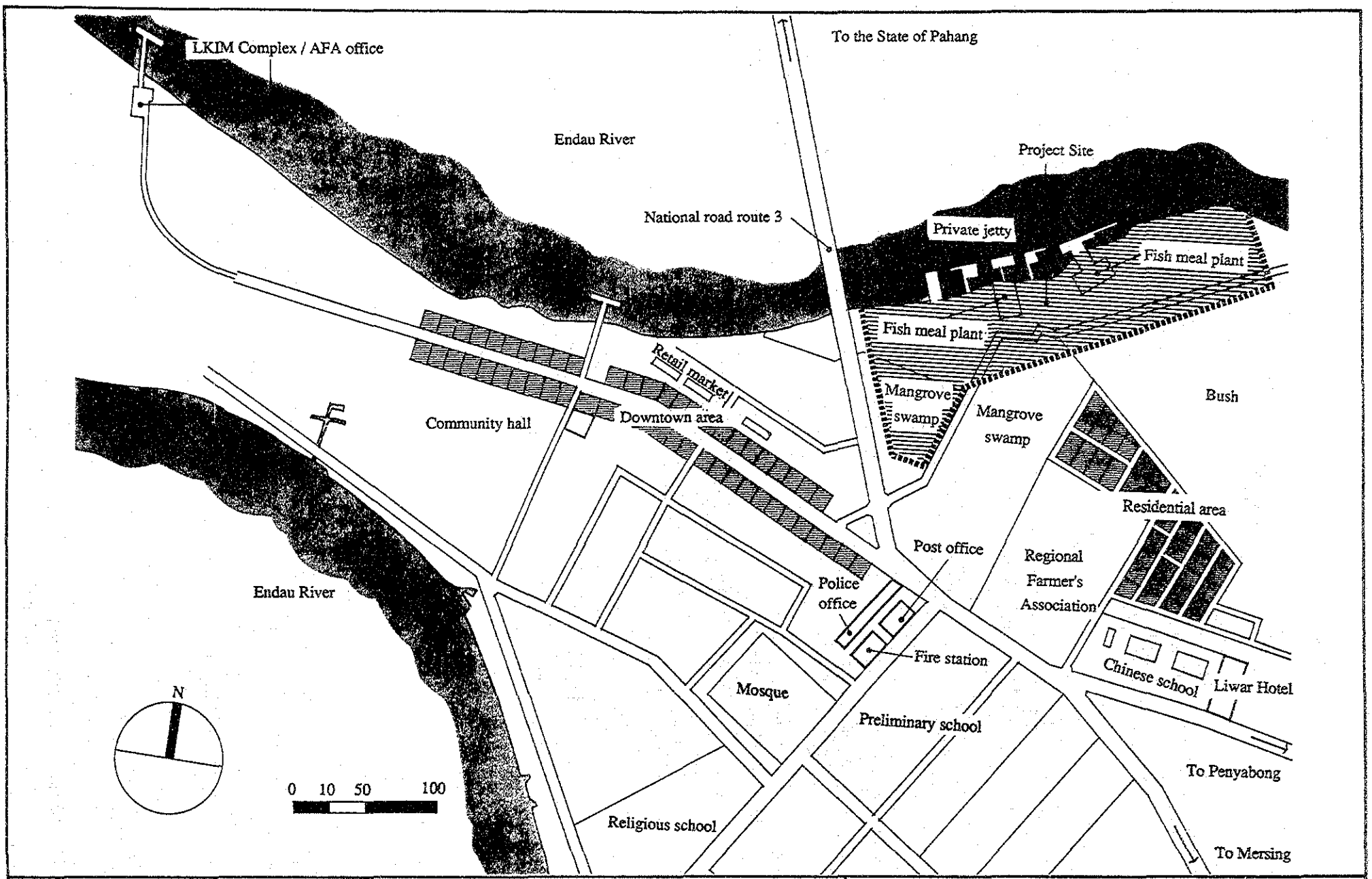

Fig.III.3.3.2 Existing Activity Area in Endau

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Although the new fishing port will contain only one canteen and two small store, it is projected that additional coffee shops, stores, and restaurants will be built in the vacant lot in future; and in view of the development seen in Mersing, it will eventually evolve into a new downtown area, on a smaller scale than the existing one.

In addition, although there is only one hotel in operation at present, the number of hotels and other tourist facilities are anticipated to increase with the opening of the jetty for tourist ferry boats on the Pahang side.

3.4 Preliminary Environmental Assessment

A preliminary environmental assessment survey was carried out during the feasibility study in Phase II of the Project, in accordance with the Environmental Impact Assessment Guidelines of the Department of Environment of the Malaysia. Furthermore, a detailed environmental assessment study must be carried out before Project implementation.

Findings from a preliminary environmental assessment survey which are divided into two phases, construction and operation, are given below.

3.4.1 Construction Period

(1) Natural environmental impact

If a pump dredger is used to dredge the river bottom during the construction phase, there is danger of polluting the river waters over a wide area by the turbid overflow. This can be avoided by using a bucket dredger to contain the degree and range of contamination to a minimum.

There are two means of disposing the dredged sediment. One is to collect the sediment and dump it into an area fenced in by steel piling or the other is to transport the sediment by barges and unload it at a designated area. The estimated amount of dredged soil is 20,000 m^3.

(2) Socio-economic environmental assessment

1) Relief measures to assist private jetties

Relief measures will be implemented for private jetties which will be unable to land fish during the construction period of the new fishing port, by

allowing them to use the jetty at the LKIM complex. Private jetties which will be affected are shown in Fig.III.2.6.1.

2) Relocating the fish meal plants

In conjunction with Project implementation, two fish meal plants currently in operation at the proposed construction site of the new fishing port, will be required to relocate. Both plants will be moved in stages and the relocation will be completed by 1994. During this period, trash fish used by the fish meal plants will be landed at the existing LKIM complex. During the port construction period, the government will be required to prepare an alternate location for both plants as part of its relief measures and to complete the negotiations on reparations. Reparations will basically ensure that plant operations are not disrupted and they will include initial investment in plant facilities, land cost, and relocation costs.

3) Impediments to Navigation of the river

a) There are no impediments in cargo and passengers crossing the river since it can be crossed by an overland route using the bridge.

b) The number of fishing boats entering and exiting the river mouth per unit/time is minimal and pose no problems.

c) The tourist ferry boats' use of their jetty on the opposite riverbank will not be disrupted by port construction, as only a narrow area of water in the study area will be affected.

3.4.2 Operational Period

(1) Natural environmental impact

1) Effect on ecosystem

The construction site of the new fishing port includes approximately one hectare of mangroves. However, since the area encompassed by the construction site is small, it is not expected to negatively affect the ecosystem of the area. Furthermore, it is well within the limitations established by the Environmental Protection Act of Malaysia on large scale development projects, which stipulates that any area of five hectares or more of mangroves must be environmentally assessed. Hence, it was concluded that a review of the Project site and its scope was not necessary.

2) Sand and soil accumulation at the river mouth

The level of sand and soil accumulation at the river mouth pose no problems, as explained earlier in section II.6.5. However, if new development were to occur along the river, it may be possible for added sand and soil to flow downstream and accumulate at the river mouth. Therefore, it will be necessary to give careful consideration to development upstream.

3) Changes in river flow conditions

Adopting a pier type structure supported by piles in the design of the wharf and avoiding the gravity type massive structure, may minimize the influence on the river flow through reduced cross-section.

The landfill behind the jetty will be extended about 30 meters from the existing wharf into the river when the new fishing port is constructed. The area which will be reclaimed from the river, was once dry land which disappeared through erosion. The original beach line has receded in some places to create this area of dead water. The normal line of the wharf planned in this Project, is to regain the original beach line; and it has been concluded that negative effects on river flow conditions would be minimal. The normal line of the new wharf should be attached to the existing wharf at a gentle angle to create a smooth configuration, in order to ensure unobstructed river flow conditions.

4) Countermeasures on waste and sewage water

Waste disposal, mainly waste produced during fish processing, will be carried out by waste collection services of the government. In addition, a waste water treatment facility which meets the standards established by the Environmental Agency will be built within the new fishing port complex.

(2) Socio-economic Impact

1) Historical and cultural impact

Due to the lack of written material on the history of Mersing and Endau, an interview survey of the district officer and two senior citizens born and raised in these towns who were recommended by the district officer, was carried out.

The findings of this survey, shown in Table III.3.4.1, focuses on the historical development of the fishing industry in these two towns. It was

determined from the findings that the Project site and the surrounding areas do not contain any historical or archaeological artifacts or ruins.

Endau has been historically a major agricultural and fishing area, and therefore, implementation of this Project is not anticipated to negatively affect the historical and cultural elements of the area.

2) Relocation relief measures

In addition to the relocation of two fish meals plants which will be completed during port construction, some class C fishing boats which are currently landing their fish at Mersing will be required to relocate their landing operations to Endau and class A boats landing their fish at Endau; will required to shift to Penyabong.

Relief measures which will be extended to these three parties affected by the new fishing port is given below.

a) Fish meal plants

After their relocation has been completed, the two fish meal plants will be allowed to use the landing facilities at the new fishing port until they have become fully engaged. However, if the fish meal plants wish to continue using the fishing port, they will be allowed to land trash fish at the supply jetty, except during the landing hours of food fish. Another option would be to construct a jetty in front of the newly relocated plant. This decision will be made by the owners of the fish meal plants in consultation with the government.

b) Relocation of relevant fishermen families and increase in fishermen population

In conjunction with the commencement of new fishing port operations, fishing boats which will be required to relocate their landing operations are shown in Table III.3.4.2.

There are generally two fishermen on each Class A fishing boat which will shift their landing operations from Endau to Penyabong; and a total of 40 fishermen will be affected by this change. Based on the findings obtained from the interview survey conducted during the Phase 1 study on the ratio of fishermen in possession of land and house, 30 fisherman (76%) out of the 40

owned a house on either public, leased, or personally owned land. The remaining 10 fishermen (24%) rented both land and house.

In view of the fact that fishing operations of class A boats are only one day, it was deduced that home owning fishermen would not relocate their place of residence since the distance between Endau and Penyabong was only about 10 minutes away by car.

There are 12 class C2 fishing boats (trawlers) which will be required to relocate from Mersing to Endau. One boat generally has a crew of six; and a total of 72 fishermen will be affected by the transfer. Of this number, there are 49 fishermen (68%) who are homeowners on either public, leased, or personally owned land and 23 fishermen (32%) who rent both land and house, according to the findings obtained from the aforementioned interview survey.

As in the case of class A boat owners, the possibility of the 49 home owning fishermen to relocate their place of residence, is unlikely, since each fishing operation averages seven days and the distance between Mersing and Endau is only 30 minutes by car. Fishermen will travel to and fro by either motorbike or car. Since motorbikes are popular and widespread, special relief measures for transportation are not necessary.

In contrast, there is a high probability that the 23 fishermen who rent their homes may relocate their families to Endau. However, irrespective of whether they are homeowners or not, it is desirable that fishing boat owners who will be required to relocate, take the initiative in moving their families to an area near the fish landing site.

In addition, it is projected that with the implementation of the new fishing port and the development of Endau as a fishing base, the number of boats landing their fish will increase from 218 as of 1990 to 245 in 2010. In conjunction with this, the fishermen population is also anticipated to grow from 989 in 1990 to 1,498 in 2010, an increase of 509 fishermen (34%). Subsequently, it is necessary to include this increase in population in the plan on housing provisions.

