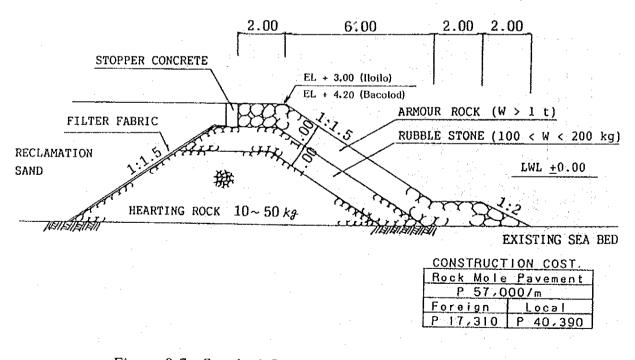
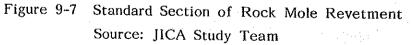
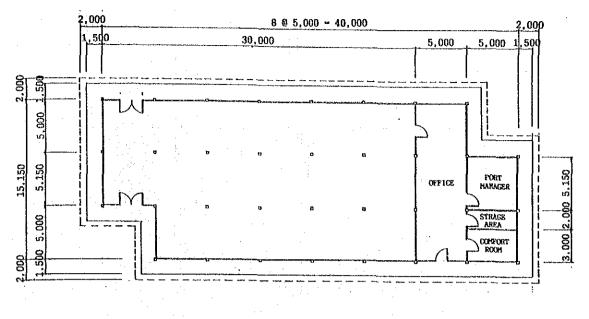


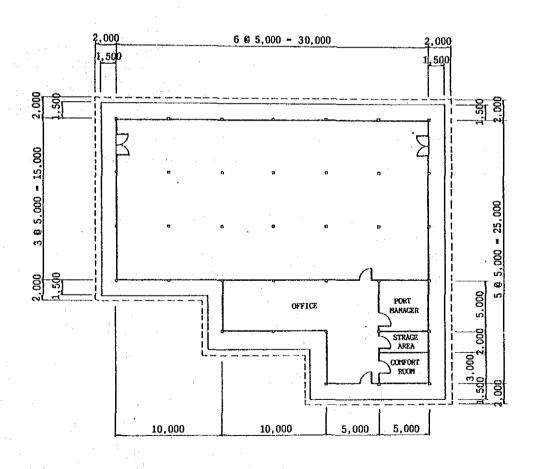
Figure 9-6 Standard Section of L-Shaped Retaining Wall (Iloilo) Source: JICA Study Team







(Iloilo)

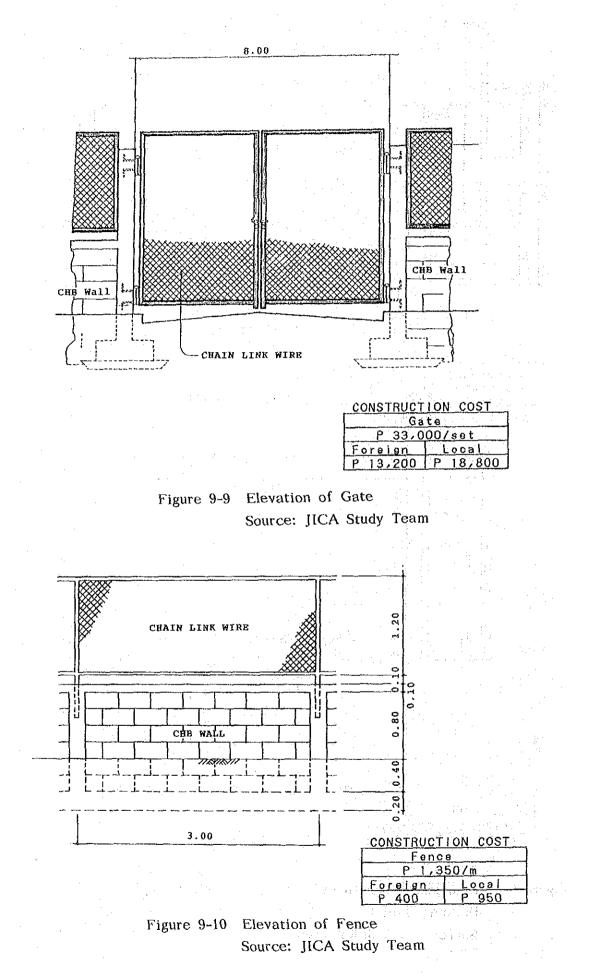


(Bacolod)

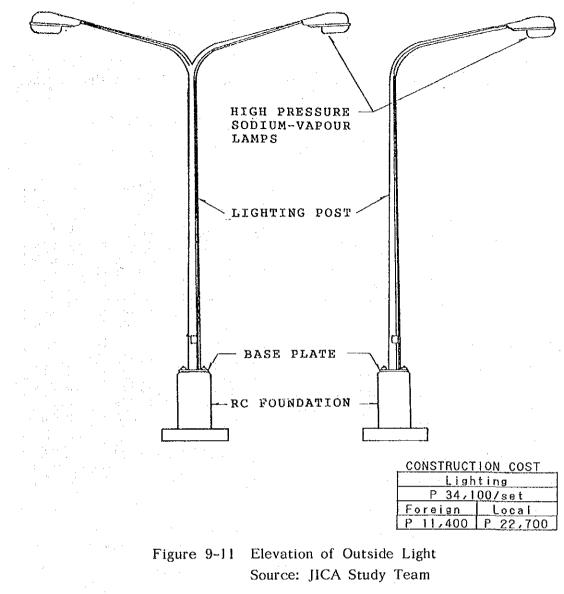
Figure 9-8 Plan and Elevation of Passenger Terminal Building (Iloilo)

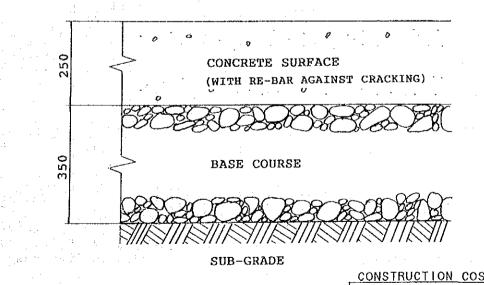
Source: JICA Study Team

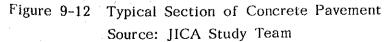
CONSTRUCTION COST Building P 11,000/m2 Foreign Local P 3,300 P 7,700



-184-







CONSTRUCT	ION_COST		
Pavement			
P 7007	m2		
Foreign	Local		
P 245	P 455		

Tables 9-4 show the detailed construction cost (direct cost) for the se-5. lected alternative. Project cost which includes the cost for engineering services, contingency and etc. are also computed by the same manner with that of master plan study and shown in tables 9-5.

		· · ·		
			1.2	1
Table 9-	4 Con	struction	Cost	(Direct Cost)

Port of Iloilo

			l	COST	
ITEM	QUANTITY	UNIT	FOREIGN	LOCAL	TOTAL
1159			CURRENCY	CURRENCY	COST
BERTHING PIER	48	m	3,168	4,752	7,920
RO/RO RAMP	1	set	1,412	2,118	3,530
L-SHAPED REVETMENT	82	л	3,608	5,412	9,020
PAYEMENT	4,750	т2	1,164	2,161	3,325
TERMINAL BUILDING	600	<u>m2</u>	1,980	4,620	6,600
UTILITY	50	n n	35	65	100
WATER SUPPLY					
LIGHTING	a series and a series of the s				
RECLAMATION	5,350	<u>m2</u>	642	1,498	2,140
REVETNENT	192	m	3,208	7,486	10,694
TURNING AREA	750	m2	2,625	3,938	6,563
DREDGING	20,000	<u>m3</u>	600	1,400	2,000
		· · · · · · · · · · · · · · · · · · ·			
TOTAL			18,442	33,450	51,892
	· · · · · · · · · · · · · · · · · · ·	· · · · · ·		(Unit in 1	000 pesos)

Source: JICA Study Team

Port of Bacolod			·		
				COST	
ITEM	QUANTITY	UNIT	FOREIGN	LOCAL	TOTAL
			CURRENCY	CURRENCY	COST
BERTHING PIER	115	m	7,774	11,661	19,435
RO/RO RAMP	11	set	1,265	1,897	3,162
RESTLE	732	m	19,618	29,426	49,044
FFSHORE TERMINAL	2490	m 2	7,819	11,728	19,547
PARKING SPACE	a de la composición d			:	[
PASSENGER AREA	Į	[			
OTHERS		L			
ERMINAL BUILDING	600	m 2	1,980	4,620	6,600
JTILITY	225	m	158	293	450
WATER SUPPLY					
LIGHTING					
RECLAMATION	1590	m 2	191	445	636
REVETMENT	126.5	tn -	2,114	4,932	7,046
FERMINAL BUILDING	150	m 2	495	1,155	1,650
TOTAL			41, 412	66,157	107, 570
	<b>m</b>			(Unitin 1	AAA PASAS

Source: JICA Study Team

(Unit in 1000 Pesos)

PROJECT	SITE
110110	BACOLOD
51,892	107, 570
3,114	6,454
5,189	10,757
60,195	124,781
6,019	12,478
66,214	137,259
5,297 6,621 11,919	10,981 13,726 24,707
775	1,606
12,693	26,313
78,907	163, 572
10,567	21,905
8,462	15,897
97,936	201,373
	ILOILO         51,892         3,114         5,189         60,195         6,019         66,214         5,297         6,621         11,919         775         12,693         78,907         10,567

# Table 9-5 Summary of Project Cost

Note: Phisical cintingency is 15% of Total of 1 and 5 % of Total of 2. Price contingency is 10% per year

Source: JICA Study Team

# B. Construction Schedule

6. In the preparation of construction schedule, the following equipment were assumed to be used:

Crawler crane	Lifting capa. 65t 180 PS
Diesel hammer	D-35
Dump truck	4t capacity
Backhoe	0.6m <sup>3</sup>
Cramshell buket	1.0m <sup>3</sup>
Bulldozer	70 PS
Vibratory Roller	30 PS 1.8t
Berge	400 - 600 grt.
Truck mixer	4.0m <sup>3</sup> capa. 270 PS

7. When construction Ro/Ro terminals at Iloilo Port and Bacolod Port, existing facilities shall be utilized as access way for transportation of construction materials, and construction works have to be carried out within the areas of port operation. Thus, during development works of the Ro/Ro terminals at Iloilo Port and Bacolod Port, suitable safety such as installation of security fence and close communication with port operator measures should be taken to avoid unexpected incidents.

8. Tables 9-6 and 9-7 show the construction schedule with annual appropriation of the fund and the amount of foreign and local currency. Table 9-6 Construction Schedule of Ro/Ro Terminal (Iloilo)

	Table	9-6 0-0	Construction Schedule	ol S	Ro/Ro Terminal (Iloilo)	ial (Iloilo)	Unit:	Unit: 1.000 pesos
			CONS'	CONSTRUCTION YEAH		CURF	CURRENCY	
I TEM	QUANTITY	TINU	lst year	year	Srd year	FOREIGN	LOCAL	TOTAL
PILING WORK	180	pcs		12, 600.0 upu		5,040.0	7, 560.0	12, 600.0
CONCRETE WORK	1050	m3		14,050.0 nnn		5, 620. 0	8, 430.0	14,050.0
ROCK WORK	00.66	<b>3</b> 3		10,890.0 000		3, 267.0	7, 623.0	10, 890.0
RECLAMATION/DREDGING (INCLUDING PAVEMENT)	43260	23 13 13 13 13 13 13 13 14 14 14 14 14 14 14 14 14 14 14 14 14		1.3	6, 415.7 ממסטט	2, 295. 0	5, 355.0	7,650.0
BUILDING WORK	600	2 E			6, 600. 0 пп	1, 980.0	4.620.0	6, 600. 0
UTILITY WORK	50	E			100.0	35.0	65.0	100.0
DVERHEAD+PROFIT (16% OF DIRECT COST)				6, 203. 9	2,098.5	2, 917. 9	5, 384, 5	8, 302. 4
V. A. T. (10%)				4, 497.8	1, 521.4	2, 115. 5	3, 903.7	6,019.2
TOTAL of COST for CONSTRUCTION				49, 476. 0	16, 735.7	23, 270. 4	42, 941. 2	66, 211.6
DETAILED DESIGN (V.A.T. 10% of Local) PREPARATORY WORK		L. S.	5, 296. 9 344. 3 Denenanconno			1, 853. 9	3, 443, 0 344. 3	5, 296.9 344.3
SUPERVISORY WORK (V.A.T. 10% of Local)		-		3, 310. 6 215. 2 30000000000000	3, 310. 6 215. 2 попатарана	2, 317. 4	4, 303.8 430.4	6, 621.2 430.4
FOTAL OF COST for CONSULTANTS			5, 641. 2	3, 525.8	3, 525. 8	4.171.3	8, 521. 4	12, 592.8
PHYSICAL CONTINGENCY 15% of C/C+5% of E/S			282.1	7.597.7	2, 686. 6	3, 699. 1	6, 867. 3	10, 566. 4
				4, 947.6	3, 514, 5	2, 880. 0	5, 582. 1	8,462.1
FOREIGN			5,923,3 1,952.6		462. 057	34,034.5	63, 898. 4	932.
LOCAL			3, 970. 6 1	41.522.5	18,405.3			63, 898. 4

