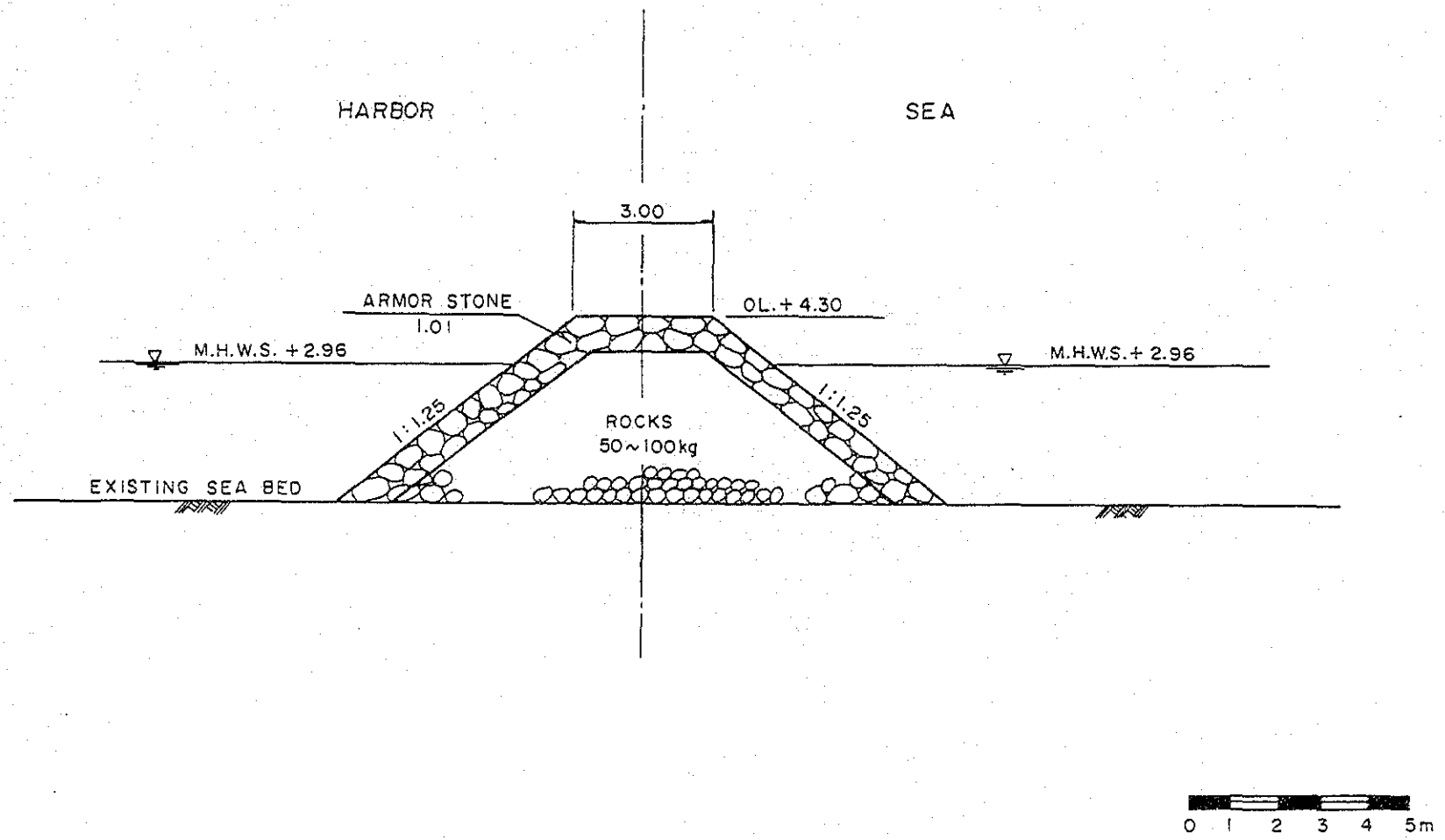
Fig.4-7 Typical Cross Section of Training Jetty



4.5 Construction Schedule

Construction period is set as three years.
Construction schedule is shown in Table 4-1.