The transitions in fishermen population have been calculated from the projected number of boats at the new port; and they are given in Table III.3.4.3. However, the overall growing trend within the nation is a decline in the number of fishermen; and a sudden rise in the population of fishermen operating along the east coast of peninsular Malaysia is not anticipated.

Subsequently, the projected increase of 509 fishermen is believed to be fishermen relocating their operations from the west coast of peninsular Malaysia, or foreign fishermen. The aforementioned housing provisions will not apply to this latter group, since such fishermen generally stay aboard their fishing boats.

Therefore, it has been concluded that the housing provision plan should be prepared to accommodate roughly 150 fishermen households, which includes the 20 percent increase in fishermen population (100 fishermen) and the 23 fishermen who may relocate from Mersing. It is recommended that a housing provision plan similar to the plan implemented in Penyabong, which includes the use of farm land be implemented. A draft sketch of a one unit home for fishermen is given in Fig.III.3.4.1 (the total floor area including the verandah is 58.60m^2). The housing construction site for the housing provision plan cannot be determined from the findings of this study.

By using the housing provision plan implemented in Penyabong as a reference, housing construction costs were calculated at RM25,424 per unit. In addition, cost per house unit including ground improvement costs (survey, cleaning, construction of entrance area, laying out electrical lines, drainage facilities, laying out water supply lines) is estimated to be RM74,200.

Therefore, the total construction cost for a housing provision plan for 150 households is estimated at RM14,944,000. Land acquisition costs, land acquisition tax, and cost of public facilities (assembly hall, nursery, dormitory, stores, park, etc.) have not been included in this estimate.

3) Traffic congestion of access road

National Road 3, the main arterial road running near the complex, is currently being expanded into a two lane road. In addition, the access road to the complex will be broadened to a sufficient width of 10 meters; and subsequently, significant traffic congestion is not anticipated.

4) Collision risk between ferry boats and fishing boats

The jetty for tourist ferry boats is presently under construction on the Pahang bank of the Endau River and it is expected to be completed by the end of 1992. Operations will commence from the beginning of 1993; and ferry boats will be navigating the river mouth, in conjunction with an increased number of fishing

boats after completion of the new fishing port. Projections on future traffic conditions at the river mouth are given below.

Although both tourist ferry boats and fishing boats are presently navigating the river mouth, the water depth at the river mouth is extremely shallow; and large ferry and fishing boats must wait for the high tide before they are able to enter or exit. The busiest time period for ferry boats is during the high tide hours from three to four daily. During this period 40 ferry boats arrive and depart at the tourist jetty. Despite this fact, collisions between boats have not been reported to date.

The transitions in the number of tourists using the tourist boats between Mersing and Tioman or the other resort islands are shown in Table III.3.4.4 In 1983 the number of tourists averaged 50,000 in number and has continued to grow steadily; and in 1991 there were approximately 120,000 tourists utilizing the tourist boats leaving or arriving at Mersing. The number of tourists for 1991 is shown by month in Table III.3.4.5. During the peak month of June, there were 17,378 tourists, but during the monsoon season of December and January, they averaged slightly over 1000 in number.

There have been no reports of collisions between fishing boats on the Endau River. Using the present situation at Mersing as an example, it is projected that in future, the number of ferry boats using the tourist jetty on the Endau River will increase. The distance between Endau and Tioman Island is rather far, in comparison to the distance between Mersing and Tioman Island. Therefore, by halving the number of tourist boats at Mersing and taking the width of the Endau river mouth into consideration, it has been concluded that the collision risk between fishing and ferry boat is negligible.

5) Survey on women in development (WID)

An interview survey of housewives in fishing villages was carried out on WID, in order to evenly distribute the benefits of the Project. The interview survey was conducted in Endau, Mersing, and the Penyabong. A total of 13 families were interviewed, consisting of three wives of class A fishing boat owners, three wives of class B fishing boat owners, two wives of fishing crew members, three wives of class C and C2 fishing boat owners, and two wives of fishing crew members of class C, C2 boats. The findings of this survey are given in Table III.3.4.6 to III.3.4.14.

The largest number of children per household was five and there were six families with five children, followed by four families with three children. Television sets were widespread and all of the families interviewed owned a television. The wives' knowledge of public health care and education was acquired mainly from television programs.

Nine of the women had completed their primary education and four of the women over 50 years of age did not receive any education under the Japanese occupation during WWII. However, the majority of their children had completed their secondary school education and if they expressed a desire to continue on to higher education, the women were willing to allow them to do so.

The majority of the children were born at home with the assistance of a midwife. Three of the thirteen women drove a motorbike and one drove a car, but they traveled only in the Mersing and Endau areas.

Three of the women interviewed were working housewives. One worked at a rubber plantation tapping rubber trees, another worked at a vegetable plantation, and the third worked at a small store. All three were part-time workers. Half of the remaining unemployed women all expressed a desire to work, if there were employment opportunities near the home. Some of the jobs held by the wives of the fishing villages in the area surrounding the Project site are described below.

- Head cutting at the jetty or at the fish cracker plant (photos III.3.4.1 & III.3.4.2)
- Operating a small retail shop or coffee shop (photo III.3.4.3)
- Operating a fish cracker plant
- Working on rubber plantation
- Working at fish processing plant (photo III.3.4.4)
- Operating small home farm

Unlike the women pearl divers of Japan, the women in fishing villages are not involved in any aspect of fish production. This is due to the fact that traditionally women have not participated in fishing. In addition , women were not seen aboard the fishing boats sorting fish or repairing nets at the jetties.

In view of the fact that over half of the housewives expressed a desire for employment opportunities near their homes, the new fishing port is anticipated to become a source of employment. With an increase in working housewives, family incomes will increase, along with a rise in education and public health care standards.

6) Creation of employment opportunities

a) New fishing port complex

In addition to employment opportunities created by the new fishing port, its operations, and the AFA, other employment opportunities are shown in Table III.3.4.15.

b) Surrounding vicinity of fishing port

In addition to the aforementioned benefits created by the new fishing port complex, coffee shops, small shops, and restaurants are expected to evolve in the surrounding vicinity, creating further employment opportunities.

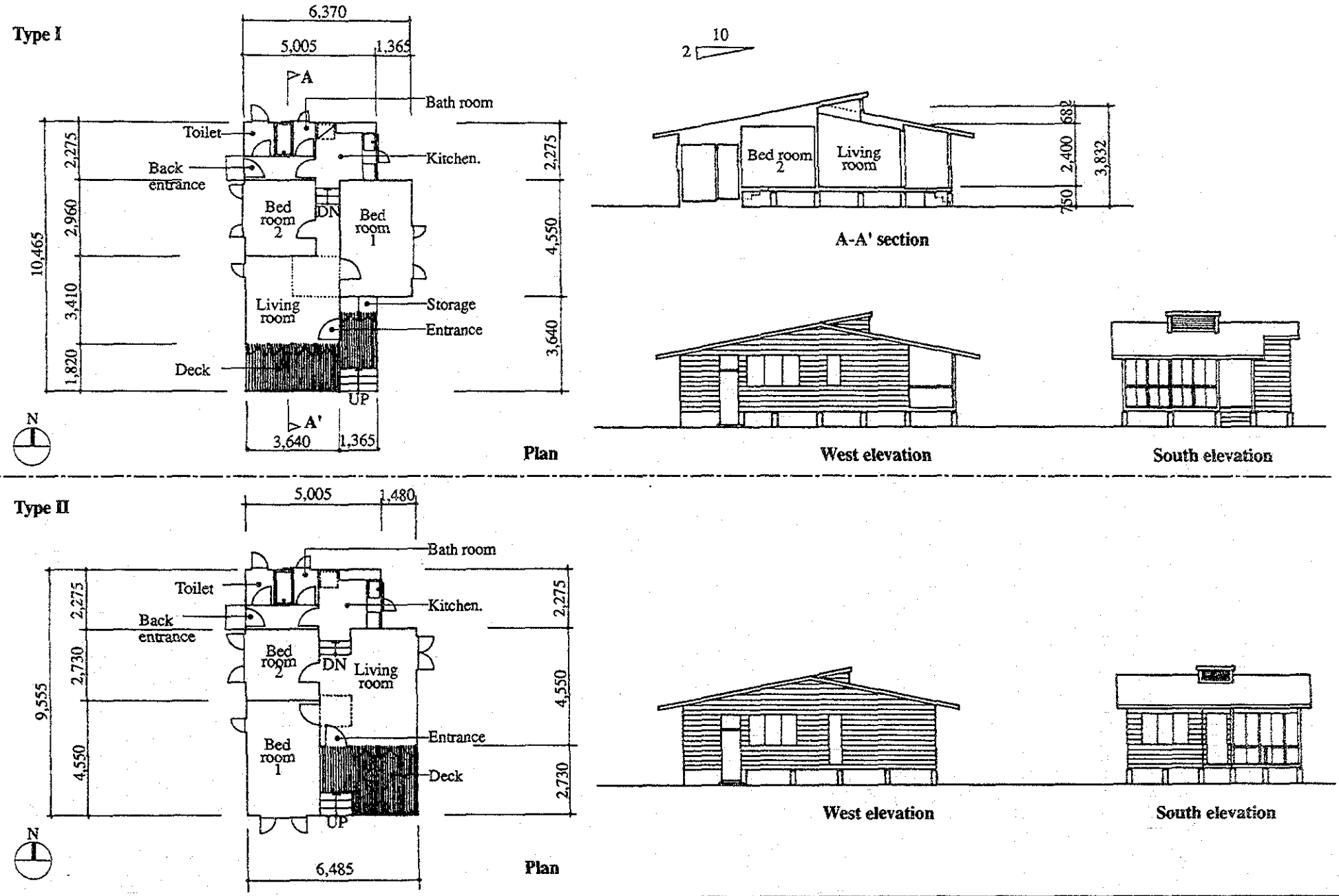

Fig. III.3.4.1 Sketch of Fishermen's House for a Housing Scheme

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Table III.3.4.1 Fishery-related history of Mersing and Endau

Before 1914:	– Endau was the district capital.
	– Endau was developed because of a ferry port to Pahang.
	– There were only two retail shops in Mersing.
	– Most of the people living in Endau and Mersing area were farmers.
	– Traditional Malay fishermen with sailing boats were engaged in fishing activities around Tioman Island.
1914:	– District Capital was moved from Endau to Mersing along with all government offices.
	– Big cargo boats came from Singapore to Mersing.
1918:	– The 13-mile road leading to the tin mine was completed at Mersing.
(1957:	– Malaysia got its Independence)
1963:	– Many Chinese fishermen came from the west coast, mostly from Pulau Ketam, to Endau/Mersing areas to obtain trawler boat license issued by the government.
	– Private jetties began to be constructed.
1971:	– The bridge to Pahang was completed at Endau.
	– The ferry port in Endau was closed.
1975:	– Mersing LKIM complex was established.
1984:	– Endau LKIM complex was established.