Source: JICA Study Team

Table 9-7 Construction Schedule of Ro/Ro Terminal (Bacolod)

201, 373.1 75, 961.2 13, 725. 9 892. 2 26, 312.6 15, 896. 6 452.0 713.7 21,904.5 25, 411.8 636.0 17.211.2 12,478.1 137, 259. 3 10,980.7 Unit: 1,000 pesos 8,250.0 6,127.0 36, 980.0 55, 125. 0 TOTAL 8, 921. 9 892. 2 125, 411.8 7, 663. 6 7.137.5 17,665.3 9,946.3 13, 528. 3 293.8 10, 570. 5 84, 300.1 445.2 22, 188.0 4,288.9 5, 775.0 33,075.0 LOCAL CURRENCY 75,961.2 5, 950, 3 4,804.1 8.647.3 ŝ 158.2 4,814.5 52, 959. 2 3, 843, 3 14, 792.0 190.8 2,475.0 6,640.7 22,050.0 1.838.1 8, 376. FOREIGN <u>иа</u> 8, 250. 0 34, 511. 9 10, 620. 4 452.0 Π 446.1 7, 309, 1 3, 325. 5 4,144.0 23.891.5 636.0 თ က 6, 863. 0 2.474.4 6, 127.0 1, 793. 9 19, 733. 8 3rd year 000 g 154, 582. 0 61, 292. 9 93, 289. 1 CONSTRUCTION YEAR 10, 584.2 7, 309. L 17,994.3 11, 752.6 117, 526.0 6,863.0 446.1 14, 736, 8 55, 125, 0 36, 980.0 2nd year anananan 0000000 12, 279, 2 4, 047, 9 8, 231, 3 534.7 10,980.7 713.7 11, 694.51st year UNIT L. S. pcs ŝ щ З ະ ເ 2 W E 885 4350 5580 6360 750 225 QUANTITY Source: JICA Study Team V.A.T 10% of Local) V.A.T. 10% of Local) 5% of C/C+5% of E/S HYSICAL CONTINGENCY (16% OF DIRECT COST) **TOTAL OF COST for** TOTAL of COST for RICE CONTINGENCY PREPARATORY WORK SUPERVISORY WORK ETAILED DESIGN OVERHEAD+PROFIT FOREIGN 10% PER YEAR) TOTAL T. (10%) LOCAL CONCRETE WORK BUILDING WORK **JONSTRUCTION** I TEM ITILITY WORK CONSULTANTS ECLAMATION ILING WORK ROCK WORK A

- 1. 1990 Philippines Statistical Yearbook, National Statistical Coordination Board
  - 2. Road Feasibility Studies III, MPWH , Aug. 1981
  - 3. Highway Planning Manual Volume 4, MPWH, Oct. 1982

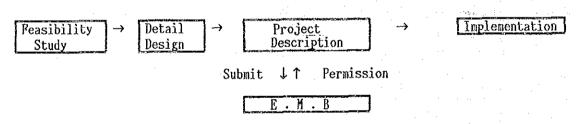
# Chapter 10 Consideration of Environmental Issues

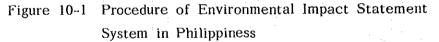
# A. Environmental Assessment Procedure in the Philippines

1. The environmental impact statement system in Philippines was set out in PD No.1580. In this PD, "Environmental Management Bureau" (EMB) was declared as the organization responsible for the implementation of environmental assessment.

2. According to PD No.1580, a project classified under the two categories, namely, "Environmentally Critical Project" and "Environmentally Critical Area", is subject to the environmental impact assessment procedure. If the project falls into these categories, the project proponents/planner shall prepare an Environmental Impact Statement (EIS) of the project, and submit it to EMB. EMB evaluates the EIS and decides whether to grant permission for project implementation.

3. The procedure of Environmental Impact Statement Scheme in Philippines is shown in Figure 10-1.





#### B. EIS Criteria of Project

4. Table 10-1 shows the criteria of project for which the environmental assessment is required, and also shows the together with diagnosis of the Ro/Ro facilities checked against the criteria. The criteria is promulgated in the Office Circular No.3, 1983. From the above consideration it seems to be almost certain that the EIS is not required for the development of Ro/Ro facilities in both Iloilo and Bacolod.

Criteria	Iloilo	Bacoloc
1.Environmentally Critical Project		
A Habin Talintonu	2.22	
A.Heavy Industory B.Resource Extractive Industries	non	non
	non	non
C.Infrastructure Project	non	non
00 111 0	non	non
Dam 20 million m3	non	non
Power Plant 10 megawatt	non	non
Reclamation 1 ha	non	non
Road/Bridges	non	non
A.National Park	non	non
A.National Park	non	non
B.Tourist Spot	non	non
C.Area living threatened Spacies/Indigeneous Wildlife	non	non
D.Histric/Scientific Area	*	non
E.Area Occupied by Cultural Communities	non	non
F.Area Hard-hited by Natural Calamities	non	non
G.Area with Critical Slop	non	non
H.Area Classified as Prime Agricultural Land	non	non
I.Recharged Areas of Aquifers	non	non
J.Waterbodies (declared area by appropriate authorities like marine turtle & fish sanctuaries)	non	non
K.Mangrove Area	non	non
L.Coral Reefs	non	non

Table 10-1 Environmental Assessment Criteria and Ro/Ro Project

Source : Office Circular No.3 1983, ECP Note : \* = see paragraph 13

# C. Preliminary Observation from the Point of View of Environment

5. The team made an preliminary observation of various aspect of the Ro/Ro development from the point of view concerning various environmental issues based on the Annotated Outline of EMB.

6. Based upon the existing data and site surveys conducted by the team, it can be judged for the lloilo/Bacolod Ro/Ro project that there may not exist environmental problems in terms of climate/terrain/hydrology/oceanography/ atomosphere.

7. Since the project areas have already been developed for port, there are no mangrove along the shore, and undisturbed, rare or unique vegetation or plant are not found so far. Also, the project site are not included in the fish sanctuaries, and there is no wild life around the site.

8. In so far as land and resource use, there are no ecological reserves, nature reserves, military reserves or scenic spots within the project sites.

However, a historical area named "Fort San Pedro" exists in the immediate vicinity of the project site in port of Iloilo. The fort was built by the Spaniards between 1603 and 1616 to defend Iloilo from invading forces which were likely to come through the sea. The walls were approximately 12 feet high from the land surface. While the fort was destroyed in 1945 by the War, the fort and Sta. Maria Stature standing on the head of the fort constitute the landmark for the citizens. Fort San Pedro also represents a port of the Ilonggo heritage in the colonial clays (Photo 10-1, 10-2).

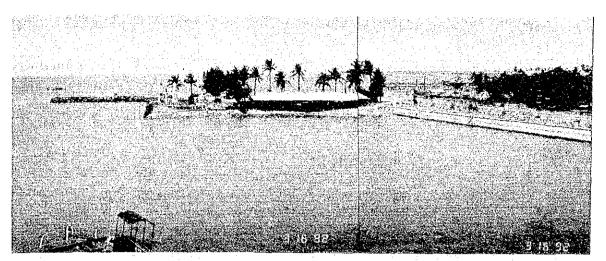


Photo 10-1 Fort San Pedro at Port of Iloilo (1)

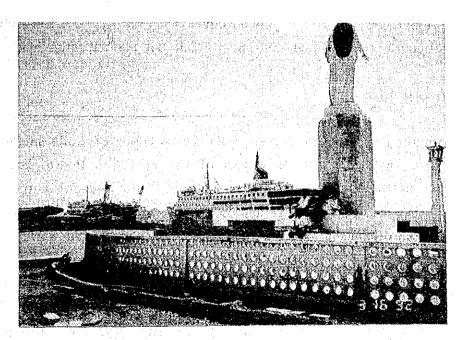


Photo 10-2 Fort San Pedro at Port of Iloilo (2)

9. Cities of Iloilo and Bacolod are centers of the provinces and play important roles in the socio-economic aspects of the region. This fact may advocate development of the Ro/Ro ferry transport system between the cities to stimulate the activities of the provinces.

# D. Prediction and Assessment of Impacts

10. Based on the above consideration, the team prepared the preliminary prediction and assessment of impacts in compliance with to the EMB guideline. The results of prediction and assessment of impacts are as follows.

(i) Physical and/or Chemical Effects

An impact on hydrology and quality of the surface and ground water cannot be found at the project site. The impact to the atmosphere, air quality and wind is considered to be negligible.

(ii) Ecological Effect

The project site has already been developed as a port. The impact to wildlife and aquatic species, and their habitats is not significant.

(iii) Aesthetic Effects

The expansion of the Old Foreign Pier in the port of Iloilo might be considered to have an impact on aesthetical of the Fort San Pedro, however, the distance between the pier and the fort may keep the impact at the minimum level. The other aspects such as land, water, atomosphere etc., may not have impacts by the development of facilities as well as construction work.

(iv) Socio-economic Effects

The Ro/Ro project may improve the existing transport situation in the region, which is a favorable effects to the community through encouraging the human activity and stimulating economic growth.

17. The summary of the prediction and assessment of impacts are shown in Table 10-2.

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		Iloilo	Bacoloc
Physical and/o	r Chemical Effects		
Surface Wat		0	0
Ground Wa	ter	0	0
Atmosphere			
	Air Characteristics	0	0
•	Wind	0	0
	Inversion	0	. 0
Ecological Eff	ect		- t
Terrestrial			
Species	Vegetation	0	0
	Wildlife	0	0
Aquatic Spe	cies	0	0
and Habi	tats	1	· · · · · · · · · · · · · · · · · · ·
·			
Aesthetic Effe	ects		
	Land	0	0
	Atmosphere	0	0
	Water	0	0
	Flora and Fauna	0	0
	Man-made Objects	$\triangle$	0
	Composition	Δ	0
	ante de la companya de la companya Esta esta de la companya de la company		·
Socio-economi	c Effects	· .	
	Demography	+	· +
	Manpower	+	+
84. 1	Transportation	+	+
	Housing and Community	+	+
	Infrastructure		
	Education, Health and	. +	+
	Social Service		
	Lifestyle	+ .	. +

Table 10-2 Summary of the Prediction and Assessment of Impacts

.

Legend: 0 = No impact by the project + = Good impact by the project △ = a little impact by the project Source: EMB Guideline and JICA Study Team 12. It is common phenomena throughout the world that public works often hindered by inhabitants in the illegal settlements. In such cases, implementing authorities or relevant local governments have to take tasks to get their consent and to resettle them. This kind of inhabitants are not found in and around the sites of the project both in lloilo and Bacolod (Photos 10-3 - 10-8).



Photo 10-3 Ro/Ro Terminal Site of Port of Iloilo(1) Source: JICA Study Team

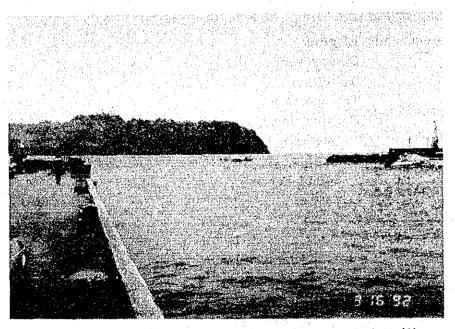


Photo 10-4 Ro/Ro Terminal Site of Port of Iloilo(2) Source: JICA Study Team

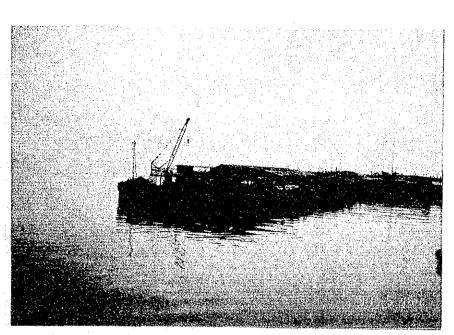


Photo 10-5 Ro/Ro Terminal Site of Port of Bacolod (Terminal Site) Source: JICA Study Team



Photo 10-6 Ro/Ro Terminal Site of Port of Bacolod (Loading Parking Area) Source: JICA Study Team

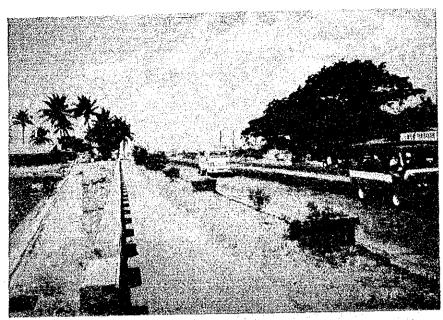


Photo 10-7 Existing Road Condition Connected to Ro/Ro Terminal (Iloilo) Source: JICA Study Team



Photo 10-8 Existing Road Condition Connected to Ro/Ro Terminal (Bacolod) Source: JICA Study Team

- 1. Reviced Rules and Regulations Implementing P.D.1586, 1984, NEPC
- 2. Project Description (Annoted Outline), EMB
- a second for the particular of the second second
- 3. Office Circular No.3, Series of 1983, EMB
- 4. Guide Questions to the Perception Study for Environmental Impact Statement, EMB

# Chapter 11 Economic Analysis of Ro/Ro Ferry Transportation

#### A. General

1. The objective of the economic evaluation is to ascertain the project's desirability in terms of its net contribution to the economic and social welfare of the country as a whole. The project objective is port development through the introduction of the Ro/Ro for the Hoilo-Bacolod link.