4.6 Cost Estimate of the Project

(1) Conditions of Cost Estimate

1) The exchange rate of foreign currency is estimated as the average value in Jan. 1991.

1 US$ = 130 Yen = 910 S/.

2) The construction costs are divided into the foreign portion (indicated as US$) and the local portion (indicated as S/.)

(Breakdown of foreign portion)
- Imported construction equipments, imported materials etc.
- Machineries
- Imported goods produced in the local markets
- Salary allowances and indirect costs for foreign staff members

(Breakdown of local portion)
- Construction equipments and machineries produced locally
- Construction materials and goods produced locally
- Salary allowances and indirect costs for local labor
- Taxes

Total cost of short-term development plan is estimated at 18,164 thousand US$.

Table 4-1 Construction Schedule for the Short-term Development Plan

No.	Description	Unit	Qty.	First Year 1992 JFM	AMJ	JAS	OND	Second Year 1993 JFM	AMJ	JAS	OND	Third Year 1994 JFM	AMJ	JAS	OND	Fouth Year 1995 JFM	AMJ	JAS	OND
CIVIL WORKS	1 Landing Slope for Small Boat	m	50													(6)			
	2 Landing Wharf for Middle Boat	m	90												(9)				
	3 Outfitting Wharf for Middle Boat	m	18													(3)			
	4 Slipway	lum	1													(3)			
	5 Revetment	m	552								(12)								
	6 Groin	m	430								(12)					(12)			
	7 Dredging of Basin	Cu.m	100,600							(3)									
	8 Land Reclamation	Cu.m	190,400								(6)								
	9 Backfilling of Breakwater	m	350						(2)										
	10 Road	m2	21,030								(3)		(3)						
	11 Pavement	m2	42,570								(3)		(3)						
BUILDING	1 Freezing Storage	m2	417												(6)				
	2 Block Ice Making	m2	900												(6)				
	3 Ice Storage	m2	195												(6)				
	4 Fish Handling Space	m2	400												(6)				
	5 Fishing Gear Repairing Space	m2	1,000												(4)				
	6 Warehouse	m2	100												(3)				
	7 Workshop	m2	100													(6)			
	8 Control Office	m2	180																
	9 Electric Supply	m2	80											(6)					
	10 Guard House	m2	23													(3)			
PLANT	1 Air Blast Freezer	Set	1													(3)			
	2 Cold Storage Facility	Set	1													(3)			
	3 Freezing Facilities	Set	2													(3)			
	4 Ice Making Facility	Set	1													(3)			
	5 Emergency Power Supply Facility	Set	1													(3)			
UTTY	1 Utility	L.S	1								(3)					(12)			
D/D· C/V	1 Survey & Design	L.S	1					(9)											
	2 Construction Supervision	L.S	1								(12)					(12)			

4.6 Cost Estimate of the Project

(1) Conditions of Cost Estimate

1) The exchange rate of foreign currency is assumed as the average value in Jan. 1991.

1 US$ = 130 Yen = 910 S/.

2) The construction costs are divided into the foreign portion (indicated as US$) and the local portion (indicated as S/.)

(Breakdown of foreign portion)
- Imported construction equipments, imported materials etc.
- Machineries
- Imported goods produced in the local markets
- Salary allowances and indirect costs for foreign staff members

(Breakdown of local portion)
- Construction equipments and machineries produced locally
- Construction materials and goods produced locally
- Salary allowances and indirect costs for local labor
- Taxes

Total cost of short-term development plan is estimted at 18,164 thousand US$.