Source: Field Survey Phase 2 (The Feasibility Study on the Pilot Project for Improvement of Fish Marketing and Distribution System in Malaysia, Oct. 1992)

Table III.3.4.2 Number of Fishermen whose Fishing Boat will be Transferred

Year	Landing Place		Type of Boat	Number of Boat	Number of Fishermen
	From	To			
1990-1995	Mersing	Endau	C2	12	72
1990-1995	Endau	Penyabong	A	20	40

Table III.3.4.3 Projection of Number of Fishermen in Endau (1990-2020)

Boat Type	Fishing Gear	Crew/ boat	1990		1995		2010	
			Boat	Crew	Boat	Crew	Boat	Crew
Class A	Trawl	2	25	50	5	10	-	-
	P. Seine	4	2	8	-	-	-	-
	Others	2.5	2	5	10	25	-	-
Class B	Trawl	4	39	156	30	120	-	-
	P. Seine	10	3	30	5	50	-	-
	Others	3	20	60	20	60	20	60
Class C	Trawl	4	78	312	60	240	70	60
	P. Seine	10	10	120	10	120	25	280
	Others	-	-	-	-	-	-	-
Class C2	Trawl	5.9	37	218	84	496	120	708
	P. Seine	15	2	30	5	75	10	150
	Others	-	-	-	-	-	-	-
Total			218	989	229	1,196	245	1,498

Source: Data for 1990 from Mersing DOF, 1992

Table III.3.4.4 Number of Boats and Tourist Using Mersing Tourist Jetty (1983-1991)

Year	Number of Boats	Number of Tourists
1983	4,766	48,438
1984	5,814	56,937
1985	5,261	51,723
1986	4,501	42,274
1987	3,940	41,531
1988	5,258	46,852
1989	7,054	81,611
1990	8,984	116,051
1991	7,587	117,359

Source: Majlis Perasmiaan Jeti Mersing, Jabatan Laut Johor, Sept. 1992

Table III.3.4.5 Monthly Number of Passengers Departing from Mersing (1991)

Months	Number of Passengers
January	1,133
February	4,263
March	9,880
April	13,864
May	16,593
June	17,378
July	11,370
August	14,807
September	11,980
October	9,622
November	5,459
December	1,010

Source: Majlis Perasmiaan Jeti Mersing, Jabatan Laut Johor, Sept. 1992

Table III.3.4.6 Survey on Number of Children in a Fisherman's Family

Number of Children	<3	3	4	5	>5
Number of wives	0	4	2	6	1

Remarks : 13 families in total
Source: Based on the interview with fishermen's wives during field survey Phase 2 (The Feasibility Study on the Pilot Project for Improvement of Fish Marketing and Distribution System in Malaysia, Oct. 1992)

Table III.3.4.7 Survey on Fisherman's Asset

Asset	Yes	No
Land	11	2
House	12	1
TV	13	0
VCR	9	4
Telephone	8	5
Motorbike	9	4
Car	3	10

Remarks : 13 families in total
Source: Based on the interview with fishermen's wives during field survey Phase 2 (The Feasibility Study on the Pilot Project for Improvement of Fish Marketing and Distribution System in Malaysia, Oct. 1992)

Table III.3.4.8 Survey on Education Attainment of Fishermen's Wives

Education level	Primary school	Secondary school	None*
No. of wives	9	0	4

Remarks : 13 families in total (Note: * = because of the Japanese occupation)
Source: Based on the interview with fishermen's wives during field survey Phase 2 (The Feasibility Study on the Pilot Project for Improvement of Fish Marketing and Distribution System in Malaysia, Oct. 1992)

Table III.3.4.9 Survey on Fishermen's Wives' Expectation on their Children

	Yes	No
Do you expect your children to be fishermen?	13	0
Do you plan to give your children higher education, if they wish?	13	0

Remarks : 13 families in total
Source: Based on the interview with fishermen's wives during field survey Phase 2 (The Feasibility Study on the Pilot Project for Improvement of Fish Marketing and Distribution System in Malaysia, Oct. 1992)

Table III.3.4.10 Survey on Place of Delivery of Fishermen's Babies

All were at home	All were in the hospital	Home/hospital
1	1	11

Remarks : 13 families in total
Source: Based on the interview with fishermen's wives during field survey Phase 2 (The Feasibility Study on the Pilot Project for Improvement of Fish Marketing and Distribution System in Malaysia, Oct. 1992)

Table III.3.4.11 Survey on Fishermen's Wives Driving a Car/Motorbike

	Yes	No
Motorbike	3	10
Car	1	12

Remarks : 13 families in total
Source: Based on the interview with fishermen's wives during field survey Phase 2 (The Feasibility Study on the Pilot Project for Improvement of Fish Marketing and Distribution System in Malaysia, Oct. 1992)

Table III.3.4.12 Survey on Information Source of Fishermen's Wives

	TV/radio	Newspaper	Gov. office
Where do you mainly get the information about health, education, political matter etc.?	13	4	1

Remarks : 13 families in total
Source: Based on the interview with fishermen's wives during field survey Phase 2 (The Feasibility Study on the Pilot Project for Improvement of Fish Marketing and Distribution System in Malaysia, Oct. 1992)

Table III.3.4.13 Survey on Fishermen's Wives Working Outside the Home

Yes	No
3	10

Remarks : 13 families in total
Source: Based on the interview with fishermen's wives during field survey Phase 2 (The Feasibility Study on the Pilot Project for Improvement of Fish Marketing and Distribution System in Malaysia, Oct. 1992)

Table III.3.4.14 Survey on Fishermen's Wives Interested in Working outside the Home

Yes	No
8	5

Remarks : 13 families in total
Source: Based on the interview with fishermen's wives during field survey Phase 2 (The Feasibility Study on the Pilot Project for Improvement of Fish Marketing and Distribution System in Malaysia, Oct. 1992)

Table III.3.4.15 Job Opportunities in the New Fishing Port

	Clerical		Workers		Total
	Male	Female	Male	Female	
Coffee	-	-	-	3	3
Retail shop	-	-	-	3	3
Processing plant					
Freezing (Cuttlefish)	3	1	4	22	30
Freezing (Round scad)			3	10	13
Surimi plant	3	1	6	12	22
Dried fish plant	1	1	2	6	10
Ice plant	2	1	19	-	22
Shipyard	3	1	7	-	11
Total	12	5	41	56	114

Photo III.3.4.1 Head-cutting Process at the Endau LKIM Complex

Photo III.3.4.2 Head-cutting Process at a Fish Processing Plant

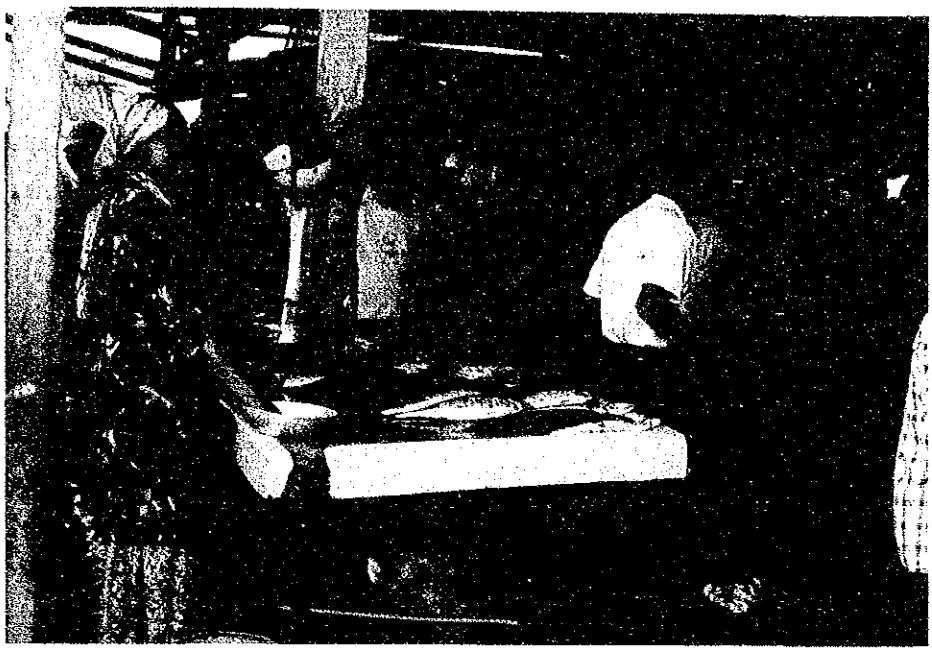

Photo III.3.4.3 Selling Fish at the Retail Market in Mersing

Photo III.3.4.4 Washing Bags for Trash Fish at a Fish Meal Plant

VI. CONCLUSIONS AND RECOMMENDATIONS

VI. Conclusions and Recommendations

Conclusions and Recommendations

(1) *Reforms in fish marketing system*

The organizational and institutional reforms of the fish marketing system, including improvements to the fishing port and its related facilities, will shift the center of fishing activity from the existing private jetties to the new fishing port; and subsequently, fish landings in the area will be concentrated in one location. As a result, rationalization of the fish marketing system will progress, in conjunction with a fish marketing system led by fishermen in conjunction with a rise in their incomes.

(2) Reforms of the FMIS

The existing FMIS in the private sector will be adapted to include fishermen and the AFA, and thereby establish the principles of free competition. The public information system currently in progress as a national network will only fulfill a supporting role of the pilot project.

(3) Organizational and institutional reforms

Organizational and institutional reforms will include revising AFA member qualifications, improving its credit system, and strengthening its activities by establishing a committee on organizational and institutional reforms, which will include representatives of government and fishermen of all classes. Although during the initial few years of pilot project implementation, LKIM and other government bodies will be required to provide support in the area of human resources and fund, ultimately the project will be run independently by fishermen. Formulating the transitional process from the public to private sector is the responsibility of the aforementioned committee on organizational and institutional reforms.

(4) Improvements to the fishing port and fish marketing system

1) State government countermeasures on such issues as land acquisition for construction purposes, removal of private jetties, relocation of fish meal plants, relocation of fishermen houses, management of undeveloped land after construction, etc. are required.

2) Measures to restrict development along the river are required because there is a possibility of downstream flow and sedimentation of mud and sand at the river mouth.

(5) Funding for construction costs

In view of the benefits to fishermen, government subsidy will be required as well as low interest loans and private owned equity , to cover 50 percent of basic facility cost.

(6) Management of the Pilot Project

In its initial stages, the pilot project will be directly managed by the government or statutory/subsidiary bodies. However, operations will be turned over to the private sector as early as possible after operations have commenced. In order to achieve a unified system of operations, the entire Project will be organized into one general administration. Each facility will be transferred to private operation or leased. The AFA will be considered as one of the private organizations involved in Project operations. A committee on operations will be established to formulate policies on organizational operations. Committee members will be composed of representatives from MOA, DOF, LKIM, BPM, NFA, SFA, state government representatives, state branch offices (DOF, FDA, LKIM, BPM), representatives of fishing boat owners, fishing crew members, fish traders, and fish processors.

(7) Technology transfer

Until Pilot Project operations get off the ground, it will be necessary to invite foreign experts to train future core members responsible for Project administration and operations or to send these members for training abroad. Technology transfer will be required for the overall fish marketing system including fishing port management, and fishermen associations. Technology transfer from abroad does not signify simply technical knowledge, but the transfer of knowledge in terms of organization and system. Therefore, it will be necessary to provide support in this area in the form of a comprehensive package. Details of package shall be considered during the implementation stage.

The Pilot Project will not only serve as a model for reform implementation of the domestic fish marketing system of Malaysia, but has the potential to evolve into a future international base for technology transfer.

(8) Reforms on fishery resource management

This Project study is concerned with reforms to improve the fish marketing system and it does not include a study on improving the environment for fish production. However, in recent years the growth of trawling within the fishing industry has strongly affected fish production volume to declining levels, in addition to a conspicuous drop in fishing efficiency. In order to further enhance improvements in the fish marketing system proposed in this study, instituting reforms in the resource management system for coastal fisheries is an urgent issue. In view of current conditions, it is recommended that a study on comprehensive use of coastal waters be implemented in the ocean waters off East Johor.