#### Procedures

2. The following four general procedures are usually adopted for economic analysis.

3. <u>Identification of the Project Costs and Areas of Benefits</u>: This entails the identification of the project's additions to (benefits) and reductions from (economic costs) national income as a result of its implementation.

- (1) Economic Costs usually classified into the capital costs and the operating and maintenance costs.
- (2) Benefits constitutes an increase in output, savings in resources, and other effects directly or indirectly resulting from the project. Area of benefits should be identified as they vary by type and location of the project.

4. <u>Valuation of Costs and Benefits</u>: For the measurement of the value of commodity from the economy's viewpoint, adjustment of the financial prices of goods and services (for both costs and benefits) is undertaken. This entails the adoption of shadow prices employed by a country or place wherein the project will be implemented. Taxes, duties and subsidies are called transfer items, which does not use real resources, they should be excluded from the costs for the purpose of economic analysis. The valuation of project costs and benefits are in constant prices at the current year's level.

- (1) Valuation of Costs involves the differentiation of project inputs that reduce the supply to other users and those inputs that would be supplied from increased production. For the former, the shadow price is the market selling prices. For the latter, the relevant cost estimate is the actual cost of production. For inputs that are imported or substitutes for exports, the foreign exchange cost of the item is corrected with the shadow price of foreign exchange plus its cost of transporting or trade services.
  - (2) Valuation of Benefits involves outputs leading to additional supply for other users or reducing the output of other local producers. For both types of situation, the shadow price is the market price. For goods that substitute imports or add to exports, foreign exchange earnings or savings are corrected by the shadow price of foreign exchange. For goods/services given freely, the judged value is based on the value assigned by the users.

The National Economic and Development Authority (NEDA) of the Philippines assigned the parameters for estimating costs and benefits based on the following shadow values :

- Shadow Exchange Rate : 1.20

- Shadow Wage Rate : 0.60 (for unskilled labor only)

5. <u>Measurement of Economic Desirability</u>: The indicator used for measuring the project's desirability is the Economic Internal Rate of Return (EIRR). The social discount rate (SDR) is used to discount the stream of economic costs and benefits to their present values. It is the rate at which the social value of project costs and benefits decline over time. The SDR is, likewise, used as the hurdle rate for the project's EIRR. SDR currently used by NEDA is 15%.

6. <u>Sensitivity Analysis</u>: This analysis is used to determine the feasibility of a project under different cost/benefit scenarios. That is, assumptions are made as to the probable changes in the calculation/projection of cost and benefit values (e.g., + or - certain percentages of estimated values).

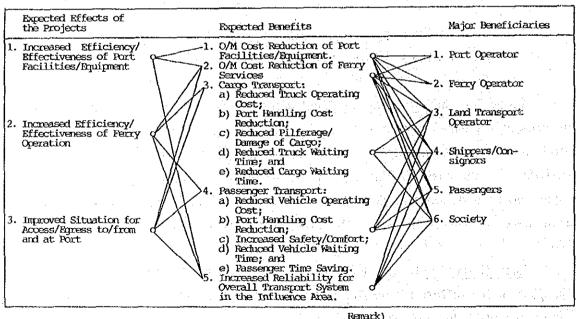
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Benefits

7. The estimate of the benefits is a primary task of the economic evaluation because there are many areas and aspects which could not be quantified and often involve uncertainties in quantification. Although the expected benefits of the project in general are considered quite extensive as shown in Figure 11-1, the actual benefits calculated in this particular study are as follows:

- (1) Reduction in Port Handling Cost
- (2) Reduction in Truck Transport Cost
- (3) Reduction in Pilferage/Damage of Cargo
- (4) Reduction in Cargo Waiting Time
- (5) Reduction in Truck Waiting Time
- (6) Benefits from Transfer of Passenger Cars
- (7) Benefits of Passenger Time Saving

8. Other benefits either tangible or difficult to quantify are described qualitatively based on the available information.



Remark) O/M : Operating and Maintenance

Figure 11-1 Expected Benefits

### B. Traffic Characteristics and Assumptions

## Passenger Traffic

9. The passenger traffic of lloilo-Bacolod accounted for 6,900 persons during the two days of Origin/Destination Survey conducted on August 1 and 2, 1991. The passengers move almost entirely between Panay and Negros Islands, as shown in Table 11-1 below:

	:				
		Iloilo	- Bacolod	Bacolod —	► Iloilo
	Origin/ Destination	No.	%	No.	: Z
	Iloilo	3,543	90.9	2,673	89.7
	Antique Capiz	151 109	3.9 2.8	97 64	3.3 2.1
P a	Aklan	38	1.0	8	0.3
n	Panay Is.	3,841	98.5	2,842	95•4
a y	Gumaras	20	0.5	77	2.6
1	Total	3,898	100.0	2,980 <u>1</u> /	100.0
N	Negros Occ.	3,820	98.2	2,926	97.5
e	Negros Or.	12	0.3	16	0.5
g r	Negros Is.	3,842	98.5	2,942	98.0
o s	Total	3,898	100.0	3,002	100.0

Table 11-1 Distribution of Iloilo-Bacolod Passengers in Panay and Negros Islands

Source: JICA OD Survey

1/ includes 22 unknown

The passengers from/to Bacolod side who departed/arrived at Negros Occidental by direction is shown in Table 11-2. It seems that there is a possibility of bus service between Iloilo City and South/North of Bacolod.

	To Bacolod	From Bacolod	Total
	No. %	No. %	No. %
Bacolod City North <u>1</u> / South <u>2</u> / East <u>3</u> /	2,015 68.9 427 14.6 476 16.3 8 0.3	2,606 68.0 648 16.9 561 14.6 15 0.4	4,621 68.4 1,075 15.9 1,037 15.3 23 0.3
Total	2,926 100.0	3,830 100.0	6,756 100.0

Table	11-2	Distribution of	Iloilo-Bacolod	Passengers
	$(1,1) \in \mathcal{C}_{1}$	in Negros	Occidental	at gur -

Source: JICA OD Survey

1/East : Murcia, Salvodor

2/North: Talisay, Silay City, Enrique B. Magalona, Victorias, Manapla, Cadiz City, Sagay,

Escalante, Taboso and Calatrava

3/South: Other Negros Occidental

Accordingly, at present, 70%, 15%, and 15% of Negros Occidental related passengers are to/from Bacolod City, North, and South, respectively. However, it is possible that the passenger to/from South may use Iloilo-Pulupandan route upon its completion. Therefore, it is assumed that the percentage of passengers to/from Bacolod City and to/from North will increase to 82% and 18%, respectively.

10. Access/egress modes of transport at lloilo and Bacolod ports are shown in Table 11-3. Jeepneys share the largest percentage of between 52% to 65% at both ports, while cars and vans share relatively high percentages of between 25% and 30%. Cars/vans are more used on Iloilo side, while jeepneys, more on Bacolod side. Tricycle is also a relatively significant mode on Iloilo side, while the bus on Bacolod side.

	¥ ) , 7	Acc	ess	Egress		Total	
1 1	Vehicle Type	No.	%	No.	%	No.	%
	Car/Van	1,160	30.4	831	29.1	1,991	29.8
I	Jeepney	2,003	52.4	1,782	62.4	3,785	- 56 <b>.</b> 7
1	Bus	20	0.5	16	0.6	36	0.5
0	Truck	53	1.4	-	<u> </u>	53	
i	Motorcycle	66	1.7	_		66	1.0
1	Tricycle	429	11.2	160	5.6	589	
; O	Others	89	2.3	69	2.4	158	2.4
	Total	3,820	100.0	2,858	100.0	6,678	100.0
	Car/Van	695	25.1	917	26,9	1,612	26.1
B	Jeepney	1,816	65.4	2,223		4,039	· ·
a	Bus	209	7.5	153	4.5	362	5.9
c	Truck	16	0.6	26	0.8	42	0.7
0	Motorcycle	14	0.5	14	0.4	28	0.5
1	Tricycle	13	0.5	60	1.8	73	1.2
0	Others	12	0.4	12	0.4	24	0.4
d	Total	2,775	100.0	3,405	100.0	6,180	100.0

Table 11-3 Access/Egress Modes at Iloilo and Bacolod Ports

Source: JICA OD Survey

# Cargo Traffic

11. The present travelling time and estimated time of Iloilo and Bacolod link are as follows:

	Barge	6 hours	
	Ferry	2 hours	
	Ro/Ro	1 hour 50	minutes
e Franciska († 1946). Stere skrigere			

12. Based on PPA Monthly Report in 1991 May, the service time and amount of cargoes are shown in Table 11-4. Transport by 500 grt. class barge is consid-

ered to spend 117 hrs for service time (average cargo volume: 275 MT = 549/2).

· · · · · ·	BREDCO	
58 425 85 hrs	55 221 84 hrs	113 326 85 hrs
16 435 97 hrs	15 350 140 hrs	31 394 117 hrs 549 MT
	425 85 hrs 16 435	425     221       85 hrs     84 hrs       16     15       435     350       97 hrs     140 hrs

Table 11-4 Barge Transport

Source: JICA Study Team based on PPA Monthly Report, May 1991

#### C. Estimate of Benefits

#### Costs of Benefits

13. The costs of the present system are the following :

(1) Cargo Transport :

<u>Handling Costs</u> - These costs by commodity type are fixed by PPA and BREDCO. The average handling costs are estimated at P35 per MT.

<u>Unit Value Added of Cargo</u> - Table 11-5 shows unit value added for each type of cargo handling at Iloilo and Bacolod. This value added is estimated based on the interview to PPA, BREDCO and some consignors.

(Unit : Peso/MT,				
Commodity	Value Added	Demand		
Rice	8000	11000		
Fruits	10000	9000		
Sugar	14900	7000		
Fertilizer	4800	32000		
Bottled Cargo	16700	1000		
Other General Cargo	20000	48000		
Total	13000	108000		

Table 11-5 Unit Value Added

Note: Total of Volume Added is weighted average. Source : JICA Study Team based on interview

<u>Pilferage and Damage</u> - Based on the interview to the shipping company, BREDCO and ILIASCO, about 1 or 2% of gross revenue is experienced for damage claims. It is assumed that Ro/Ro will reduce this loss to average 1.5%. For example of palay/rice is as follows.

 $P8,000/MT \times 1.5\% = P120/MT$ 

<u>Freight Cost</u> - on barge or cargo vessel is P6.00/bag(50kg) based on the interview to the consignor and BREDCO. On other hand, Ro/Ro Fare is P23.0/NM for jeepney and P36.7/NM for truck based on MARINA.

<u>Cargo Waiting Time</u> - The cost is estimated with the value of cargo and interest rate. For example of palay/rice is as follows.

 $P8,000 \times 0.15 / 365 / 24 = P0.137 /MT/hour day hour$ 

<u>Truck Waiting Time</u> - Waiting time of truck for loading/unloading from barge at port due to congestion is 4- 5 hours for rice and 2 hours for fertilizer according to PPA Port of Iloilo. The average truck waiting time is estimated at 3 hours by weighed future demand by commodity Benefits from Transfer of Passenger Cars is evaluated at P440 per car. This correspond to the fare and marginal costs of car transfer. The present price for shipments of cars (including handling) is P885. Around 4,000 cars are transferred and its benefit is estimated at 50% of the present cost (P440 per car).

(2) Passenger Transport :

<u>Passenger Time Saving</u> - The passengers can save 10 minutes for travelling time and the users of passenger cars and buses can save twice 15 (=30) minutes more for the waiting time to/from port. Passenger Time Saving are evaluated only for persons travelling at work. 32% passengers are at work on JICA OD Survey. The unit cost is evaluated as follows.

P 1,132,404M / 24,525 (000) = ₽ 46,173 GNP 1990 Labor Force 1990

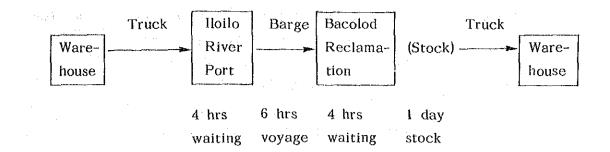
P 46,173 / 365 / 8 = P 15.8/hour Day Hour

# Case of Transporting Palay/Rice

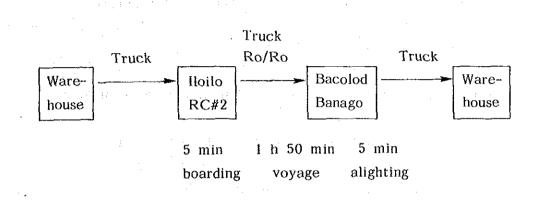
14. Benefit is defined as the difference in the costs of "Do Nothing Situation" and "With Project Situation" for transporting passengers, goods and vehicles between origins and destinations. Taking the example of transporting rice/palay from lloilo To Bacolod, estimate of the benefit is explained in the following.