Table 4-2 Construction Cost

No	Name of Facility	Unit	Quantity	Construction Cost (x 1,000 US$)				
				F.C	L.S	Sub-total	Tax	Total
I	CIVIL WORKs							
1	Landing Slope for Small Boat	m	50	250	627	877	0	877
2	Landing Wharf for Middle Boat	m	90	670	641	1,311	31	1,342
3	Outfitting Wharf for Middle Boat	m	18	134	128	262	6	268
4	Slipway	lum	1	60	150	210	0	210
5	Revetment	m	552	176	1,511	1,687	0	1,687
6	Groin	m	430	120	2,341	2,461	0	2,461
7	Dredging of Basin	cu,m	100,600	788	177	965	11	976
8	Land Reclamation	cu,m	190,400	1,480	369	1,849	9	1,858
9	Backfilling of Breakwater	m	350	5	42	47	0	47
10	Road	s.m	21,030	298	71	369	0	369
11	Pavement	s.m	42,570	596	150	746	0	746
	Sub-Total			4,577	6,207	10,784	57	10,841
II	BUILDING							
1	Freezing Storage	s.m	417	56	102	158	0	158
2	Block Ice Making	s.m	900	120	222	342	0	342
3	Ice Storage	s.m	195	26	48	74	0	74
4	Fish Handling Space	s.m	400	19	35	54	0	54
5	Fishing Gear Repairing Space	s.m	1,000	40	75	115	0	115
6	Warehouse	s.m	100	8	15	23	0	23
7	Workshop	s.m	100	4	8	12	0	12
8	Control Office	s.m	180	26	47	73	0	73
9	Electric Supply	s.m	80	7	12	19	0	19
10	Guard House	s.m	23	5	8	13	0	13
	Sub-Total			311	572	883	0	883
III	PLANT							0
1	Air Blast Freezer	set	1	273	0	273	82	355
2	Cold Storage Facilities	set	1	489	0	489	147	636
3	Freezing Facilities	set	2	783	0	783	235	1,018
4	Ice Making Facility & Storage	set	1	232	0	232	70	302
5	Emergency Power Supply Facility	set	1	126	0	126	38	164
	Sub-Total			1,903	0	1,903	572	2,475
				6,791	6,779	13,570	629	14,199
IV	UTILITY							0
	(I+II+III)x7%	L.S.	1	475	475	950	44	994
	Sub-Total			475	475	950	44	994
	Total(Direct Cost)			7,266	7,254	14,520	673	15,193
V	ENGINEERING SERVICE	L.S	1	727	725	1,452	0	1,452
VI	CONTINGENCY	L.S	1	794	725	1,519	0	1,519
	Total(Indirect Cost)			1,521	1,450	2,971	0	2,971
	Grand Total			8,787	8,704	17,491	673	18,164

4.7 Administration and Operation of Fishing Port Facilities

The fundamental concept in the management of the fishing port facilities is to secure the safety of the fishing boats, to give the sufficient services for usage of the fishing boats and to make use of the port facilities for smooth and efficient landing, storage, processing and distribution of fish catches and speedy supply of stores provisions, and repairs.

The organization for the administration of the fishing port in this project is proposed to be established within APM and is composed of the followings.

-Administrative Committee of Fishing Port
-Administrative and Operational Department of Fishing Port