APPENDICES

APPENDIX - 1. PERSONNEL

(A) Government of Japan

(1) Advisory Committee

1) Chairman	Nobuo TAKAKI (Phase 1)	Deputy Director ,Planning Division, Fishing Port Department, Fishery Agency, Ministry of Agriculture, Forestry and Fisheries
	Masao KISHINO (Phase 2)	Senior Inspector, Planning Division,Fishing Port department, Fishery Agency, Ministry of Agriculture, Forestry and Fishery
2) Member	Katsuji HIROYOSHI	Professor, Fishery Resource Management Division, Tokyo University of Fisheries
3) Member	Seiki OMAKI	Chief, National Research Institute of Fisheries Engineering, Aquacultural Department,Fisheries Agency, Ministry of Agriculture, Forestry and Fisheries

(2) Study Team Members

1) Team Leader	Tateo KUSANO (System Science Consultants Inc.)
2) Fisheries Economy/Marketing Expert	I. ALLAHPICHAY (System Science Consultants Inc.)
3) Fisheries Expert	Tamio AKAOKA (System Science Consultants Inc.)
4) Institutional/Financial Expert	John W. GARDNER (Development Alternatives Inc., USA)
5) Fishermen Association Expert	Takashi MORIMOTO (System Science Consultants Inc.)
6) Fishing Port Planning Expert	Mikio TANAKA (System Science Consultants Inc.)
7) Fish Marketing Facilities Expert	Teruo YABANA (System Science Consultants Inc.)
8) Natural Conditions Surveyor	Shinji OKADA (System Science Consultants Inc.)
9) Fish Marketing Information/Assessment	Ms. Yoko ISHIDA (System Science Consultants Inc.)
10) Cost Estimation	TAN Eng Guan (System Science Consultants Inc.)
11) Architect	Mutsumi GANDO (System Science Consultants Inc.)

(B) Government of Malaysia

(1) Technical committee members

1) Dato Dr. Kudus Ahmad (Chairman)	MOA
2) Tuan Shaik Ahmad Soekarno	MOA
3) Mohd Tamin Mohd Yusof	MOA
4) Abu Bakar Said	MOA
5) Puan Siaw Lean Sim	MOA
6) Cik Zunika Muhammed	EPU
7) Thambi Abu Hassan	MOA
8) Tuan Haji Magirin Haron	LKIM
9) Abdul Malek Zakaria	LKIM
10) Abdul Rahim Md. Mustaffa	LKIM
11) Cik Halinah Mohd Zain	LKIM

(2) Steering Committee members

1) En Kassim Sarbani (Chairman)	EPU
2) Cik Kamariah Ramli	EPU
3) En K. Thilainnadarajan	EPU
4) Cik Zunika Muhammed	EPU
5) Mohd Tamin Mohd Yusof	MOA
4) Abu Bakar Said	MOA
5) Puan Siaw Lean Sim	MOA
7) Thambi Abu Hassan	MOA
8) Tuan Haji Magirin Haron	LKIM
9) Abdul Malek Zakaria	LKIM
10) Abdul Rahim Md. Mustaffa	LKIM

APPENDIX - 2. SCOPE OF WORK

SCOPE OF WORK
FOR
THE FEASIBILITY STUDY
ON
THE PILOT PROJECT FOR IMPROVEMENT OF FISH MARKETING AND DISTRIBUTION SYSTEM
IN
MALAYSIA

AGREED UPON
BETWEEN
THE ECONOMIC PLANNING UNIT
OF
THE PRIME MINISTER'S DEPARTMENT
ON BEHALF OF
THE GOVERNMENT OF MALAYSIA
AND
THE JAPAN INTERNATIONAL COOPERATION AGENCY

Kuala Lumpur
4th December, 1991

Mr. Kassim Sarbani
for Director General,
Economic Planning Unit
Prime Minister's Department,
on behalf of
The Government of Malaysia

Nobuo Takaki

Mr. Nobuo Takaki
Leader
Preparatory Study Team,
Japan International
Cooperation Agency

I. INTRODUCTION

In response to the request of the Government of Malaysia, the Government of Japan has decided to conduct the Feasibility Study on the Pilot Project for Improvement of Fish Marketing and Distribution System in Malaysia (hereinafter referred to as "the Study"), in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of technical cooperation programs of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned in the Government of Malaysia.

The present document sets forth the scope of work with regard to the Study.

II. OBJECTIVE OF THE STUDY

The objective of the study is to conduct a feasibility study on implementation of a pilot project incorporating institutional building and the physical plan of facilities in East Johor as a model case for the improvement of existing fish marketing and distribution system in Malaysia.

III. OUTLINE OF THE STUDY

1. The Study Area

The Study area shall cover East Johor.

2. Scope of the Study

The Study shall be conducted in two (2) phases.

In the first phase, alternative plans for a pilot project shall be formulated based on background survey and the data analysis. In the second phase, feasibility study on the selected plan shall be conducted.

Breakdown of each phase of the study is given as follows.

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Phase 1

1. Data collection and field survey
   (1) Social and economic background
   (2) Marketing and distribution system of fisheries products
   (3) Existing facilities and infrastructure for fish marketing and distribution
   (4) Fisheries production
   (5) Quality and handling methods of fisheries products
   (6) Organization and institution
   (7) Socioeconomic survey on fisheries communities
   (8) Survey on natural conditions on project site

2. Formulation of alternative plans for the pilot project
   (1) Projection of the future fish landing and usage of the facilities at the project site
   (2) Establishment of viable institution
   (3) Data collection for designing and costing of a fishing port and facilities
   (4) Formulation of alternative plans
   (5) Cost estimation and evaluation of each plan
   (6) Selection of the optimal plan for the pilot project

Phase 2

1. Field survey
   (1) Data collection for designing and costing of the selected plan
   (2) Detailed study of natural conditions including soil investigation
   (3) Preliminary environmental impact assessment of the project
   (4) Supplementary study on organization and institutional building

2. Formulation of physical plan
   (1) Basic concept of physical plan
   (2) Basic design of the fishing port and facilities
   (3) Basic plan of the organization and the institution
   (4) Operation and management plan of the complex including marketing and distribution scheme

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(5) Cost estimates
(6) Economic and financial analysis

IV STUDY SCHEDULE

The Study will be executed in accordance with the attached tentative work schedule.

V. REPORT

1. JICA shall prepare and submit the following reports in English to the Government of Malaysia.

(1) Inception Report
Twenty-five (25) copies at the commencement of the field survey (Phase 1 study).
(2) Progress Report
Twenty-five (25) copies at the end of the field survey (Phase 1 study).
(3) Interim Report I
Twenty-five (25) copies before the commencement of the field survey (Phase 2 study)
(4) Progress Report II
Twenty-five (25) copies at the end of the field survey (Phase 2 study).
(5) Draft Final Report
Twenty-five (25) copies at the end of the phase 2 study (end of formulation of detailed plan). The Government of Malaysia is requested to provide its comments on the Draft Final Report within one (1) month after receipt of the Report.
(6) Final Report
Fifty (50) copies within two (2) months after receiving the comments from the Government of Malaysia on the Draft Final report.

2. The Study Team shall ensure that all data, information, maps materials and findings connected with the Study are kept

confidential and not revealed or disposed off to any third party except with the prior written consent of the Government of Malaysia. Such maps and aerial photographs are to be returned to the Government of Malaysia immediately upon completion of the Study. All reports when finalized and submitted to the Government of Malaysia shall remain the property of the Government of Malaysia.

VI. UNDERTAKING OF THE GOVERNMENT OF MALAYSIA

1. To facilitate smooth conduct of the Study, the Government of Malaysia shall take necessary measures:

(1) To inform the members of the Study Team of any existing risk in the Study area and to take any measures deemed necessary to secure the safety of the Study Team.
(2) To ensure the necessary entry permits for the Study Team to conduct field surveys in Malaysia and exempt them from consular fees.
(3) To exempt the members of the Study Team from taxes and duties, as normally accorded under the provision of Malaysian General Circular No. 1 of 1979, on equipment, machinery and other materials brought into and out of Malaysia for the conduct of the Study.
(4) To exempt the members of the Study Team from Malaysian income tax on their official emoluments in respect of their period of assignment in Malaysia in connection with the conduct of the Study, but the Government of Malaysia shall retain the right to take such emoluments into account for the purpose of assessing the amount to be applied to income from other sources.
(5) To provide necessary facilities to the Study Team for remittance as well as utilization of funds introduced into Malaysia from Japan in connection with the conduct of the Study.
(6) To secure permission for entry into private properties or restricted areas for the conduct of the Study.
(7) To provide the Study Team with medical services when needed, but the expenses will be chargeable to the members of the

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Study Team.

(8) To provide the Study Team with available data, maps and information necessary for the execution of the Study.

(9) To make arrangements for the Study Team to take back to Japan the data, maps and materials connected with the Study, subject to the approval of the Government of Malaysia, in order to prepare the reports.

(10) To appoint counterpart personnel to the Study Team during the Study period.

(11) To provide the Study Team with suitable office space with clerical service and necessary office equipment in Kuala Lumpur and Johor.

(12) To provide the Study Team with adequate means of local transport for official travel only.

(13) To indemnify any members of the Study Team in respect of damages arising from any legal action against him in relation to any act performed or omissions made in undertaking the Study except when the two Governments agree that such a member is guilty of gross negligence or willful misconduct, and

(14) To nominate the Ministry of Agriculture to act as the main counterpart agency for the Study and the Economic Planning Unit as the main coordinating body in relation to other relevant Governmental and non-Governmental organization.

VII. UNDERTAKING OF JICA

In order to conduct the Study, JICA shall take the following measures;

1. To dispatch, at its own expense, the Study Team to Malaysia.
2. To pursue technology transfer to the Malaysian counterpart personnel(s) in the course of the Study.

VIII. CONSULTATION

JICA and the Government of Malaysia shall consult with each other in respect of any matter that is not agreed upon in this document and which may arise from or in connection with the Study.

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Tentative Study Schedule

Description /Month	1	2	3	4	5	6	7	8	9	10	11	12
Field Survey (Phase 1)	———	———	———	———								
Assessment and Analysis					- - -	- - -	- - -	- - -	- - -			
Field Survey (Phase 2)						———	———	———	———			
Formulation of Detailed Plan									- - -	- - -	- - -	- - -
Report		IC/R			P/R1		IT/R			P/R2		DF/R		F/R

IC/R: Inception Report
P/R: Progress Report
IT/R: Interim Report
DF/R: Draft Final Report
F/R: Final Report

——— : Work in Malaysia
- - - : Work in Japan

別紙2

Minutes of Meeting of The Steering Committee for Feasibility Study on The Pilot Project for Improvement of Fish Marketing and Distribution System In Malaysia

Venue	:	Economic Planning Unit
Date	:	December 3, 1991
Time	:	10.00 a.m.

ATTENDANCE

Members of the Committee who were present at the meeting are shown in Appendix A.

INTRODUCTION

2. The Chairman welcomed members of the Preliminary Study Team as well as officials from the Embassy of Japan and JICA Malaysia Office. He then introduced members of the Malaysian side.

3. At the invitation of the Chairman, the Leader of the Study Team expressed his pleasure to attend the first meeting of the Steering Committee. The meeting was informed that the Study Team had visited Endau, Mersing and Kuala Sedili.

DISCUSSION

4. The proposed Scope of Work of the Study and other related matters were discussed by the Steering Committee. The summarized results of the discussion are as follows:-

a) Pilot Project Site

The Malaysian side requested that Endau in East Johor be selected as the pilot project site since this area has been identified in the Sixth Malaysia Plan. In this regard, the Japanese side was of the view that in order to improve the fish marketing and distribution system in Endau, field surveys and discussions have to be done. The Japanese side also agreed to make alternative plans for the pilot project at Endau.