(a) The transport of the rice/palay of "Do Nothing Situation" and "With Project Situation" can be conceptually illustrated below:

(Transportation Without Project : Do Nothing Situation)



(Transportation With Project : With Project Situation)



Assumptions made in this exercise are as follows:

o. 5.2 MT (= 8MT x 65%) of rice from Iloilo to Bacolod

o 50 kg bag used

o 5 stevedores for loading/unloading and 1 minute taken by 1 bag, so 20.8 minutes needed for 5.2 MT less than 4 hours waiting due to congestion

- o 1 day to stock at port
- o 5 minutes taken for alighting/boarding truck to Ro/Ro
- o distance from warehouse to Iloilo Port: 1 km; distance from Bacolod Reclamation to warehouse: 1 km; distance from Banago to
- warehouse: 4 km

o Truck runs at 40 kph

Relevant transport and handling costs of the goods are estimated for the following:

- truck transport cost which comprises distance related cost and time related cost (Refer to Note A-2-11-1 of Appendices)
- barge transport cost at P 6/bag (50 kg)
- Ro/Ro transport cost at P 36.7/NM
- stevedoring cost at P1.75/bag (=P 35/MT)
- benefit of reduction in pilferage and damage at P120/MT
- cargo time value at P 0.137/MT/hour
- (b) Transport cost under "Do Nothing Situation" is composed of:
  - truck transport cost from warehouse to Iloilo Port (t1)
  - waiting time cost of truck at Iloilo Port (t2)
  - handling cost of cargo at Iloilo Port from truck to barge (h1)
  - barge transport cost from Iloilo Port to Bacolod reclamation (tb)
  - handling cost of cargo at Bacolod reclamation from barge (h2)
  - stock cost of cargo at Bacolod reclamation (s)
  - handling cost of cargo at Bacolod reclamation from stock to truck (h3)
  - waiting time cost of truck at Bacolod reclamation (t3)
  - truck transport cost from Bacolod reclamation to warehouse (t4)

and shares

- cargo time cost (tc)

The total transport cost, therefore, is estimated as follows:

 $t1 = 1 \text{ km} \times P 6.705$  (running cost at 40 kph) +

1 km / 40 kph  $\times$  60 min  $\times$  P 1.045 (time cost)

 $t2 = 4 \times 60$  min (waiting time)  $\times$  P 1.045 (time cost)

tb = 5.2 MT (truck load) / 50 kg (bag)  $\times$  P 6 (barge transport cost)

t3 = t2

 $t4 = 1 \text{ km} \times P 6.705 + 1 \text{ km} / 40 \times 60 \times P 1.045$ 

tc = P 0.137  $\times$  5.2 MT  $\times$  ( 4 + 6 + 4 + 24 ) hours

 $h1 = h2 = h3 = 5.2 \text{ MT} / 50 \text{ kg} \times P 1.75$ 

s = 0 (no charge within 2 days)

Total P1,715

(c) Transport cost under "With Project Situation" is composed of

- truck transport cost from warehouse to Iloilo Port (T1)

- truck and goods waiting time at Iloilo Port (T2)

**b~**\*

- boarding cost of truck to Ro/Ro at Iloilo Port (T3)

- Ro/Ro and truck transport cost (Tr + T4)

alighting cost of truck from Ro/Ro at Bacolod (T5)

truck transport cost from Banago to warehouse (T6)

benefit of reduction in pilferage/damage and waiting time (B)

- cargo time cost (TC)

The total tranport cost, therefore, is estimated as follows:  $T1 = 1 \text{ km} \times P \text{ 6.705} + 1 \text{ km} / 40 \times 60 \times P \text{ 1.045}$   $T2 = T3 = T5 = 5 \text{ min} \text{ (waiting time)} \times P \text{ 1.045}$   $Tr + T4 = 24 \text{ NM} \times P 36.7 + 120 \text{ min} \times P \text{ 1.045}$   $T6 = 4 \text{ km} \times P \text{ 6.705} + 1 \text{ km} / 40 \times 60 \times P \text{ 1.045}$   $-B = 5.2 \text{ MT} \times P 120$  $TC = P 0.137 \times 5.2 \text{ MT} \times 2 \text{ hours}$ 

Total	P 1,060 - P 624 = P 436
	(Benefit)

(d) Accordingly, the benefit of Ro/Ro service of transporting 5.2 MT of rice from Iloilo to Bacolod is P1,279 (P1,715 - P436).

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Assumed Ro/Ro Traffic

15. Although the potential demand for Ro/Ro traffic is significant, the proposed project comprising construction of a berth and introduction of two Ro/Ro vessels could only meet the traffic which is restrained by the capacity of two Ro/Ro vessels. The estimated transport capacities of the Ro/Ro vessels are:

For Passenger: 1,000 pass x 6 trips/day x 2 vessels

x 340 days/2 directions

= 2,040 thousand passengers/direction

For Cargo

:79.3 ton x 6 trips/day x 2 vessels

x 340 days/2 directions

= 161,772 tons/direction

Annual demand was estimated based on short-term and long-term projection using the following equation and shown in Table 11-6.

$$Dk = Ds \times (1+r)^{(k-1)}$$

where;

Dk = k-th year's demand

Ds = short-term demand (= D1)

r = growth rate (= Exp(Log(long-term/short-term)/13)-1)

p	~			
		No. of Pass-	(000	MT)
		engers (000)	Cargo from	
	Year	/direction	Hoilo Bacolo	bd
1	1997	1,235	81	27
2	1998	1,347	87	29
3	1999	1,470	92	31
4	2000	1,603	99	33
5	2001	1,749	106	35
6	2002	1,908	113	38
7	2003	2,040	121	40
8	2004		129	43
9	2005		138	46
10	2006		147	49
11	2007		157	53
12	2008		162	56
13	2009			60
14	2010			65
15	2011			69
16	2012			74
17	2013			79
18	2014			84
19	2015			90
20	2016			97
21	2017			103
22	2018			110
23	2019			118
24	2020			126
25	2021			135
26	2022			144
27	2023			154
28	2024			162
29	2025			
30	2026	<b> </b>		

Table 11-6 Estimated Ro/Ro Traffic for Passengers and Cargo

Source: JICA Study Team

16. The number of Ro/Ro vessels and trips corresponding to the demand is estimated as shown in Table 11-7. In order to meet the above demand, it is assumed that an additional ferry should be introduced by year 1999 if the project is not implemented, because the maximum number of trips to be made by the current ferry is 4 trips (or 2 round trips), while that of Ro/Ro is 6 trips (or 3 round trips)

<u> </u>	With Project			Without Project		
Year	No. of Vessel	Trips	No. Trips/ Vessel	No. of Vessel		No. Trips/ Vessel
1997	2	4	2	2	4	. 2
1998	2	4	2	2	4	2
1999	2	5	2.5	3	5	1 and 2
2000	2	5	2.5	3	5	1 and 2
2001	2	5	2.5	3	5	1 and 2
2002	2	6	3	3	6	2
2026		•	¥			

Table 11-7 Estimated Number of Vessels and Trips

Source: JICA Study Team

17. Introduction of Ro/Ro vessels would expand the transport capacities for cargo as well and likely attract the diversion of the cargo which is currently transported by barge. Since the capacity of a Ro/Ro vessel is relatively small (80 MT), it is assumed that the capacity would be easily met upon introduction. On the other hand, the capacity of a current ferry is estimated to be approximately 20 MT which is the present cargo movement. This means that the remaining 60 MT would be diverted from barge. The estimated share between ferry and barge under Do Nothing Situation is shown in Table 11-8.

. *			· · · ·		(Unit:MT)
	[		Ferry	from	Barge from
		Year	Iloilo	Bacolod	Iloilo Bacolod
	1	1997	27,200	27,000	53,800 -
	2	1998	27,200	27,200	59,357 1,872
	3	1999	34,000	30,875	58,495 -
	4	2000	34,000	33,016	64,841 -
	5	2001	34,000	34,000	71,621 1,306
	6	2002	40,800	37,754	72,067 -
	7	2003		40,372	79,811 -
	8	2004		40,800	88,085 2,372
	9	2005			96,927 5,366
	10	2006			106,375 8,568
	11	2007			116,472 11,991
	12	2008			120,972 15,653
	13	2009			19,568
	14	2010			23,754
	15	2011			28,231
	16	2012			33,018
	17	2013			38,137
	18	2014		1. A 1.	43,612
	-19	2015			49,466
	20	2016			55,726
	21	2017			62,420
	22	2018			69,578
	23	2019			77,233
•	24	2010			85,418
	25	2021			94,172
	26	2022			103,532
	27	2022			113,541
	28	2023			120,972
	20	2024			113,541
	30	2025		l l	120,972
		2020	ļ	I	1 120,012

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Table 11-8 Estimated Share of Cargo Between Ferry and BargeUnder Do Nothing Situation

Source: JICA Study Team

#### Estimated Benefits

18. The benefit of the Ro/Ro service is the difference in the cost of transporting cargo with between conventional system and Ro/Ro under the proposed Project. The benefits quantified in this Study includes (1) reduction in port handling cost, (2) reduction in transport cost, (3) reduction in pilferage/damage to cargoes, (4) reduction in cargo waiting time, (5) reduction in truck waiting time, (6) benefits from transfer of passenger cars and (7) benefits of passenger time saving.

19. As is exercised for rice transport, transport and handling costs of the estimated demand under Do Nothing Situation consist of those by the combination of truck and jeepney on land and ferry and barge on the sea. It is assumed that truck and jeepney share land transport market as follows.

- Year 1997 : Jeepney 89% Truck 11%
  - Year 2010 : Jeepney 74% Truck 26%
  - Average Loading Factor : 65%

20. The estimated benefits due to the Project are summarized as shown in Table 11-9.

		e je s			(Unit :	Millio	n Pesos)	
	Trans-			Trans-	Pε	asseng-		
Year	port	Damage	Cargo	fer of	Truck	er Time	Total	
	Fare		Vaiting	P.car	Waiting	Saving		
·				<u></u>				. ·
1997	4.15	21.06	2.84	1.81	2.73	4.58	37.17	
1998	3.58	22.51	3.23	1.81	3,10	5.00	39.22	
1999	7.08	24.06	3.09	1.81	2.95	5•45 :	44•44	
2000	7.48	25.71	3.42	1.81	3.22	5•95	47.59	
2001	6.77	27.48	3.85	1.81	3.61	6.49	50.01	
2002	10.34	29.37	3.80	1.81	3.55	7.08	55.96	
2003	9.75	31.39	4.21	1.81	3.92	7.57	58.65	· ·
2004	10.48	33.55	4.77	1.81	4.37	7.57	62.55	
2005	10.11	35.86	5.40	1.81	4.92	7.57	65.66	[
2006	9.80	38.33	6.06	1.81	5.50	7.57	69.06	
2007	9.18	40.96	6.78	1.81	6.13	7.57	72.42	
2008	10.68	42.55	7.21	1.81	6.41	7.57	76.23	
2009	11.26	43.32	7.41	1.81	6.55	7.57	77.93	
2010	11,90	44.13	7.64	1.81	6.70	7.57	79.75	:
2011	12.60	45.01	7.87	1.81	6.86	. 7.57.	81.72	
2012	13.40	45.94	8.12	1.81	7.03	7.57	83.87	1
2013	15.39	46.94	8.39	1.81	7.15	7.57	87.25	
2014	15.78	48.01	8.68	1.81	7.36	7.57	89.20	
2015	16.82	49.15	8,99	1.81	7.56	7.57	91.90	
2016	18.02	50.37	9.32	1.81	7.76	7.57	94.85	ŀ
2017	20.21	51.67	9.68	1.81	7.92	7.57	98.86	
2018	21.74	53.07	10.05	.1.81	8.14	7.57	102.38	
2019	23.51	54.56	10.46	1.81	8.37	7.57	106.27	
2020	24.53	56.16	10,89	1.81	8.65	7.57	109.61	
2021	27.41	57.87	11.35	1.81	8.85	7.57	114,86	
2022	30.66	59.69	11.84	1.81	9.05	7.57	120.63	
2023	37.08	61.64	12.37	1.81	9.09	7.57	129.56	Į
2024	47.90	63.09	12.76	1.81	8.75	7.57	141.89	ŀ
2025	47.90	63.09	12.76	1.81	8.75	7.57	141.89	
2026	47.90	63.09	12.76	1.81	8.75	7.57	141.89	
								-

Table 11-9 Estimated Benefits due to the Project

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Source: JICA Study Team

#### D. Summary of Project Cost

21. Project costs consist of construction cost, maintenance cost and operation cost. Construction cost with disbursement schedule and by currency component excluding tax and price contingency of Iloilo and Bacolod ports are summarized in Table 11-10. These costs were adjusted for economic evaluation by multiplying 1.20 to foreign currency portion and 0.60 to unskilled labor to estimate the economic cost of the project as shown in Table 11-10.