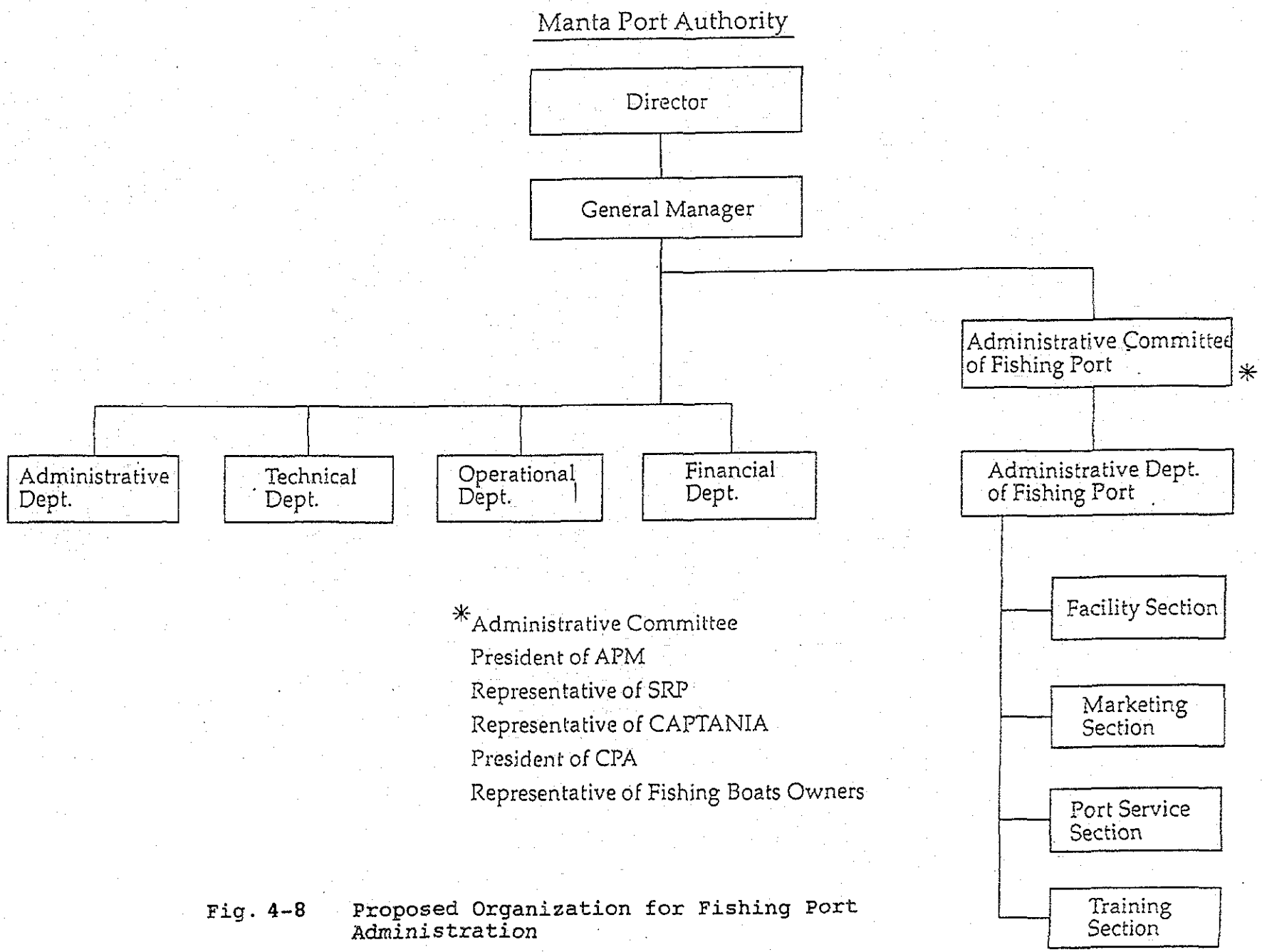


Fig. 4-8 Proposed Organization for Fishing Port Administration

4.8 Economic and Financial Analyses

The proposed fishing port of Manta in the Province of Manabi, Republic of Ecuador will play a main role in the provincial fishing activities. This project, though expected to benefit smaller fishermen in the province directly, will bring about substantial economic benefits to the country as a whole by supplying the people with fish protein and stimulating the fishery activities and related manufacturing and distributive industries of the country. The tangible and intangible benefits derivable from the implementation of the project include the following:

1) Reduction in physical distribution costs resulting from savings in loading and unloading time;
2) Improved freshness of fishery products through increased ice supplies;
3) Increased foreign exchange earnings through the expansion of marine product exports;
4) Stabilization of consumer prices as a result of lower distribution costs for fishery products;
5) Generation of more employment opportunities through the construction of modern processing plants for fishery products;
6) Improved commercial functions of Manta Port resulting from the proposed fishing port construction.

From the project costs and benefits calculated as above, the EIRR has worked out at 3.6%, which is lower than the opportunity cost of capital in Ecuador. However, it is considered appropriate to implement the project, since it is an infrastructure project having the high public characteristics and is expected to contribute largely to the promotion of the regional development. From the view point of the economic analysis, that is, the benefit of the project to the nation, this project can be regarded as feasible.

The current account of the balance of payments shows the profits after depreciation at the year 1995. The durable years of the fishing port facilities are long, and from the viewpoint of the financial viability this project is financially feasible for the fishing port management body.

Table 4-3 Financial Soundness of APM

(unit:thousand US$)

Items	1995	2005
Revenue	2,448	2,580
Operation & maintenance	1,751	1,761
Depreciation for functional facilities	341	341
Depreciation for main facilities	217	217
Benefits before depreciation	697	819
Benefits after depreciation of main facilities	480	602
Current account profits	139	261

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