However, the Study Team anticipated that at Endau, there would be some difficulties in developing the identified site since it is being occupied by private jetties without permission of the authorities. The Malaysian side gave the undertaking that LKIM will secure the land as soon as possible.

b) Study Schedule

The Malaysian side requested the period of the study to be shortened by using data of the previous study as much as possible so that LKIM can implement the project at the end of 1993.

The Japanese side took note of this request which would be conveyed to the Japanese authorities for consideration. With the proposed shorter study period, the study team anticipated that the Final Report of the study can be submitted to the Government of Malaysia by March 1993.

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c) Technical Committees

The Japanese side requested the Malaysian side to establish technical committees both for institutional and for physical planning, so that the study will be carried out smoothly. The Malaysian side suggested that the present technical committee chaired by the Ministry of Agriculture will function as usual. However, another ad-hoc technical committee at the state level will be established and also chaired by the Ministry of Agriculture. Members of the ad-hoc technical committee will comprise of all the relevant agencies in the state. The study team observed that the proposal from the Malaysian side is in line with their suggestion and agreed with the Malaysian proposal for the creation of the ad-hoc technical committee.

d) Transfer of Technology

The Malaysian side requested that counterpart training be carried out in Japan. The Japanese side responded that training can be carried out in Malaysia and also in Japan. However, this request will be conveyed to the Japanese authorities for consideration.

The Malaysian side also requested that experts be attached to the project after completion of the construction to assist in the operation of the management plan of the complex. The Japanese side took note of the request.

The Steering Committee meeting adjourned at 11.30 a.m. with the Chairman thanking the members for their attendance.

KUALA LUMPUR
December 4, 1991

Mr. Kassim Bin Sarbani,
for Director General,
Economic Planning Unit,
Prime Minister's Department,
On Behalf of
The Government of Malaysia.

Nobuo Takaki

Mr. Nobuo Takaki,
Leader, Preliminary Study Team,
On Behalf of
Japan International
Cooperation Agency.

w/minutes

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Attendance

Malaysian Side

1. Mr. Kassim bin Sarbani, - Chairman
   Director,
   Agriculture Section, EPU.

2. Mr. Mohd. Tamin b. Mohd. Yusof,
   Principal Assistant Secretary,
   Ministry of Agriculture.

3. Mr. Abu Bakar bin Said,
   Assistant Secretary,
   Ministry of Agriculture.

4. Mr. Hj. Mohd. Idris bin Zainuddin,
   Director of Marketing,
   Fisheries Development Authority,
   of Malaysia.

5. Mr. Abdul Malik Zakaria,
   Deputy Director of Marketing,
   Fisheries Development Authority,
   of Malaysia.

6. Mr. Abdul Rahim b. Md. Mustaffa,
   Officer,
   Fisheries Development Authority,
   of Malaysia.

7. Mr. K. Thillainadarajan,
   Principal Assistant Director,
   Economic Planning Unit.

8. Ms. Kamariah binti Ramli,
   Principal Assistant Director,
   Economic Planning Unit.

9. Ms. Zunika Binti Mohamed, - Secretary
   Assistant Director,
   Economic Planning Unit.

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Japanese Side

1. Mr. Nobuo Takaki, - Team Leader
   Deputy Director,
   Planning Division,
   Fishing Port Department,
   Fisheries Agency,
   Ministry of Agriculture, Forestry and Fisheries.

2. Dr. Katsuji Hiroyoshi,
   Professor,
   Fishery Resource Management Division,
   Tokyo University of Fisheries.

3. Mr. Akito Sato,
   Office of the Overseas Fisheries Cooperation,
   Fisheries Agency,
   Ministry of Agriculture, Forestry and Fisheries.

4. Mr. Kazuo Udagawa,
   Special Advisor,
   Fisheries Technical Cooperation Division,
   JICA.

5. Mr. Shunichi Hamada,
   Embassy of Japan.

6. Mr. Toshiyuki Akagi,
   Embassy of Japan.

7. Mr. Kuniaki Nagata,
   JICA,
   Malaysia Office.

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APPENDIX - 3. MINUTES OF STEERING COMMITTEE MEETING (IC/R)

MINUTES OF THE STEERING COMMITTEE MEETING ON THE FEASIBILITY STUDY OF THE PILOT PROJECT FOR THE IMPROVEMENT OF FISH MARKETING AND DISTRIBUTION SYSTEM

AGREED UPON BETWEEN

THE ECONOMIC PLANNING UNIT

OF

THE PRIME MINISTER'S DEPARTMENT

ON BEHALF OF

THE GOVERNMENT OF MALAYSIA

AND

THE JAPAN INTERNATIONAL COOPERATION AGENCY

KUALA LUMPUR
30th March, 1992

Mr. Kassim B. Sarbani,
for Director General,
Economic Planning Unit,
Prime Minister's Department,
On Behalf of
The Government of Malaysia

Mr. Nobuo Takaki
Leader, Advisory Team,
On Behalf of
Japan International
Cooperation Agency

Mr. Tateo Kusano
Leader, Study Team
On Behalf of
Japan International
Cooperation Agency

MINUTES OF THE STEERING COMMITTEE MEETING ON THE FEASIBILITY STUDY OF THE PILOT PROJECT FOR THE IMPROVEMENT OF FISH MARKETING AND DISTRIBUTION SYSTEM

Date	:	30 March, 1992
Time	:	10.00 a.m.
Vanue	:	Meeting Room "D" Economic Planning Unit, Prime Minister's Department, Jalan Dato' Onn, 50502 KUALA LUMPUR.

ATTENDANCE

1. Members of the Committee who were present at the meeting are shown in Appendix A.

INTRODUCTION

2. The Chairman welcomed members of the Advisory Team and the Study Team as well as officials from the Embassy of Japan and JICA Malaysia Office. He then introduced members of the Malaysian side.

3. At the invitation of the Chairman, the Leader of the Advisory Team expressed his pleasure in attending the Steering Committee meeting. He hoped this meeting would benefit both parties involved in the study.

GENERAL BRIEFING ON THE SCOPE OF WORK OF THE FEASIBILITY STUDY

4. The Steering Committee was briefed by the leader of the Study Team regarding the Inception Report which was earlier discussed in the Technical Committee

Meeting on the 26th. March, 1992. He informed the meeting that the study will be divided into 2 phases i.e. Phase 1 and 2. In both phases work will be done both in Malaysia and Japan. Matters pertaining to data collection will be mostly done in Malaysia while the analysis of the data will be done in Japan.

5. As has been agreed in the Technical Committee Meeting some surveys are not necessary to be carried out but sufficient to be based on secondary data rather than primary data. These are information with respect to existing conditions in fish resources, current conditions in fish production, supply and demand balance of fish products. Decision to use secondary data is to avoid unnecessary wastage of time since information on such aspects can be easily obtained from the Fisheries Department of Malaysia.

DISCUSSION ON SCOPE OF WORK OF THE FEASIBILITY STUDY

6. The Steering Committee Meeting agreed with the proposed work that is going to be undertaken during the course of the study. However the following points need to be highlighted:-

i) Base Year

With regard to work in Japan for Phase I of the Study, the Study Team agreed to take year 1990 instead of 1989 as base year in projecting estimations on the size and number of fishing boats, the volume of fish landed etc. to year 2010 and 2020.

ii) Phase II Study

For work in Japan Item 1(a) "Characterization concerning the fishing port" needs to be elaborated incorporating the work on three scenarios as has been agreed at the Technical Committee Meeting. These 3 scenarios have to be based on the requirements

for the future development of the port up to year 2020. Characteristics which could determine the size of the future port may be influenced by boat sizes, physical and economic conditions of study area. The Study Team agreed to consider the 3 scenarios whether to establishe the need to have a small, medium or large size fishing port in the study.

iii) Computerized Marketing System

Regarding the Computerised Marketing System, the Study Team agreed to the request to develop the concept of the system.

iv) Japanese Technical Cooperation

The Malaysian side requested that technical cooperation to this project be formulated with the objective of implementing the project management and operation. The Japanese side responded that this request will be given due consideration.

7. The meeting adjourned at 11.05 a.m. with thanks from the Chairman.

Attendance

Malaysian Side

1.	Mr. Kassim Bin Sarbani Director of Agriculture, EPU	-	Chairman
2.	Mr. Mohd. Tamin B. Mohd Yusof Ministry of Agriculture		
3.	Mr. Hj. Magirin B. Haron Fisheries Development Authority of Malaysia		
6.	Mr. Abd. Rahim B. Md. Mustaffa Fisheries Development Authority of Malaysia		
7.	Mr. Mohd. Sani B. Mistam Economic Planning Unit		
8.	Ms. Kamariah Bte Ramli Economic Planning Unit		
9.	Mr. Badaruddin Bin Mahyudin Economic Planning Unit	-	Secretary

Japanese Side

1.	Mr. Nobuo Takaki Deputy Director, Planning Division, Fishing Port Department, Fisheries Agency	-	Leader, Advisory Team
2.	Mr. Hideki Tomobe	-	Advisory Team
3.	Mr. Makio Shichijo	-	Embassy of Japan
4.	Mr. Toshiyuki Akagi	-	Embassy of Japan
5.	Mr. Kuniaki Nagata	-	JICA Malaysia Office
6.	Mr. Tateo Kusano	-	Leader, Study Team
7.	Dr. I. Allahpichay	-	Study Team Member
8.	Mr. Mikio Tanaka	-	Study Team Member
9.	Mr. Shinji Okada	-	Study Team Member

APPENDIX - 4. MINUTES OF THE STEERING COMMITTEE MEETING (IT/R)

MINUTES OF THE STEERING COMMITTEE MEETING ON THE FEASIBILITY STUDY OF THE PILOT PROJECT FOR THE IMPROVEMENT OF FISH MARKETING AND DISTRIBUTION SYSTEM

AGREED UPON BETWEEN

THE ECONOMIC PLANNING UNIT

OF

THE PRIME MINISTER'S DEPARTMENT

ON BEHALF OF

THE GOVERNMENT OF MALAYSIA

AND

THE JAPAN INTERNATIONAL COOPERATION AGENCY

KUALA LUMPUR
25th. August, 1992

Mr. Kassim B. Sarbani,
for Director General,
Economic Planning Unit,
Prime Minister's Department,
On Behalf of
The Government of Malaysia

岸野昭雄

Mr. Masao Kishino
Leader, Advisory Team,
On Behalf of
Japan International
Cooperation Agency

Mr. Tateo Kusano
Leader, Study Team
On Behalf of
Japan International
Cooperation Agency

MINUTES OF THE STEERING COMMITTEE MEETING ON THE FEASIBILITY STUDY ON THE PILOT PROJECT FOR THE IMPROVEMENT OF FISH MARKETING AND DISTRIBUTION SYSTEM

Date	:	24 August, 1992
Time	:	3.00 p.m.
Venue	:	Meeting Room "B" Economic Planning Unit, Prime Minister's Department, KUALA LUMPUR.

ATTENDANCE

1. The attendance list of the members of the Committee who were present at the meeting is shown in Appendix A.

INTRODUCTION

2. The Chairman welcomed members of the Advisory Team and the Study Team as well as officials from the Embassy of Japan and JICA Malaysia Office.

Introduction Remarks by the Leader of the Advisory Team

3. The leader of the Advisory Team informed the meeting that the Study Team will be presenting the Interim Report for consideration.