				(Uni	t: Millio	on Pesos)
				Disbur	sement S	Schedule
	Port	Currency Component	Total	1994	1995	1996
		Foreign	23.244	1,943	15,514	5,787
· · · ·		Local	37.204	3,330	23,684	10.190
		Unskilled Labor	14.072	0.278	9,800	3.994
	Iloilo	<u> </u>	·······	<u> </u>		
. :		Total	74,520	5.551	48,998	19.971
		Total (Economic)	73.540	5,828	48.181	19.531
•		Foreign	57,181	4.016	45.247	7.918
		Local	85,778	6.885	64.785	14.108
		Unskilled Labor	26.086	0,574	20,008	5.507
100	Bacolod					
en des		Total		11.475	130.040	. 27.533
		Total (Economic)	170,049	12.049	131,086	26.914

	 Table	11-10	Construction	Costs
		1.		(Di

Source: JICA Study Team

22. The maintenance costs for this project are set to be 1% of the direct cost, engineering service cost and phisical contingency shown in Table 11-11 and these costs are excluding taxes.

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· · · · · · · · · · · · · · · · · · ·	(Unit : 000 Pesos		
Component	Iloilo	Bacolod	
Direct Cost	60,195	124,781	
Engineering Service Cost	11,919	24,707	
Phisical Contingency	9,510	19,715	
Total 1% of Total	81,624 816	169,203 1,692	

Table 11-11 Maintenance Costs

Source: JICA Study Team

23. The operation costs are composed of personnel costs and administrative costs. After the port development and the introduction of Ro/Ro vessels, no additional persons will be employed because of the transferred persons from the present ferry system. Neither administrative costs nor personnel costs are considered.

E. Cost Benefit Analysis

24. The estimated benefits and costs were then compared over the assumed project period of 30 years. The resultant EIRR are summarized in Table 11-12. Objective of Sensitivity Analysis is to determine whether the project will remain feasible if changes in the assumptions used in the calculation/projections were to take place according to the degree in which they are likely to vary from the estimated or projected values. A series of sensitivity test is also made by the fluctuation of costs and benefits along NEDA Guideline as follows.

Case I:	Increase in projected costs by 10% and 209	%
Case II:	Decrease in revenues by 10% nad 20%	
Case III:	Combination of Cases I and II	

Sensitivity Analysis								
Base	Cost	Same	Cost +10%			Cost +20%		
Case		Benefit -20%	Benefit Same	Benefit -10%			Benefit -10%	
Base	Case II	Case II	Case I	CaseIII	CaseIII	Case I	CaseIII	CaseIII
18.4%	17.2%	16.0%	17.1%	16.0%	14.9%	16.0%	14.9%	13.9%

#### Table 11-12 Results of EIRR

Source: JICA Study Team

#### Conclusion

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25. Port development through the introduction of the Ro/Ro for the Iloilo-Bacolod link is judged to be more than feasible except Case III of combination of cost +20% and benefit -20% from the viewpoint of the national economy based upon the EIRR of the project as well as the unquantified benefits arising from this project.

## [ References ]

1. 1990 Philippines Statistical Yearbook, National Statistical Coordination Board

2. Road Feasibility Studies III, MPWH, Aug. 1981

3. Highway Planning Manual Volume 4, MPWH, Oct. 1982

4. ICC Project Evaluation Procedures and Guidelines, NEDA, 1991

#### Chapter 12 Financial Analysis

#### A. Purpose of the Financial Analysis

1. The purpose of the financial analysis is to appraise the financial feasibility of the short-term development plan with regard to the Iloilo Bacolod link. The analysis focuses on the viability of the project itself and the financial soundness of the port management body during the project life. It is conducted for both Iloilo and Bacolod case separately.

#### B. Methodology of the Financial Analysis

#### Viability of the Project

2. The viability of the project is analyzed using the Discount Cash Flow Method and appraised by the FIRR (financial internal rate of return). The FIRR is a discount rate that makes the costs and the revenues during the project life equal, and it is calculated using the following formula;

$$\sum_{i=1}^{n} \frac{B_{i}^{-C_{i}}}{(1+r)^{i-1}} = 0$$

n : project lifeBi: revenues in the i-th yearCi: costs in the i-th yearr : discount rate

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In the course of analysis costs and benefits taken into account for the calculation of the FIRR are summarized as follows:

Cost		Benefit		
	n gran an Anna an Anna Anna an Anna an		· · · · ·	
a.	Total investment cost	a.	Port operating revenue	
	including initial capital			
	and reinvestment for renewal	b.	Residual value of the fixed	
			assets at the end of the	
b,	Operating cash expenses		project life	
		•		

On the other hand, costs and benefits exempt from calculation of the FIRR are summarized as follows:

Cost	· ·	Benefit
a. Depreciation cost		a. Fund management income
b. Repayment of the prin	cipal	
loan		
and the second second second second		

When the calculated FIRR exceeds the weighted average interest rate of the total funds for the project investments, the project is regarded as financially feasible.

#### Financial Soundness of the Port Management Body

3. The financial soundness of the port management body is appraised based on its projected financial statements (Income and Expence Account, Cash Flow Statement and Balance Sheet). The appraisal is made from the viewpoints of profitability, loan repayment capacity and operational efficiency. (1) Profitability

Rate of return on net fixed assets is calculated in the following:

Net Operating Income Total Fixed Assets × 100(%)

This indicator shows the profitability of the investments, which are presented as net total fixed assets. It is preferable to keep the rate above the average interest rate of the funds for the investments.

(2) Loan Repayment Capacity

Debt service coverage ratio is calculated in the following:

Net Operating Income + Depreciation Cost Repayment and Interest of Long-term Loans

This indicator shows whether the operating income can cover the repayment and interest of long-term loans. It must be more than 1 and it is preferable that it be over 1.75.

(3) Operational Efficiency

Operating ratio is calculated in the following:

 $\frac{\text{Operating Expenditure}}{\text{Operating Revenue}} \times 100(\%)$ 

Working ratio is calculated in the following:

Operating Expenditure - Depreciation Cost Operating Revenue

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× 100(%)

The operating ratio shows the operational efficiency of the organization as an enterprise, and on the other hand, the working ratio shows the efficiency of the routine operations of the port.

When the calculated operating ratios are less than 70-75%, and the working ratios are less than 50-60%, the operations are claimed to be efficient.

C. General Prerequisites of the Financial Analysis

#### Scope of the Analysis

4. The scope of the analysis is as follows:

a. Each short-term plan, in lloilo and Bacolod, covers only the Ro/Ro terminal. The cargo volume transported through the terminal is assumed to be the Ro/Ro related ones that is forecast in Chapter 4 of this volume.

- The financial analysis takes the port management body as implean b. mentation body. At Iloilo PPA is responsible for the implementation of the project, since facilities are overseen and operated by the PPA. However, for the Port of Bacolod, matters are a bit complicated. The Negros Navigation Co. constructed and is operating Banago Pier which is the site for the Ro/Ro terminal. It is a general rule in the Philippines that after a certain period of time has elapsed following the construction of a facility, that facility should be reverted to the government. Therefore, it is not clear for the moment, who is responsible for implementa-Under the circumstances, an anonymous body is astion at Bacolod. The financial analysis based on this sumed for the implementation. assumption assesses the financial vialitity of the project independently of the manajing condition of the implementing body. Some financial institutions use this method.
- c. It is assumed that the projects are implemented independently between Iloilo and Bacolod, however, they are conducted and operated simultaneously.

#### With Case and Without Case

5. In conducting a financial analysis, the revenue is generally calculated by determining the amount of income to be lost or gained in two different case scenarios: the "with case" and the "without case".

"Without case" means the income which is lost when the project is actually carried out.

When the implementing body of the project operates existing facilities by which it earns the income prior to the new service begins, the amount should be excluded from the income of the project.

#### Project Life and Price Level

6. Taking account of the conditions of the long-term loans and the service lives of the port facilities, the project life for the financial analysis is determined to be 30 years, following the 3-year period for the construction of the facilities beginning in 1994.

7. For the estimation of costs, expenditures and revenues prices are fixed at the 1992 level.

#### Cargo Handling Volume

8. The cargo handling volume is estimated based on the demand forecast as shown in Table 12-1. The cargo volume that can be handled in the Ro/Ro terminal will reach its limit in 2003 in terms of passenger traffic, and will reach its limit in 2008 for cargo volume transferred from Iloilo to Bacolod, and that from Bacolod to Iloilo will reach its limits in 2024. The barge transportation in Iloilo is calculated by 275 MT/barge as loading capacity and 4 days staying in the port.

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	Table	12 - 1(1)	) Assumed	Cargo	Traffic	for	Financial	Analy	/sis
--	-------	-----------	-----------	-------	---------	-----	-----------	-------	------

- 	· · · ·			fllnit:P	erson, NT]
Yea	r Passen	ger  Ca	rgo		
				lloilo	Bacolod
19	97 1,235,0	000   10	8,000	81,000	27,000
19	98 1,347,	204   11	5,429	86,557	28,872
. 19		603   12	3,370	92,495	30,875
	00 1,603,		1,857	98,841	33,016
20			0,927	105,621	35,306
	02 1,907,		0.621	112,867	37,754
	03 2,040,		0,983	120,611	40,372
20			2,057	128,885	43,172
20			3,893 (	137,727	46,166
	06 2,040,		6,543	147,175	49,368
	07 2,040,		0,064	157,272	52,792
-	08 2,040,		8,225	161,772	56,453
20			2,140	161,772	60,368
	10 2,040,		6,326	161,772	64,554
	11 2,040,		0,803	161,772	69,031
20			5,590	161,772	73,818
	13 2,040,		0,709	161,772	78,937
	14 2,040,		6,184	161,772	84,412
	15 2,040		2,038	161,772	90,266
	16 2.040		8,298	161,772	96,526
	17 2,040,		4.992	161,772	103,220
	18 2,040,		2,150	161,772	110,378
	19 2,040,		9,805	161,772	118,033
1	20 2,040,		7,990	161,772	126,218
	21 2,040,		6,744	161,772	134,972
	22 2,040		6,104	161,772	144,332
	23 2,040		6,113	161,772	154,341
20			3,544	161,772	161,772
	25 2,040,		3,544	161,772	161,772
20	26 2,040	000 32	3,544	161,772	161,772

Source: Calculated by JICA Study Team based on Demand Forecast

Table 12-1(2) Barge Transportation in Iloilo

		<b>-</b>	
		(Unit:MT,	Day*ships]
Year	Cargo Vo	lume	Mooring
	Ferry	Barge	Barge(Day)
1997	27,200	53,800	783
1998	27,200	59,357	863
1999	34,000	58,495	851
2000	34,000	64,841	943
2001	34,000	71,621	1,042
2002	40,800	72,067	1,048
2003	40,800	79,811	1,161
2004	40,800	88,085	1,281
2005	40,800	96,927	1,410
2006	40,800	106,375	1,547
2007	40,800	116,472	1,694
2008	40,800	120,972	1,760
2009	40,800	120,972	1,760
2010	40,800	120,972	1,760
2011	40,800	120,972	1,760
2012	40,800	120,972	1,760
2013	40,800	120,972	1,760
2014	40,800	120,972	1,780
2015	40,800	120,972	1,760
2016	40,800	120,972	1,760
2017	40,800	120,972	1,760
2018	40,800	120,972	1,760
2019	40,800	120,972	1,760
2020	40,800	120,972	1,760
2021	40,800	120,972	1,760
2022	40,800	120,972	1,760
2023	40,800	120,972	1,760
2024	40,800	120,972	1,760
2025	40,800	120,972	1,760
2026	40,800	120,972	1,760
Sourca	Calculated	by JICA S	tudy Team

Source: Calculated by JICA Study Team

based on Demand Forecast

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9.	The vehicle	composition	on	vessels	in	this link	is	assumed as follows:
----	-------------	-------------	----	---------	----	-----------	----	---------------------

Vehicle	Capacity	1997	2010-
Bus	60 persons	3 buses	6 buses
Private Car	4 persons	8 cars	16 cars
Truck	8 tons	6 trucks	9 trucks
Jeepney	2 tons	49 jeepneys	25 jeepneys

Note: Loaded ratios of truck and jeepney are assumed to be 0.65. Source: Assumed by the JICA Study Team based on the Terminal and Development Plan

10. The number of round trips are also assumed based on the Ro/Ro vessel operation plan in Chapter 11 the Volume II, 4 - 6 times a day until 2009, 6 times a day after 2010.

11. All the trucks and jeepneys which travel from Iloilo to Bacolod are assumed to go back to Iloilo through the Banago Pier. At that time they carry all the cargo transported from Bacolod to Iloilo.

#### PPA Financial Plan

12. PPA made the financial program from 1987 up to 1995 which overlooks the short term financial position of the organization, where the following conditions are assumed:

- a. Financial data from 1987-1990 are based on the figures of the past performance.
- b. Data of 1991 is provided by the corporative budget of the PPA.
- c. Basis of 1992-1995 are as follows:
  - i) Port revenue, arrastre/stevedoring income and non-traditional income are estimated assuming a 4% yearly increase for 1992, 5.8% for 1993-1995.

- ii) Personnel, dredging costs are 10 % increase per annum.

  - iii) Repair and maintenance cost is 2.5% of the fix assets.
    - 이 바이 가슴이 있는 것 같아. 나라
  - iv) Other administrative cost is 8.4% increase per annum.
  - v) Depreciation cost is based on the schedule of treasury department of PPA.
  - vi) Loan and interest payment and revenue is calculated based on the agreements with the foreign lenders and the projected loan terms.
  - vii) Infrastructure program is based on the PPA intermediate investment scheme.
  - viii) Account receivable is calculated as 5% of gross revenue plus the half of the beginning account receivable of the year. On the other hand, account payable is 10% of the administrative, dredging, repair and maintenance costs.

Based on this program, the financial analysis is carried out to forecast the projected financial position of the entire PPA.

#### Port Charges and Revenues

13. The revenues from the port activities are calculated based on Ro/Ro oriented tariff and the estimated cargo volume. The rates of the tariff taken in the analysis are summarized in Table 12-2(1). Here neither wharfage fees nor stevedoring/arrastre charge are levied. While rates charged at Ro/Ro terminals look much higher than the Ro/Ro arrastre charge of the Batangas port(they vary from 20 to 100 pesos by the weight of the vehicle), they are economical enough for the users of these facilities on account of the lower charge compared to that of the conventional handling system both in Iloilo and Bacolod (these changes range from 350 to 1500 pesos by the type of the vehicle).

Calculated results of the revenue are shown in Table 12-3(1), (2).

In the case of Iloilo, the revenue produced in the without case of the project is to be excluded from the operating revenue. The exempted revenue items are as shown in Table 12-2(2).

On the other hand, in Bacolod, the project is assumed to be implemented by an anonymous new body which accrues no income before the project materializes.

	Unit	Iloilo	Bacolod	Remark
A. Vessel	1,000 pesos per year	1372.4	1372.4	Prioritized Use
B. Vehicle				
a. Bus Qutward Inward	pesos/bus	140 70	140 70	
b. Private Cars Outward Iaward	pesos/car	40 20	40 20	
c. Truck Outward Inward	pesos/truck	120 60	120 60	
d. Jeepney Outward Inward	pesos/jeepney	60 30	60 30	
C. Passenger	pesos/person	1.5	1.5	n an
D. Ancillary	10% of the ab	ove revenue		

Table 12-2(1) Port Charge on Ro/Ro Services

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	Unit	Rates	Remarks
A. Vessel			
a. Perry	Pesos/GRT/Day/ Day/Ship	0.188	2 Ferries 1,000GRT
b. Barge	Pesos/GRT/Day/ Day/Ship	0.188	175MT/barge 500GRT
B. Wharfage a. Containerized	Pesos/Box	13.16	8 feet container
b. Non Containerized	Pesos/MT	1.65	3MT/box
C. Stevedoring/Arrastre Share of PPA			
a. Vehicle	Pesos/HT	9.15	
b. Container	Pesos/Box	37.61	
c. Non Container	Pesos/MT	1.97	
D. Passenger Fee	Pesos/person	1.5	

## Table 12-2(2) Exemption Revenues and Rates (lloilo)

Source: Assumed by JICA Study Team

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Table 12-3(1) Revenue of Ro/Ro Services (Iloilo)

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assengi	╵ <sub>┿</sub> ┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿┿												
Lev/Arras	1					· .			. · ·	2 E			
Vehicles	44 44 45 45 45 45 45 45 45 45					·. · .	. 1					1. A	
8001.080 T	0 0 0 0 0 0 0 0 0 0 0 0 0 0		, t e			. *		·					
Cargo !		۰.		•					یرید ۱۹۰۰ ۱۹۰۰ - ۱۹۰۰				
FRATIAGE CN	1	(pol	1000 Peses ]	DCILIARY	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1.054	121 169	1,180	1.180	1,180	1,180	1,180	1.180
Barge	4 4 4 4 4 4 4 4 4 4 4 4 4 4	(Bacolod)	[Jnft: 10	Passenger //	926 1,010 1,102 1,202 1,312		0221	1.530	1.530	1.530	1,530	1,530	1,530 [
Ferry		Services		1.	2 0 4 4 4 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	5 915 915 915	4 4 4 4 6 6 7 4 7 7 7 6 7	4.590	4,590	4 590	4 590	4,550	4.590
		Ro/Ro Se		Iruck	222 922 1.114 1.249 1.249	2.312			3 305		3 305		3.305
	1	of Ro		Car	222922 222922 222922 222922 222922 222922 222922 22292 22020 22292 2202 22202 22202 2202 2202 2202 2202 2202 2202			09 09 09 09 09 09 09 4 4 4	2500 7 7 7 7 7 7	435	435	435 435 435	435
_	656 7258 7258 8652 8652 8652 926 926 926 926 926 10027 10000000000	evenue		Bus	00000000000000000000000000000000000000	5988 5388 5388 5388 5388 5388 5388 5388	0 00 00 0 0 00 00 0 0 00 00 0 0 00 0	1252	1125	125	112 571 571	125	571
	928 1.017 1.1202 1.1202 1.1202 1.2200 1.2202 1.2000	ድ		rence -	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2							8 901 105 8	
epney	V V V V V V V V V V V V V V V V V V V	12-3(2)			372 372 372 372 372	1	2442		P	1.372	1 372	1,372	1.372
ruck Je	222 222 222 222 222 222 222 222	Table		Kevenue	8.237 8.682 9.5154 9.518 10.060	11 534	12.851	12,984	12,984	12 984	12,984	12,984	12 984
Car ]	7 2022 20			Year	1997 1998 1998 2000 2000 2000	2003	50004	2010	2013	2016 2017 2018	2019 2020 2021	2023	2025
Bus	245 286 286 286 286 286 286 286 286 286 286											• .	
aracea	2.183 5.555 5.5516 6.677 5.5516 6.8452 6.8452 6.8452 6.8452 5.516 5.845 7.7755 8.308 8.301 8.301 8.901 8.901 8.901 8.901 8.901 8.901 8.901 8.901 8.901 8.901 8.901 8.901 8.901 7.768 8.901 8.901 8.901 8.901 8.901 7.768 8.901 8.901 7.768 8.901 8.901 7.768 8.901 8.901 7.768 8.901 7.768 8.901 7.768 8.901 7.768 7.778 7.7777 7.7787 7.7787 7.77777 7.7787 7.7787 7.7787 7.7787 7.7787 7.7787 7.7787 7.7787 7.7787 7.7787 7.7787 7.7787 7.7787 7.7787 7.7787 7.7787 7.77777 7.7787777 7.77777777										•.	•	
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	5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2										• .		
	11997 11998						•						

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14. For the estimation of the entire PPA financial statements, an increase of the PPA tariff rate is assumed every 5 years after 2000 as follows:

2000	10	%	increase	
2005	10	%	increase	
2010	10	%	increase	
2015	10	%	increase	
2020	10	%	increase	
2025	5	%	increase	

Initial Investment Costs

15. The initial investments of the short-term project are estimated in Chapter 9, and the costs included in the financial analysis are shown in Table 12-4(1), (2).

			[Unit:	1000 Pesos]
Year	1994	1995	1996	Total
Works				
A. Piling		19,692.26		19,692.26
B. Concrete		21,958.44		21,958.44
C. Rock		17,019.74		17,019.74
D. Reclamation		1,929.06	11,225.29	13,154.35
E. Building			11,547.75	11,547.75
F. Utilities			174.96	174.96
G. Detail Design	5,923.30			5,923.30
Total	5,923.30	60,599.50	22,948.00	89,470.80

Table 12-4(1) Iloilo Disbursement Schedule

Source: Estimated by JICA Study Team

			[Unit	1000 Pesos]
Year	1994	1995	1996	Total
Works				
A. Piling		85,483.64		85,483.64
B. Concrete		57,345.76		57,345.76
C. Rock			12,031.30	12,031.30
D. Reclamation			1,248.88	1,248.88
E. Building			16,200.14	16,200.14
F. Utilities			887.58	887.58
G. Detail Design	12,279.20			12,279.20
Total	12,279.20	142,829.40	30,367.90	185,476.50

## Table 12-4(2) Bacolod Disbursement Schedule

Source: Estimated by JICA Study Team

#### Reinvestment and Maintenance, Repair Costs

16. The facilities and equipment will be renewed based on their service lives which vary from 30-100 years.

a.	Pile:	5	0 years
b,	Concrete:	5	0 years
C.	Rock:	10	0 years
d.	Reclaimed land:	10	0 years
e.	Building:	3	5 years
f.	Other Facilities:	. 3	0 years

The funds for reinvestment will be financed by the internal resources of the port management body.

17. The annual maintenance and repair costs for the port facilities are calculated by 1% of the initial construction cost taking the service lives in consideration.

#### Personnel and Administration Costs

18. In the course of the calculation of personnel and administration costs, the increment costs are to be estimated.

In the case of Iloilo, the increment cost is assumed to be negligible because Ro/Ro handling operation is efficient enough offset the increment personnel and admistration costs.

As for Bacolod case, it is assumed as 15% of the port operating revenue estimating based on the past performance of PPA in 1988 and 1999.

#### Depreciation Costs and Income Tax

19. The annual depreciation costs of the port facilities and equipment are calculated by the straight line method based on their service lives. Income tax is calculated as 35% of the net income only in the case of Bacolod.

#### Fund Raising

20. The funds necessary for the implementation of the project are assumed to be raised as follows:

#### (1) Foreign currency

Source:loans from abroadInterest rate:3% per annum.Repayment:30 years, including a grace period of 5 years

#### (2) Local currency

Source:Fund from the Philippine domestic resourcesInterest rate:7% per annumRepayment:30 years, including a grace period of 5 years

According to the fund raising plan, the weighted average interest rate of the fund is 5.61% in Iloilo, 5.53% in Bacolod unless no inflation is assumed.

#### D. Appraisal of the Project

#### Viability of the Project

a. Calculation of FIRR

21. The results of FIRR calculation of the Base Case are shown in Table 12-5(1), (2).

While the FIRR of the Bacolod case is low, the cost portion of the causeway can be excluded from the initial construction cost. In the calculation, the amount of the portion is accepted by port management body as a subsidy for the construction expense. As the causeway is mainly utilized as a road rather than a port facility, the public sector such as the government should compensate the port management body for the partial construction cost with a subsidy.

Table 12-5(3) shows the result of FIRR calculation where the subsidy is adopted. All values of the FIRR exceed the weighted average interest rates (5.61% of Iloilo and 5.53% of Bacolod). We can judge that both projects are feasible as far as profitability is concerned.

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ar Co:	ST				Revenue	Benefit
		Investment	Expense	Renewal	nevenue	peneiit
34 5	,923	5,923		acuenai	····	-5,923
	.600	60,600				-60,600
	948	22,948				
97.	895	14,510	895		E 0 9 0	-22,948
8	895		895		5,828	4,933
99 -	895		895		8,086	5,191
00	895	· · ·	895		6,365	5,470
n l	895	<b>1</b> .	895		6,524	5,629
2	895	1			6,831	5,938
	895		895	· .	7,136	6,241
3			895		7,442	6,547
)4	895		895		7,734	6,839
05.	895	1 · ·	895		7,885	6,990
06	895	1 ·	895		8,186	7,292
07	895		895		8,549	7,654
18	895		895		8,442	7,547
09	895		895		8,278	7,384
LO	895		895		8,231	7,337
կ [	895		895		8,170	7,275
12	895		895		8,105	7,210
13	895		895		8,035	7,140
4	895		895		7,960	7,065
15 :	895		895		7,880	6,985
16	895		895		7,794	6,893
7 -	895		895		7,702	6,808
18	895		895		7,604	6,710
19	895		895		7,500	6,605
20	895	ļ	895		7,388	6,493
21	895		895		7,268	6,373
2	895		895		7,140	6,245
23	895		895		7,003	6,108
24 :	895		895		6,901	8,008
25	895	1	895		6,901	6,006
	369		895	-44.264	6,901	50,270
····	,		000	11,004	0,001	00,210
tal 72	,048	89,471	26,841	-44,264	223,766	151,718

### Table 12-5(1) Result of FIRR Calculation (Iloilo)

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## Table 12-5(2) Result of FIRR Calculation (Bacolod)

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		· · · ·			{Unit: `	1000 Pesos]
Year	Cost				Revenue	Benefit
		Investment	Expense	Renewal		
1994	12,279	12,279				-12,279
1995	142,829	142,829				-142,829
1996	30,368	30,368				-30,368
1997	3,090		3,090		8,237	5,146
1998	3,157		3,157		8,682	5,525
1999	3,228		3,228		9,154	5,920
2000	3,283		3,283		9,518	6,236
2001	3,364		3,364		10,060	6,697
2002	3,447		3,447		10,612	7,166
2003	3,529		3,529		11 162	7,633
2004	3,594		3.594		11,594	8,000
2005	3,635		3,635		11,871	8,236
2006	3,705		3,705		12,332	8,627
2007	3,784		3,784		12,861	9,077
2008	3,780		3,780		12,834	9,054
2009	3,764		3,764		12,725	8,962
2010	3,802		3,802	}	12,984	9,182
2011	3,802	· · ·	3,802		12,984	9,182
2012	3,802	· .	3,802		12,984	9,182
2013	3,802		3,802		12,984	9,182
2014	3,802		3,802		12,984	9,182
2015	3,802		3,802		12,984	9,182
2015	3,802		3,802		12,984	9,182
2017	3,802		3,802		12,984	9,182
2018	3,802		3,802		12,984	9,182
2019	3,802		3,802		12,984	9,182
2015	3,802		3,802		12,984	9,182
	3,802	l l	3,802		12,984	9,182
2021	3,802		3,802	l	12,984	9,182
2022			3,802		12,984	9,182
2023	3,802		3,802		12,984	9,182
2024	3,802	{	3,802		12,984	9,182
2025	3,802		3,802	-71,599	12,984	80,781
2026	-67,797		3,004	-172499	10,004	
Total	223,876	185,477	109,998	-71,599	362,370	138,494
Source:	Calculated	by the JI	CA Study Te	ட வா	l	PIRR=2.95%