BRIEFING ON THE INTERIM REPORT OF THE FEASIBILITY STUDY

4. The Steering Committee was briefed by the leader of the Study Team regarding the Interim Report which had been discussed in the Technical Committee Meeting held at 10 a.m. on 24th. August, 1992. He informed the meeting that the contents of the

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Interim Report is divided into three parts namely the Analysis of Current Conditions, Future Projections and Improvement Plans.

5. In the Analysis of Current Conditions, the Study Team found that the decrease in fish production was caused mainly by overfishing in the Study area and the overharvesting of trash fish. With regards to price, it was found that the price at the production area is quite unstable compared to the prices at the consumption area. It was also concluded that the BPM credit system does not extend credit to the fishermen for their fishing operations. The Study also concluded that the AFAs are weak financially as well as lacking in management expertise. In terms of facilities there is a need to build a port and introduce new facilities to cater for future demand.

6. In the Improvement Plan, some suggestions were made by the Study Team. One of the short term measures proposed to solve the problem of fishing resources is the introduction of concrete artificial reefs. The key suggestions to improve the fishery sector are the introduction of exclusive use of fishing rights fishing rights by AFA and the strengthening of AFA management. The Study Team also made suggestion to build a fishing port at site 2 of the Endau River. The Endau port will be the center of landing, whereas Mersing and Penyabong will serve as supporting ports for small boats.

Discussion on the Interim Report

i) *Fish Production Findings*

7. The Steering Committee agreed with the Study's findings that there is overfishing in the Study area and substantial volumes of trash fish are being caught. The Meeting was informed that the Department of Fisheries will provide the Study Team with data on the types of trash fish for a detailed analysis to be done.

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ii) *Exclusive Use of Fishing Rights by AFA*

8. The proposal that AFA should be given exclusive use of fishing rights is acceptable to the Steering Committee as this would mean decentralization of authority over fishing areas. The Meeting was also informed that presently fishing areas are zoned to demarcate the type of vessels and equipments that can be used in specific zones. Granting exclusive use of fishing rights to AFA can be regarded as an extension of the zoning concept. However, to effect the exclusive use of fishing rights is a long term strategy since the AFA members have to be educated and trained in resource management and be made aware of their rights and the importance of managing available resources to optimize the benefits for a long term. Since the idea of exclusive use of fishing rights is very new to Malaysia, the Study Team agreed with the proposal that the Team should examine ways of developing the exclusive use of fishing rights areas so that resources can be sustained.

iii) *Price Fluctuations*

9. It was noted in the Study that the price of fish is more stable in the consumption area compared to the production area which suffers more fluctuation. The Study Team agreed to the proposal that an analysis should be done on this so that measures can be introduced to improve the situation which will benefit both producers and consumers. The analysis will be done in Phase II of the Study.

iv) *Credit System*

10. The findings that BPM does not provide loans for operating expenditure was acknowledged. From discussion with BPM, the reluctance of BPM to extend credit for operations stemmed from the fact that there is more uncertainty and risk in fishing activities compared to farming activities which are more tangible. Moreover, the management cost to supervise these loans are high. The Study Team was requested to look into ways of overcoming this problem so as to enable fishermen to avail themselves to the credit facilities.

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v. *Institutional Strengthening*

11. After examining the AFAs in the Study area, the Study concluded that the AFAs are weak financially as well as lacking in management expertise as indicated by the decline in their earnings and membership. The Steering Committee agreed with the measures proposed to strengthen AFA. The need to review the AFA membership into full membership and quasi membership is accepted. This could lessen the conflict of interest between boat owners, boat crews and traders who are presently members of AFA and having the same rights. The Study also proposed that an AFA school be set up to train managers of AFAs. The Steering Committee was of the opinion that a school will be too ambitious and suggested that the Study Team look into the possibility of introducing the training of AFA managers by LKIM in their training center.

vi) *Site of Fishing Port*

12. Alternative site 2 proposed for the fishing port was agreed by the Steering Committee. However, the Study Team was requested to calculate the costing for planned capacity 1995 taking into account extension of basic facilities so that the maximum size of port can be built at one time with the other facilities being built in stages.

vii) *Presentation of Pages 146-158 of the Report*

13. The Study Team requested permission to present pages 146-158 of the Report to the local fishing community, especially AFAs in the Study area to gauge their reaction on the proposal of AFA economic activities. The Steering Committee suggested that pages 146-158 with the exclusion of the issue on exclusive use of fishing rights should be discussed first with LKIM officers before venturing to discuss with the local fishing community.

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viii) *Presentation of the Report to Government Agencies in the Study Area*

14. The Steering Committee agreed with the proposal that the Report be presented to Government agencies in the Study area to get their views on the proposals of the Report since they will be directly involved in the implementation of the proposals. The presentation will be done in October at Johor Bahru.

ix *Japanese Technical Cooperation*

15. The Chairman brought to the attention of the Study Team, item (iv) of paragraph 6 of the Minutes of Steering Committee held on 30 March, 1992 regarding the despatch of a technical expert to assist in implementing and operationalising the project. JICA Representative in Malaysia responded that this request is outside the scope of the project and a separate application should be forwarded to JICA by September so that it can be considered for Japanese fiscal year 1993. LKIM will take the necessary action to forward the application.

16. The meeting adjourned at 4.45 p.m. with words of thanks from the Chairman.

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Attendance

Malaysian Side

1.	Mr. Kassim Bin Sarbani Director, Agriculture Section, Economic Planning Unit.	-	Chairman
2.	Mr. Hj. Mohd. Tamin B. Mohd Yusof Ministry of Agriculture		
3.	Mr. Hj. Magirin B. Haron Fisheries Development Authority of Malaysia		
6.	Mr. Abd. Rahim B. Md. Mustaffa Fisheries Development Authority of Malaysia		
7.	Mr. Mohd. Sani B. Mistam Economic Planning Unit		
8.	Ms. Kamariah Bte Ramli Economic Planning Unit		
9.	Ms. Zunika Mohamed Economic Planning Unit	-	Secretary

Japanese Side

1.	Mr. Masao Kishino	-	Leader, Advisory Team
2.	Dr. Seiki Omaki	-	Advisory Team Member
3.	Mr. Yasuhiro Yoshizuka	-	Advisory Team Member
4.	Mr. Makio Shichijo	-	Embassy of Japan
5.	Mr. Toshiyuki Arita	-	JICA Malaysia Office
6.	Mr. Tateo Kusano	-	Leader, Study Team
7.	Mr. Tan Eng Guan	-	Study Team Member
8.	Mr. Teruo Yabana	-	Study Team Member
9.	Mr. Mikio Tanaka	-	Study Team Member
10.	Ms. Yoko Ishida	-	Study Team Member
11.	Dr. I. Allahpichay	-	Study Team Member

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APPENDIX - 5. MINUTES OF THE STEERING COMMITTEE MEETING (DF/R)

MINUTES OF MEETING OF THE STEERING COMMITTEE FOR FEASIBILITY STUDY OF THE PILOT PROJECT FOR THE IMPROVEMENT OF FISH MARKETING AND DISTRIBUTION SYSTEM IN MALAYSIA

AGREED UPON BETWEEN

THE ECONOMIC PLANNING UNIT

OF

THE PRIME MINISTER'S DEPARTMENT

ON BEHALF OF

THE GOVERNMENT OF MALAYSIA

AND

THE JAPAN INTERNATIONAL COOPERATION AGENCY

KUALA LUMPUR
January 13, 1993

Mr. Kassim B. Sarbani,
for Director General,
Economic Planning Unit,
Prime Minister's Department,
On Behalf of
The Government of Malaysia

Mr. Masao Kishino
Leader, Advisory Team,
On Behalf of
Japan International
Cooperation Agency

Mr. Tateo Kusano
Leader, Study Team
On Behalf of
Japan International
Cooperation Agency

MINUTES OF MEETING OF THE STEERING COMMITTEE FOR FEASIBILITY STUDY ON THE PILOT PROJECT FOR THE IMPROVEMENT OF FISH MARKETING AND DISTRIBUTION SYSTEM IN MALAYSIA

Venue	:	Bilik Gerakan, Economic Planning Unit, Level 2, Block K, Pusat Bandar Damansara, KUALA LUMPUR.
Date	:	January 13, 1993
Time	:	9.30 a.m.

ATTENDANCE

1. Members of the Committee who were present at the meeting is shown in Appendix A.

INTRODUCTION

2. The Chairman welcomed Leader of the Advisory Team and members of the Study Team as well as official from JICA Japan.

3. At the invitation of the Chairman, the leader of the Advisory team expressed his pleasure in attending the Steering Committee and inform the meeting that the study has come to an end and the Study Team had come up with several proposals which would be discussed in the meeting.

DISCUSSION

4. The Study Team Leader briefed the Steering Committee members regarding the Draft Final Report which was also discussed in the Technical Committee Meeting held at 3.30 p.m. on 12th January, 1993. He informed the meeting that the contents of the report are divided into the Analysis of Current Conditions, Future Projections, Future Plans, Project Evaluation and Conclusion and Recommendations.

5. The representative of the Technical Committee expressed the view of the Committee that generally the Committee agreed with the Draft Final Report. The Technical Committee also requests the team to give some options regarding the proposed project cost. The Committee also take notes of the recommendation for implementation of fishing right and the fisheries resources management study.

6. The Steering Committee generally agreed with the Draft Final Report, and that the recommendations are acceptable and will try to implement all of them despite some constraints which Malaysia faces now. The Steering Committee request that:

(i) the Study Team come up with several alternatives regarding the reformation of management of the proposed port in the Final Report.

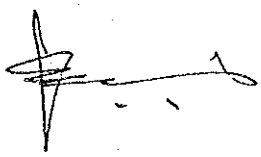
(ii) the Study Team should come up with several options for the construction of both the basic and functional facilities of the proposed port due to financial constraints.

(iii) the Final Report should also contain detail items of the proposed infrastructures which would be built with the port.

7. The Government of Malaysia will convey to the Study Team its comments on the Draft Final Report by February 12, 1993. Fifty (50) copies of the Final Report within two (2) months after receiving the comments on the Draft Final Report will be submitted to the Government of Malaysia.

8. The Steering Committee took note of the requirement of foreign technical assistance for the implementation of the pilot project.

9. The Steering Committee Meeting adjourned at 11.50 a.m. with the Chairman thanking the members for their participation and contributions.



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Attendance

Malaysian Side

1.	Mr. Kassim Bin Sarbani Director, Agriculture Section, Economic Planning Unit.	-	Chairman
2.	Mr. Hj. Mohd. Tamin B. Mohd Yusof Ministry of Agriculture		
3.	Mr. Hj. Magirin B. Haron Fisheries Development Authority of Malaysia		
4	Mr. Abd. Rahim B. Md. Mustaffa Fisheries Development Authority of Malaysia		
5.	Mr. Abd. Bakir b. Hj. Zin, Economic Planning Unit		
6.	Ms. Zunika Mohamed Economic Planning Unit	-	Secretary

Japanese Side

1.	Mr. Masao Kishino	-	Leader, Advisory Team
2.	Mr. Tateo Kusano	-	Leader, Study Team
3.	Dr. I. Allahpichay	-	Study Team Member
4.	Mr. Takashi Morimoto	-	Study Team Member
5.	Mr. Mikio Tanaka	-	Study Team Member
6.	Mr. Yasuhiro Yoshizuka	-	JICA, Japan Office

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APPENDIX - 6 AD HOC MEETING

(1) Ad hoc meeting at Mersing (Phase 1)

Ad hoc meeting at state level in Mersing with key persons related to FMDS project in Endau on 18 April 1992, and chaired by Mr. Tamin Yusof, MOA. The attendence is as follows.