	Costs	T			Revenue	Subsidies	Benefit
Year	LOSIS	Investment	Expense	Renewal			
1994	12,279	12,279				5,952	-6,327
1995	142,829	142,829				83,949	-58,880
1996	30,368	30,368	1.1.1			0	-30,368
1997	3,090		3,090		8,237	0	5,146
1998	3,157	1	3,157		8,682	0	5,525
1999	3,228		3,228		9,154	0	5,926
2000	3,283		3,283	(/ )	9,518	0	6,236
2001	3,364		3,364		10,060	0	6,691
	3,447		3,447	at a	10,612	. 0	7,168
2002	3,529	1. 1	3,529	1. A	11,162	0	
2003	3,594		3,594		11,594	0	8,000
2004		} }	3,635		11,871	0	8,236
2005	3,635		3,705		12,332	0	8,627
2006	3,705		3,784	[	12,861	Ŏ	9,071
2007	3,784		3,780		12,834	0	9,054
2008	3,780		3,764	14 1	12,725	i č	8,962
2009	3,764	1. 1		) (s. 1997) (s. 1997)	12,984	) ő	9,18
2010	3,802		3,802		12,984	0	9,182
2011	3,802		3,802		12,984	. 0	9,182
2012	3,802		3,802		12,984	0	9,182
2013	3,802	( <sup>.</sup> (	3,802	[		1	9.18
2014	3,802		3,802		12,984	0.	9,18
2015	3,802		3,802	· ·	12,984	G	9,18
2016	3,802	1. 1	3,802	· ·	12,984	-	
2017	3,802		3,802		12,984		9,18
2018	3,802	( · · · (	3,802	<b>1</b>	12,984	0	9,18
2019	3,802		3,802		12,984		9,18
2020	3,802	1 1	3,802	[· · ·	12,984	0	9,18
2021	3,802		3,802	1	12,984		9,18
2022	3,802	· ·	3,802		12,984	0	9,18
2023	3,802		3,802	<b>]</b>	12,984	0	9,18
2024	3,802		3,802	1 + 32 ÷ 1	12,984	0	9,18
2025	3,802		3,802	1	12,984	0	9,18
2026	-67,797		3,802	-71,599	12,984		80,78
otal	223,875	185,476	109,998	-71,599	362.370	89,900	228,39
		d by the JI		<u></u>	L	FIRR=	7.3

Table 12-5(3) Result of FIRR Calculation (Bacolod)

b. Sensitivity Analysis

22. Sensitivity analysis is conducted to examine the impact of unexpected future changes. The following three cases are envisaged;

Case	I:	The project cost increases by 10%
Case	11:	The revenue decreases by 10%.
Case	III:	The project cost increases by 10% and the revenue
		decreases by 10%.

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Table 12-6 shows the calculation results of each case.

Case	Iloilo	Bacolod (A)	Bacolod (B)
Base Case	6.20%	2,95%	7.37%
Case I	5.46%	2.30%	6.43%
Case II	5.38%	2.24%	6.34%
Case III	4.70%	1.62%	5.46%

Table 12-6 Results of Sensitivity Analysis

Note: Bacolod (A) without subsidy for causeway Bacolod (B) with subsidy for causeway Source: Calculated by the JICA Study Team

#### Financial Soundness of the Organization

23. The projected financial statements with the financial indicators (working ratio, operating ratio, rate of return on net fixed assets and debt service coverage ratio )are shown in Table 12-7, 12-8 (with subsidy only).

# Table 12-7 Projected Financial Statements and Indicators (Iloilo)

(1) Cash Flow Stalements Tear		13 - 18834 - 18915 - 18854 - Year
Cisk Inflow Operating Bereaus Port Charge #/5 Incose Mon-traditional Jacone ICTSI	1.332.748 1.449.41 1.747.01 [.883.33 2.139.67 1.305.13 2.135.14 2.331.53 2.748.34 2.748.34 2.748.45 2.748.35 2.748.34 2.748.45 2.748.35 2.	(2).44 70.768.5( - 27.860.76 - 27.167.767 Cols Toffor 127.5 19.508.5 22.160.48 23.568.18 Operations trease 127.6 9.568.13 10.479.77 11.034.17 Port Charge 128.44 3.518.41 3.561.12 3.764.13 A/S Tocose 128.35 1.399.07 1.556.73 1.444.38 Mon-traditional Incose 128.35 1.399.07 1.556.73 1.444.38 Mon-traditional Incose
Other Fued Xeaugement Income Other Munipeternt Income	141.11 141.00 -4.12 -4.12 -4.15 51 5.15 1.15 1.55 141 15.15	52.47 5.005.01 0.105.00 1.00.0 0.00 0.04 0.04 0.05 55.55 55.55 955.84 1.364.08 Fued Mangeacet Income 0.00 0.60 0.00 0.00 0.04 0.04 0.04 faosferent Income
Poreign Laun (ncrept) Diher Incose Acct, Rec'hie Beg.	137.65 333.53 \$\$2.39 175.32 222.55 255.77 272.53 200.00 1.00 0.00 0.00 0.00 0.00 0.00 0.	0,00 0.00 0.00 0.00 Foreign Coan (accept) Olber Income Not an 1 as 1 16 5.337.33 2.335.44 Accet. Rec'hie Beg.
Accl. Rec ble End Cash Dolfion		707,43 1,651,16 1,357,32 2,356.44 Arci, Zerbie Beg. 131,15 1,557,32 2,136.64 2,299.65 Arci, Zerbie End 19,13 12,097,10 13,704.71 14,814.88 Cash Guillau
Operating Expenses Personel Gost Repair & Neistemance Other ADA. costs Dreding Cost	515.45 187.47 1850.35 586.68 1.016.83 1.105.14 1.127.48 1.127 1.5 1.272.48 1.127 1.5 1.272.17 1.555.05 1.127.49 1.211.47 2.055.42 2.222.77 2.401.52 2.327.47 2.401.52 5.001.24 3.191.12 5.595.66 2.249.78 6.6249.78 6.6249.78 6.6249.78 6.6249.78 6.6249.78 6.6249.78 6.782.49 2.051.24 3.191.12 5.591.14 6.504.49 2.510.51 1.125.51 1.	101.28 121.181.58 13.316.31 14 543.40 >perills Lepister. 181.88 6.133.85 13.787.85 8.277.35 Dersont Coxi 101.88 0.135.00.25 10.25 Reput a Baialesance 121.18 3.437.43 3.783.17 4.103.77 Other AU. coxis 121.18 3.437.44 02 .001.04 2.274.44 Dredance Coxis
bob üpezeling fapenses Interest om FAX toan Other Expenses	408.73 388.38 288.70 308.24 302.88 290.58 281.03 244.27 243.11 218.49 195.05 175.46 158.12 140.35 124.49 210.22 25.53 81.47 89.53 59.15 68.65 37.85 28.44 18.57 13.84 12.15 5.65 6.56 4.07 2.46 1.62 1.52 0.85 408.73 388.98 286.20 308.28 107.48 230.58 281.03 284.27 243.11 218.49 195.05 173.66 158.12 140.35 124.49 10.22 93.53 81.47 89.59 55.15 68.64 37.85 25.44 18.97 15.64 12.15 9.85 6.64 4.07 2.46 1.52 1.12 0.85	0.55 0.44 0.24 0.05 Fon Operating Expenses 0.85 0.44 0.24 0.05 Interest on FM ton Other Expenses
Infen Project 1953	401.83 1,079.35 1,509.75 1,309.64 476.70 799.19 587.95 465.00 243.00 35.09 5.00 100.00	172.00 Infes Project JVST
Farelen Loss(Repayment) Olher Espenditure		3,58 3,60 3,35 0,34 foreign konstrepent) 0,60 0,00 0,00 0,00 0,00 Other Expenditure
acct. Payble Beg. Acct. Payble Tod	117, 15 927, 00 204, 52 236, 01 225, 33 152, 03 191, 33 181, 11 178, 82 167, 37 157, 15 185, 50 187, 35 181, 13 205, 58 222, 28 240, 15 189, 76 281, 52 305, 12 331, 01 355, 41 400, 56 424, 56 444, 462, 56 454, 56 4	223.55 1,110.23 1.215.83 1.331.63 Acet. Pay bis Beg. 10.23 1,215.83 1,331.65 1.475.60 Acet. Pay bis Ead
filence of the Year	199.16 -101.19 -106.01 -106.01 -106.01 -106.01 -101.13 -312.66 - 03.14 - 332.56 - 336.59 1,105.16 1,105.16 1,201.31 2,315.14 3,206.36 3,306.16 3,306.16 3,305.16 3,306.17 3,706.16 3,306.17 3,706.16 3,306.17 3,706.16 3,306.17 3,706.16 3,306.17 3,706.16 3,306.17 3,706.16 3,306.17 3,706.16 3,306.17 3,706.16 3,306.16 3,70	03.51 6(651.51 9(7)5.43 9.852.19 Ballance of the fear
(2) Balance Sheet Tear	{#111:,411111100 Fe3005] 1930 1951 1953 1953 1953 1955 1955 1955 1955	13 2026 2028 Year
Correat Assets Cosh & Temp. Investment Accounts Receivable Rote Receivable Other Correat Assets	41,42 [25.77 [48,53 [52,43 [75,20 ]96,46 21],48 229.17 244,41 259.21 230,18 315,35 338,75 341,74 305,41 540,40 540	11.37 103.387.37 115.487.28 123.482.28 Current Assets 38.73 102.740.04 113.395.35 123.357.72 Cash Bres, Investment 31.68 1.551.32 2.136.64 2.399.83 Accounts Receivable 85.03 195.03 195.03 195.03 Other Current Assets
Flied Assests Land Construction in Propress	2, 485, 68 1, 145, 68 1, 145, 68 1, 145, 68 1, 145, 68 1, 145, 68 1, 145, 68 1, 145, 68 1, 145, 68 1, 145, 65 2, 145, 60 1, 145, 66 1, 145, 145, 145, 145, 145, 145, 145, 1	104.12 3.305.12 3.305.12 3.478.13 Fixed Assests 135.05 2.495.06 2.455.05 2.495.06 Land 23.47 5.51 41.07 200.10 Construction in Projects
Depreciatie Assels LeastAcces, Depreciation	8,347,33 8,353.33 9,053,23 10,053,25 10,053,25 10,053,25 11,001,55 11,152,05 12,1515,1515	\$\$.24 15.513.54 15.605.51 15.613.81 Depreciable Ariets 137.66 LossiAccous Reprovantion 147.15 1.175.15 1.375.61 1.1476.31 Other Assets
Other Assess	1,232.41 1,176.11 1,1	97.14 210.314.64 120.328.42 13G.516.80 TOTAL ASSITS
Correat Llabilities Accounts Paymble Other Correat Paymble	377, QP 201, 52 314, QT 215, 53 131, 03 131, 53 141, 14 175, 42 147, 52 137, 17 145, 56 131, 13 263, 13 265, 12 331, 61 355, 41 460, 56 424, 58 455, 45 505, 57 518, 45 155, 21 145, 19 177, 57 848, 91 927, 45 1, 023, 55 1, 11	142,42 1,348,08 1,453,88 1,507,39 Current Linbilitzs 180,29 1,285,88 1,392,53 1,475,50 Accounts Payadic 132,13 132,13 132,13 132,13 132,19 Other Current Payable
Loug-Lers IIsbility 10741 LIABILITE	(.515.52 (.561.63 5.167.63 5.167.63 5.558.15 5.434.36 5.355.67 5.465.06 5.375.68 6.465.24 6.076.63 3.312.07 3.325.28 2.586.25 7.346	7.90 4.30 0.94 0.00 Losg-Leen Lieblisty 150.32 1.357.39 1.454.82 1.807.89 7018L Lieblisty
-		
Networth Capital Contribution Appraisal Sappius		292.43 3,292.42 3,292.42 3,292.42 Capitus Contribution 155.29 1,455.29 1,455.29 1,455.28 Appraisal Sapping
Surplus Reserve Contingent Surplus Retninge Engulass	5.27 5.27 5.27 5.27 5.27 5.27 5.27 5.27	5.27 5.27 5.27 5.27 5.27 Sarplus Reserve 18.05 55.05 58.03 58.05 Contingent Sarplus 185.79 t04,165.10 114,003.57 124,017.78 Retained Exemings
TOTAL LIABLANT and RETRORTS	213 11. 921. 49 11. 492.73 12. 914. 15 12. 914. 15 12. 914. 15 12. 91.03 14. 523. 35 14. 523. 31 15. 31 15. 31 15. 31 15. 59 12. 50. 15 10. 10	37.14 110,374.51 \$20,323.42 330.516.60 TOTAL ELIBILITY and METHORER
(3) toraze and Expense Account Tear		1 2024 2025 2024 Yest
(Doperating Tevenec Oport Charges Gares. Blev. Income @Bon-traditional Income ON I C T	1, 342, 56 1, 60, 37 1, 601, 61 1, 126, 62 1, 126, 62 1, 127, 64 1, 136, 65 1, 127, 164 1, 125, 164 1,	171.15 19.9(3.47 27.119.44 25.148.13 ODperating Screense 191.46 2.148.13 10.(23.47 11.03.17 Chort Charges 191.46 3.151.41 3.101.12 3.704.13 Optra./Star. lacone 191.54 1.151.61 3.101.12 3.704.13 Optra-traditional lacone 191.54 1.213.07 1.554.23 1.646.13 Optra-traditional lacone 192.54 6.00.09 6.705.46 7.103.25 Opt J.C 1
Oberating Expresses OPersonsel Services	110.49 (197.27 f. 199.1.58 (197.15) (198.15) (197.15) (19	101.25 12,158.92 13.316.91 14.586.00 @Dperating Espenses 181.65 6,133.65 7,479.65 8.227.83 @Personnel Services 20.25 20.25 20.25 0.25
ØRepubes 2 Anintenauce Golder Adup. Cost Øbredging Eupenses	100 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	121.78 3.492.41 3.183.17 4.103.17 @Diber Adae. Cosl 178.53 1.815.40 2.031.04 2.234.14 GDreedsing Expresses 0.00 0.00 5.00 0.00 @Depresiation Cost
GDepreciation Cost Diet Operating Income		574.85 7.381.90 8.873.58 8.980.19 @Wet Operating Income
Bother Incone and Charge Gived Hanngenent farcan	-1329.04 -317.32 -287.16 -366.68 -307.10 -253.12 -280.16 -462.83 -240.22 -213.20 -185.48 -132.42 -165.19 -78.39 -32.18 -41.51 8.35 33.15 63.46 100.35 138.70 177.17 214.30 255.74 284.89 331.88 375.34 475.59 576.52 389.19 748.28 413.51 133.61 135.61 135.63 135.64 -4.22 -2.55 0.81 1.45 2.48 5.49 13.51 17.25 25.49 35.16 (5.89 53.76 76.02 55.76 128.53 143.65 176.35 138.76 128.59 133.85 266.03 257.63 343.65 135.53 430.66 478.33 520.16 590.32 719.13 81	189.23 893.31 888.29 1.084.03 GOULER Income and Charge 19.87 893.85 988.04 1.064.08 Grand Manageman Income
Sless Olber Tipenses Slalerest of Lozas OknortDeferres Charge	152.85 472.72 285.70 408.48 302.68 280.70 408.48 302.68 280.58 281.03 284.27 215.11 218.69 155.05 175.65 158.12 110.22 15.55 31.47 85.59 39.15 48.68 39.85 15.44 18.57 15.84 12.75 9.45 8.54 4.07 2.48 1.52 1.32 0.85 160.13 154.14 25.59 305.28 305.28 200.58 281.03 284.27 215.11 218.69 155.05 175.65 158.12 110.22 15.55 31.47 85.59 39.15 48.68 39.85 15.44 18.57 15.84 12.75 9.45 8.54 4.07 2.48 1.52 175.65 158.12 110.22 15.25 11.21 0.85 175.65 158.12 110.22 15.25 11.21 0.85	0.85 0.44 0.24 0.05 Gitess Other Expenses 0.85 0.44 0.24 0.05 Gitess Otheress of loss ØAuortDeferred Charge @Others
BOLMETS Glet [ucose(Lous)	5. 28 5. 51 424. 68 159. 26 552. 68 519. 20 330. 57 548. 31 581. 82 525. 26 579. 72 740. 82 1. 088. 39 1. 172. 69 1. 159. 55 1. 420. 48 1. 933. 51 2. 023. 25 2. 128. 94 2. 235. 58 2. 3(0.25 3. 0.92. 70 2. 3, 472. 39 3. 604. 1.9 4. 655. 32 4. 819. 66 5. 600. 41 5. 172. 24 5. 333. 18 6. 843. 44 7. 084. 35 1. 202. 53 8. 402. 53 8. 402. 53 8. 402. 53 8. 402. 53 8. 402. 53 8. 402. 54 8. 540. 54 5. 500. 41 5.	
(4) financial indicators	1950 [98] [98] [98] 1932 1533 1594 1935 [988 1353 [533 1939 8005 2005 2005 2005 2005 2005 2005 2005	3 2024 2023 2028 Texa
Jesr Yorking Pallo(%)	11 11 11 11 11 11 11 11 11 11 11 11 11	55.252 60.482 65.014 61.59% Vorting Astic(%)
Operating Secto(%)	36, 547 51, 515 51, 545 41, 64, 64, 64, 64, 64, 64, 64, 64, 64, 64	59,282 60,883 60.012 61.855 Operating Katlo(3) 30,693 233,393 268,403 238,193 Rate of Selurn on Met Fixed Axsets
Rete of Return on Ret Fixed Ass Debt Service Coverage Rotio	Ted Assets al. 254 June 1. 124 June 1. 124 June 1. 121 J. 61 J. 55 J. 59 J. 17 J. 55 J. 56 C. 57 A. 12 J. 48 JJ. 48 JJ. 48 JJ. 48 JJ. 61 JJ. 49 JJ. 57 (5.10 JJ. 77 J. 55 J4J. 44 J4	08.37 3.834.35 2.460.07 9.032.93 Debi Secrifee Coverage Ballo On the PDA Financial Plan 1967-1995
	,我们就是你们的你们,你们就是你们的你?""你们,你们就是你们的你们,你们们还是你们的你们,你们就是你们的你们,你们就是你们的你们,你们们不是你们的你们,你们不能	