	Name	Position	Department/Agency
1	Mohd Tamin Yusof	Principal Asst. Sec.	MOA, Kuala Lumpur
2	Wang Yok Han	Wakil Pengarah	DOF, Johor State
3	Mohd. Yatim	Engineer	Pejabat Pelabohan Mersing
4	Zulkefli Hasan	Wakil Pengarah	Wakil Pengarah JPS, Johor
5	Abdul Razal Dahalar		Kej. Pantai JPS, Ibu Pejabat
6	Mohd Diah Md Saleh	Account Officer	LKIM Mersing
7	Saedon Ab Majid	Development Officer	LKIM Johor Baru
8	Rosli Daud	Engineer	JKR HQ KL (Port Section)
9	Hashim b. Shafie	Manager	Persatuan Nelayan, Endau
10	Rokiah Mohamad	Head	MARDI, Kuala Tereng. Branch
11	Hj. Mohd Zaini b. Osman		Pentadbir Tanah Mersing Dist.
12	Balasingam	District Engineer	Jurutera Daerah, JPS Mersing
13	Borhanudin b. Baharudin	Asst. Port Officer	Marine Dept. Mersing
14	Mohd Shuhali b. Abd. Kadis	Manager	LKIM Complex, Kuantan
15	Chin Peng Yong	Manager	FDA Mersing
16	Mohd Nor Haron	State Director	Pengarah LKIM, Johor
17	Abd. Rahim Md. Mustaffa	Development.Officer	LKIM, KL
18	Aziz Ismail	Credit Officer	BPM, Mersing
19	Romli Ali	Gen. Manager	BPM, Mersing
20	Hassan Othman	Prin. Asst. Sec.	State EPU
21	Mohd Jaffar Dariman	Wakil Pengarah	Farmers Organization
22	Ab. Halim Ahmad	Gen. Manager	Area Farmer Organization
23	Hassan Long Ahmad	Wakil Pengarah	JKR, Johor
24	Abu. Bakar b. Said	Asst. Secretary	MOA, KL

(2) Ad hoc meeting at Johor Bahru (Phase 2)

Seminar on FMDS project in Endau was held on October 11, 1992 and chaired by Dato Dr. Abdul Kuddus Ahmad, MOA. The attendence is as follows.

	Name	Department/Agency
1	Dato Dr. Abdul Kudus Ahmad	MOA, KL
2	Mohd Tamin Yusof	MOA, KL
3	Lim Chai Hock	MOA, KL
4	Tambi Abu Hassan	MOA, KL
5	Chan Huan Seng	MOA, KL
6	Ms.Kamariah Ramli	EPU, KL
7	Hashim Ahmad	DOF, KL
8	Mohd Shaupi Derahman	DOF, KL
9	Lim Chai Fong	DOF, KL
10	Ng Fong Onn	DOF, KL
11	Y. M. Raja Mohd. Nordin Raja Omar	DOF, KL
12	Magirin Haron	LKIM , KL
13	Abdul Rahim Mustaffa	LKIM, KL
14	Kevin Hiew Wan Fhang	DOF, Johor Bahru
15	Abdullah Jaafar	DOF, Johor Bahru
16	Rahim Sharif	DOF, Johor Bahru
17	Mohd. Nor Haron	LKIM Johor Baru
18	Chin Peng Yong	LKIM, Mersing
19	Saedon Abd. Maajid	LKIM, Johor Bahru
20	Mohammad Ismail	LKIM, Johor Bahru
21	Nazarudin	LKIM, Mersing
22	Ms. Rokiah Mohammad	MARDI, Terengganu
23	Hussain Taib	AFA, Mersing
24	Osman Maarof	AFA, Kuala Sedili
25	Hashim Shafie	AFA, Endau
26	Hassan Othman	UPEN, Johor
27	Tarmedi Hj. Omar	UPEN, Johor
28	Ziauddin Abdul Latif	JKR, KL
29	Rosli Daud	JKR, KL
30	Yahaya Sarpan	District Office, Mersing
31	Ms. Farida Mohd. Ali	Land Office, Pahang
32	Mohd. Faroullah b. Zainon Hamzah	Secretary, MOA

APPENDIX - 7

Socio-economic Survey of Fishing Communities

1. Objective

The objectives of this survey were to grasp the demographic profile, the current conditions in fish marketing/distribution, the use of fish marketing/distribution facilities, the activities of fishermen organizations, and the economic conditions of fishermen households.

2. Study Approach

(1) Master list of fishermen

Master list of fishermen by category of boats including details such as license number, IC number, address, etc. for Mersing and Endau were obtained from DOF in KL for sampling purposes in the village survey.

(2) Sampling method and survey period

The sampling method and number of samples for Endau and Mersing are shown in Table 1. The survey period covered about 16 days including the training of enumerators. The enumerators were locally recruited, and the chief enumerator and assistant were of Chinese origin, and they were recruited from Kuala Lumpur. The chief enumerator and assistant have considerable experience in carrying out surveys, particularly of fishermen communities in peninsular Malaysia.

(3) Interview itinerary of enumerators

Enumerators were selected in the study area (10 in Endau and 10 in Mersing) and they were trained by the chief enumerator and his assistant. The survey period was about 16 days, including the training, and the enumerators visited each household for the interview.

(4) Questionnaire

Four sets of questionnaire were prepared; covering (1) socio-economic profile, (2) members of AFA, (3) non-members of AFA, and (4) credit condition. The questionnaires were tested in the study area, finalized and then translated into the Malay language. Some of the major items in the questionnaire are listed below.

(A) Socio-economic survey

1) Household characteristics
2) Land/house/living conditions
3) Assets and savings
4) Other working conditions

5) Fish production by boat owners/skipper

6) Marketing channel

7) Working conditions of crew

8) Communication and source of information

(B) Survey of AFA members

1) Fishing status

2) Knowledge of changes in AFA membership

3) Knowledge of economic activities

4) Opinion on the introduction of Japanese AFA fish marketing functions

(C) Survey of members

1) Fishing status

2) Evaluation of AFA from non-member fishermen

3) Knowledge of changes in AFA membership

3) Knowledge of economic activities

4) Opinion on the introduction of Japanese AFA fish marketing functions

(D) Financial aspect

1) Source of loan and equity for boat

2) Daily operational expense for fishing

3. Analysis

3.1 Socio-economic Aspects

The total number of fishermen households covered in the survey were 377 (Mersing, 145; and Endau, 232)(Table 1). Of the 145 samples taken in Mersing, 84 were boat owners, i.e. about 57 percent, and the rest were crew. There were 297 registered boats in the Mersing area, and therefore about 28 percent (84 boat owners) were surveyed. Of the 232 surveyed in the Endau area, 110 were boat owners, i.e. 50 percent and the rest were crew. In Endau there were 222 registered boats, and therefore 50 percent were surveyed. Some of the results of the analysis with respect to socio-economic and financial aspects of boat owners are summarized below.

(1) Household size

The distribution of households according to different size classification is given in Table 2. In the study area, about 40 percent of the households have 6-8 persons per household while the proportion with nine or more was about 14 percent. The average size of all households in Mersing District in 1991, according to the Population and Housing Census (1991) has been estimated as 4.9 people. In the study area, about 34 percent of the households are in the 2-5 person classification.

(2) Educational attainment

Education is normally recorded in terms of the highest certificate obtained of those who went to school. As can be seen in the Table 3, about 12 percent of all household heads had no formal education while 52 percent had only a primary education, and 36 percent had a secondary education. There are no household heads having a college or university education in the samples surveyed. The 52 percent in primary education implies that there were a large number of unqualified school leavers.

(3) Number of income earners/working members

Income earner refers to a working member of the household. About 76 percent indicated that there was only one working member, i.e. fisherman himself, while only 15 percent indicated two income earners in the family (Table 4).

(4) House ownership status and type of house

The house and land ownership status is shown in Table 5. About 41 percent of the households reported that they were living in their own houses which were built on their own land. Only 27 percent reported that they were renting their house and land. It should also be noted that a significant percentage (21%) reported that they were staying in their own house but renting the land on which the houses were built. Another point worth noting is that about 11 percent reported that they were squatters, i.e. they owned their own house on government land.

About 62 percent of the houses were of plank and zinc while only 20 percent were of concrete and bricks. Houses of atap/bamboo represented only a negligible percentage (2%)(Table 6).

One of the most basic household amenities is water supply. More than 80 percent of the households receive their water supply from water piped in to their houses while those sharing water from a common piped water supply represented about 6 percent. About 14 percent of the households got their water supply from wells. Electricity is the most common energy source for lighting, with nearly 98 percent using electricity for this purpose.

From the above findings, it can be summarized that the physical state of each household was satisfactory. The presence of basic amenities such as piped water and electricity reflects the good standard of living enjoyed by the people in the study area.

(5) Household savings and assets

An examination of household savings provides some insight into the asset standing of the sampled households. As can be seen in the Table 7, that about 40 percent reported having no cash savings. About 6 percent reported savings in the post office and 38 percent with the Pilgrimage Board (Tabung Haji). Only 15 percent reported keeping their savings at home. It was not possible to get the average cash savings per household. In addition to tangible assets such as fishing boats and equipment own by boat owners, about 37 percent reported having motorcycles; 20 percent having cars; and 9 percent having vacant land.

(6) Working conditions during the monsoon season

With regard to activities during the monsoon, about 35 percent are involved in activities such as net repairing, agricultural labour, processing, etc. while 40 percent reported doing nothing, indicating that unemployment rate is high during the monsoon season.. About 24 percent of those reported fishing in the monsoon season; almost 50 percent are in Class C/C2 fishing boats (Table 8).

With regard to supplementary business activities, about 12 percent of the surveyed reported involvement in fish trading and about 6 percent in processing, retailing, and transportation. About 82 percent are not involved in any supplementary business.

(7) Supplementary business activities besides fishing

With regard to other business activities in addition to fishing, 12 percent indicated independent business activities and 6 percent in cooperation with others; while about 80 percent indicated having no business activities. Boat owners were more involved in business than the crew (boat owners, 20% and crew 4%) (Table 9).

With regard to the type of business involved, about 63 percent indicated fish trading as their main activity, followed by processing (belachan, keropok), retail shop and transportation (Table 10).

(8) Expenditure on food, clothing, etc.

With regard to monthly expenditure on food, clothing, etc., about 38 percent reported spending less than RM350 monthly (Table 11). Those in the category of more than RM600 per month were about 20 percent; of which 56 sampled (72%) were boat owners. About 53 percent reported that their income was sufficient to cover their monthly expenditures, and the remaining 47 percent reported insufficient income. This group also indicated that this insufficiency was covered by Towkey and friends.

(9) Marketing channel of fish

In the study area, about 52 percent of the boat owners surveyed reported that they land their catch at the LKIM complex and 47 percent at the private jetties (Table 12). In Endau 60 percent landed their catch at private jetties and 39 percent used the LKIM complex; while in Mersing area about 69 percent used the LKIM complex and 30 percent used private jetties (Tables 13 & 14). The percentage of boat owners landing their catches at LKIM complexes is rather high compared to the landing volume noted in the records of LKIM. It could be that the respondents to this interview survey were not regularly landing their catches at LKIM, but on an irregular basis.

Among the reasons for using the private jetties, 63 percent cited the credit access for diesel and oil, 14 percent for better fish price, and 9 percent cited loan ties (Table 15).

3.2 Credit Aspects of Boat Owners

(1) Period of boat purchase/construction

Of the 193 boat owners sampled in the study area, slightly more than 41 percent reported that their boats were purchased or constructed during 1986-1990; 25 percent during 1981-1985 and 33 percent before 1980. As shown in the Table 16, the construction of class A boats decreased from 53 before 1980 to 19 during 1986-1990. This is in line with the fishing policy to promote deep sea fishing while discouraging coastal fishing as measure of coastal resource management.. In particular there was significant increase in Class C/C2 boats.

(2) Source of capital for boat construction

The source of capital to fund boat construction for 26 percent of the boat owners was their own savings and 55 percent indicated using a portion of their savings; 19 percent of the boat owners utilized other sources (Table7). About 62 percent of the boat owners indicated they are in debt from loans. With regard to the source of loans (Table 18), about 46 percent reported loans from BPM and 38 percent from local and outside wholesalers (fish traders). Capital from the Development Bank was only 4 percent and only 7 percent from the SKK/SPKP. In the survey conducted in Endau/Mersing during the Nationwide FMDS study (1991), about 24 percent indicated using their own savings for boat construction, and 53 percent indicated that they took loans from the BPM and 29 percent from fish traders.

(3) Loan approval and out-of-pocket expense

About 54 percent of the boat owners surveyed indicated that it took about two months for loan approval; 25 percent showed 3-4 months and for 10 percent it took nearly six months (Table 19)

With regard to out-of-pocket expense for loan transactions, about 47 percent indicated that it cost them more than RM200 and 30 percent indicated less RM50 (Table 20).

(4) Reasons for not taking a formal loan

Of the more than 90 boat owners surveyed who did not take loans from a formal source, about 40 percent indicated they had sufficient savings/finance, 25 percent stated they had access to an informal source, while 17 percent indicated lack of collateral (Table 21). About 7 percent reported fear of losing their collateral and fear of refusal by the bank as other reasons.

(5) Repayment of loans from a formal source

Only 57 percent indicated they have repaid their loans on schedule, 35 percent were behind schedule, and 7 percent indicated repayment ahead of schedule (Table 22)

(6) Fishing operation cost

About 40 percent of the boat owners reported that their daily fishing operation costs were funded by fish traders, and about 58 percent from their own savings. Class C/C2 boat owners borrowing from fish traders were 48 percent while there were 36 percent in class A/B boat owners (Table 23).

With regard to repayment of informal loans for fishing operations, more than 90 percent of the boat owners irrespective of class of boats, indicated the payment was through deduction of fish sales, and the rest through cash payment (Table 24).

(7) Savings

With regard to savings by boat owners (Table 25), about 65 percent indicated savings, and the boat owners of class C/C2 (90%) were more keen in saving than those in class A/B (54%).

Savings ranged from less than RM500 for 17 percent of the boat owners to RM200-1000 for 18 percent (Table 26). About 4 percent showed a savings of more than RM10,000 .

3.3 Fishermen's Consciousness of the AFA

(1) AFA revolving fund loan system (for fishermen)

1) Utilization of AFA revolving funds

If a revolving fund is made available for fishing operations through the AFA, 95 percent of the total number of fishermen, both members and non members, responded positively (Table 27) on the introduction of the new system

(Note: A through C2 indicates the size of fishing boats; A-class, below than 25 tons; B-class, from more than 25 to 39.9 tons; C-class, from 40 to 69.9 tons and C2-class, more than 70 tons.)

2) Agreement of fishermen to allow AFA consignment of their fish catch in exchange for the right to use AFA revolving funds

Approximately 72 percent of boat owners agreed to AFA consignment of their fish catch. Another 17 percent responded favorably only if it was a small portion of the catch. Less than 1 percent answered negatively, despite the access to AFA credit (Table 28).

3) Refusal to use AFA revolving funds

There were 33 respondents who answered negatively to the use of AFA revolving funds (Table 29). Of this group, 15 percent said they would use their own capital, 58 percent had their own means of credit, and 27 percent did not like the obligation of consigning their fish to the AFA.

4) AFA retail of fish products

Fishermen were asked if they were willing to sell their fish to the AFA if the price was high, irrespective of credit obligations to either the AFA or another party. Of the respondents, 47 percent answered they would always sell their fish to the AFA if the purchase price was high, and 38 percent answered most probably. On the whole, despite loan obligations to fish traders, 85 percent of the respondents indicated that they would sell their fish to the AFA if the purchase price was high. Therefore, the rise in the utilization rate of AFA fish marketing activities by fishermen is dependent on price (Table 30)

(2) Feasibility of introducing Japanese AFA fish marketing methods

A brief explanation of some of the Japanese AFA functions is given below. Fishermen were asked to give their evaluation and opinion on the possibility of introducing such practices to the AFA in Malaysia.

- Due to the signing of a consignment contract between the AFA and its members, the majority of the fishermen sell their fish through the AFA.
- Therefore, wholesalers in production markets purchase fish at the auctions managed by the AFA.
- Fishermen are paid for their fish catch by the AFA, which collects the money from the wholesalers.
- In order to receive payment for their fish, fishermen open accounts with the AFA where their payment is deposited. Due to this practice, fishermen maintain savings accounts with the AFA, which also enables them to obtain credit easily from the revolving fund.

1) *Consensus on Japanese AFA practices*

In response to the overall practices of the Japanese AFA in the production markets, 76 percent thought the practices excellent, 21 percent declined to give an opinion, and 2 percent responded negatively. Overall, the consensus on Japanese AFA practices was highly favorable (Table 31).

2) Fishermen participation ratio, if the practices of the Japanese AFA were introduced.

If the Japanese AFA form of distribution/marketing practices was introduced, 49 percent of the respondents said they would participate and 17 percent answered they would like to, but would be unable to do so because of credit obligations to fish traders. Ratio of fishermen who expressed interest in participating was 56% (127/193) and the ratio of those who clearly expressed disinterest was a low 3 percent. It appears that the majority of the respondents supported the introduction of the Japanese AFA form of distribution/marketing practices (Table 32).

3) Feasibility of introducing Japanese AFA practices

Of the respondents, 30 percent stated that all of the aforementioned practices could be introduced, 42 percent answered that only some of the practices were possible, and only 4 percent responded that they were completely impossible. Although some agreed that a few of the practices could be implemented, they expressed doubt that all of the practices could be adopted (Table 33).

4) The most easily adaptable function of the Japanese market

Although only 82 respondents were anticipated to agree to partial introduction, there were 116 respondents. Respondents who agreed to the opening of an account with the AFA to receive payment for their fish catch and for savings purposes were 81 percent. Consequently, it can be concluded that there will be no difficulties in getting members

to open accounts with the AFA, in order to receive payment for their fish consignment. The total ratio of respondents who would agree to consignment contracts with the AFA and who would be willing to consign a large portion of their fish catch was 15 percent (Table 34).

5) The most difficult practice to introduce, according to the respondents who stated it was impossible to introduce Japanese AFA practices.

Although this question was asked of seven people who responded negatively to the introduction of Japanese AFA practices, 21 people responded. Among the boat owners who answered, approximately 5 percent disliked the idea of signing a consignment contract with the AFA, in order to sell their fish through the association. However, this ratio is very low and it was concluded that introduction of a fish consignment contract between the fishermen and the AFA was feasible (Table 35).

(3) Consciousness of the AFA and its activities (interview of AFA members)

1) Who does the AFA belong to?

The AFA members who responded that the association belonged to the fishermen themselves, were 43 percent (Table 36). However, 40 percent of the members replied that the organization belonged to LKIM and other governmental agencies. Those who responded they didn't know were 64 percent, although it included members who believed that LKIM, etc. operated the association. This reflects the fact that the members' awareness and understanding of the AFA are low.

Moreover, in contrast to 48 percent of the boat owners who believed the association belonged to them, only 33 percent of the fishing boat crew members had the same awareness. The ratio of responsible captains of boat crews who were aware that the AFA belonged to the members, was high.

2) The role of the AFA in upgrading fishing operations and fishermen livelihoods and its evaluation

Fishermen who thought the AFA had a slight effect on their fishing operations and livelihood were 66 percent and 24 percent felt the AFA had a strong effect. Approximately 90 percent of the fishermen felt the AFA had a bearing on their work and livelihood (Table 37). However, 60 percent felt the association was not fully carrying out its role and 8 percent felt the AFA was not fulfilling any role at all.

3) The social activity in need of the most reinforcement

Of the social activities carried out by the AFA, 63 percent expressed their desire for the association to provide more educational assistance for their children, followed by 19 percent who wanted more seminars on fishing technology. Compensation in the event of accident or death was not available at the Mersing AFA; and therefore, there were few respondents who expressed the desire for such an AFA benefit.

4) Comprehensive social welfare activities

Only 50 percent of the respondents felt that the social welfare activities of the AFA were comprehensive and 47 percent felt they were not. Therefore, it was concluded that more comprehensive social welfare activities were required (Table 38).

(4) Knowledge of AFA membership qualifications and structure of the organization (survey of AFA members)

1) If current annual AFA membership dues are high

Approximately 58% of the fishermen felt that AFA annual membership dues (Endau: RM2,00, Mersing: RM1.00) were sufficient, while 41 percent replied they were cheap (Table 39). In reality, the membership dues are equivalent to one or two cups of coffee and is not an exorbitant fee. It is surmised that 58 percent of the respondents said the dues were sufficient because they did not want them raised.

2) Amenable to an increase in membership dues

In response to this issue, 54 percent of the fishermen said they were amenable to an increase in membership dues and only 5 percent replied negatively. It is concluded that 41 percent of the non-respondents were apathetic about this issue (Table 40).

3) Fairness in having the same annual membership dues for both the boat owners and ordinary crew members

Despite the differences in income, 52 percent of the respondents replied that the current system was fair and only 18 percent expressed unfairness. However, the ratio of crew members who thought it was unfair was slightly higher than boat owners (Table 41).

4) Pros and Cons of having fishing industry personnel other than fishermen, in the AFA

Fishermen who have given thought to this issue were only 24 percent and 74 percent had never considered it (Table 42).

5) Appropriateness of the present composition of AFA members

Current composition of AFA members was acceptable to 48 percent of the respondents and 17 percent thought is was unsuitable (Table 43). Those who supported the present situation were 55 percent, more than half of the respondents. In contrast, only 9 percent expressed the need to change the situation. However, in view of the fact that 17 percent considered the situation inappropriate, it is concluded that changing the present membership structure would not encounter opposition.

6) Restricting AFA membership to only boat owners and skippers (a boat owner cooperative)

Only 13 percent of the fishermen were in support of revising the AFA to a boat owner cooperative and 54 percent were against it. Among the respondents who did not support the revision, 59 percent were crew members and 50.65 percent were boat owners. The ratio of crew members against the revision was slightly higher than the ratio of boat owners. Therefore, it was concluded that to exclude crew members from the AFA would encounter opposition (Table 44).

7) Restricting AFA membership to only three groups, boat owner, skipper, and crew member

Support of the revision in AFA membership to include only fishermen, i.e. boat owners and crew members was 31 percent and those in opposition were only slightly higher at 33 percent. Opposition to this revision is less than the opposition to a revision that would exclude crew members (Table 45).

8) Creating an organization limited to only fishing boat crew members

Overall, only 13 percent were in agreement to creating an organization limited to crew members and 51 percent were in opposition. Of the opposition, 33 percent were crew members and 60 percent were boat owners (Table 46).

(5) Consciousness of the AFA by non-members

1) Past membership in the AFA

Among the 141 fishermen who were currently not in the AFA, 81 percent had been members in the past. Of this ratio, 90 percent were boat owners and 77 percent were crew members (Table 47).