## Table 12-8 Projected Financial Statements (Bacolod)

() Cash Plan	1980	- <b>D</b> 2				-  0A15	: <u>Militon</u>	Peasal																														
ives and Euflow Operating Percenne	8.00 0.00	0.00	0.00	0.00	1994 5 12.3 9 0.6	11 DI	.84 .60	10.48	1.0	- 110 - 11.11	101	1000 9.10	1001	1002	2003	1004		<b>-11.8</b>	11.11	11.15	13.61	-i-117.00	1811	11,95	2013	1011	1015	13.01	15.01	11 00-	3013	1010	2021	1011	1013	1011	1025	2028 Year 13.29 Cash Inllow
ort Charge on-tradillanal laroue ther	0.00 0.00	0.00 0.00	0.00 8.00 0.60	0.00	> 0.0	00 Q	.00	0.00 0.00 0.00	8.24 8.24 0.00	8.68 8.58 9.09	9.15 9.11 0.00	5.52 3,52 9,00	10.05 10.05 0.00	10.61 10.51 0.00	11.18 11.14 0.00	11.59 11.59 0.00	11.87	12.33	12.86 12.86 0.00	12.85 12.43 0.00	12.13 12.13 0.00	12.95 12.95 0.00	12,95 12,95 0,00	12.98	12.98 12.98 0.00	12.98 12.18 0.00	12.93 11.38 0.00	82.98 32.98 90.0	12.98	12.93	12.98	12.98	12.98 12.98 0.00	12.98 12.99 0.00	12.98 12.98 0.00	12.95 17.98 0.00	12.98	13.25 Creration Revenue 13.38 Operation Revenue 13.38 Fort Charge 0.00 Non-traditional Income
end Annagenent, Incone they Annagenent Incone	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.0 0.0	00 00 00 0	.01 .00	0.11 0.00	-0.18 0.00	0.05	-0.04 0.00	-0.03 0.01	-0.93 0.03	-0.05	-0.08	-0.08 00.0	-0.08 0.00	-0.01 60.0	-0.07 0.00	-0.05 0.00	-0.05	-0.05 0.00	-0.01	-0.03	-0.02	0.09	0.01 0.00	0.03	0.01	0.05	0.06	0.10	0.13 0.00	0.18	0.21	0.34	0.27	Other 0.30 Jund Hunayesent Encore 0.00 Other Managesent Incore
elgn Loap (secept) er Jacone 1. Rec'ble Neg.	0.60 0.60	0.00 0.90	0.00	0.00	1.3 5.9 0.0		. 68 . 93 . 00	30.37 0.00		·.					· .						+ .							:										Foreign Lotn (accept) Other Income
i, Rec'ble fad	0.00	0.00	0.00	0.00		00 0 05 110	.00	0.00 ·	0.00	0.41 0.84	0.84 0.78	0.18	0.84	0.94 1.00	1.00	1.06	1.11	1.13 1.15	1.19	1.24	1.26	1.11	1.25	1.19	1.39	1.30 1.30	1.30 1.70	1.30 1.30	1.10	1.30	1.30	1.30	1.10	1.30 1.30	1.30	1.30 1.30	1.30	1.30 Acct. Bec'ble Beg. 1.30 Acct. Bec'ble End
eraling Espenses ersganet Cost eptir & Maintegance	0.00 0.00 0.00	0.00 0.08 0.00	0.00 0.00 0.00	0.00		10 e.	00	0.00	1.11 3.09 0.82	8,41 1,18 0,87	\$.\$1 3.23 0.92	8,82 3,28 0,95	11.24 3.35 1.01	11.39 3.45 1.06	11.26	12.12 3.55 1.16	11.95 3.64 1.19	1.23	12-10 3.20 1.29	\$1.18 3.38 1.28	31.7T 3.75 1.27	11.75 3.80 1.30	11.62 3.80 1.30	11.49 3.80 1.30	11.35 3.80 1.30	3.80	11.09 3.80 1.30	10,85 3,80 1,10	10.83 3.80 1.30	10.69 3.80	10.56 3.80 1.30	10.43 1.89 2.30	10.30 3.80 1.30	10.18 3.60 1.30	10.06 3.80 1.30	9.16 3.80 1.30	9.55 3.60 1.30	1.97 Cash Cutflow 3.80 Operating Expresses 1.30 Personnel Cost
lber ADS. colls redlag Cost	0.00	0.00	0.00 0.00	0.00	0.0	30 0,	.00 .00	0.00	1.65 0.41 0.90	1.85 0.43 0.00	1.15 0.44 0.00	8.85 0.48 0.00	1.85 0.50 0.00	1.85 0.53 0.00	1.85 0.56 0.00	1.83 0.58 0.00	1.85 0.59 0.00	1.85 0.82 0.00	1.85 0.84 0.00	1.85 0.64 0.00	1.#5 0.64 9.00	1.#5 0.65 0,00	5 85 0.65 0.00	1.85 0.85 0.00	1.85 0.85 0.00	1.85 0.65 0.00	1.85 0.55 0.00	1.45 0.65 0.00	1.55 0.65 0.00	1.85 0.65 0.00	1.85 0.55 0.09	1.85 0.65 0.00	1.53 0.65 0.00	1.85 0.63 0.00	1.85 0.65 0.00	1.85 0.45 0.00	1.65	1.85 Sepair 5 Balatenance 0.65 Other ADR. costa
n Geerating Expenses aterest on FEN Long ther Expenses	9.00 5.00	0.00 0.00	0.00	0.00 0.00	0.0 0.1		26 35	3.51	5.29 5.19	5.19 5.29	5.11 5.21	5,29	5.28 5.23	3.13 \$.13	4.92 4.92	4.11 6.11	4.50	4.29	4.08	3.87 3.87	3.65	3.44	3.23	3.02	2.81	2.10	2.39	2.17	1.96	1.75	5.54	1.33	1.12	0.91	0.63 0.63	0.48 0,48	0.27	0.00 Oreding Cost 0.03 Non Operating Expenses 0.07 Interest on FRM Loss
ira fraject 1457	0.00	0.00	d.00	0.00	12.2	142.	.63	30.31	0.00	8.00	0.00	0.00	0.00					0.00					6.00						0.00					0.00		0.10		Other Expenses 0.95 Jafra Project JYST
elsa Loon(Repsyment) er Espenditure v	0.00 0.00 0.03	0.00	0.00 0.00 0.00	0.00		io 0.	00	0.00	0.00	0.00 0.00	0.00 0.00 0.00	0.25	2.61	3.82	3.82	3.82	3.82 0.00	3.52	3.42	3.82 0.49	3.82	3.42	3.82	3.82	3.82 0.92	3.82	3.82	3.82	3.82	3.62	3.82 1.40	3.82	5,82 1.46	3.82	3.82	3.35	3.51	1.26 Foreign forn(Kepnynent) 1.98 Other Expenditure
rt. Pay'ble Beg. rt. Pay'ble End	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00	0.00	0.0	0 1.	.00 .23	0.00	0.00 3.04	0.31	0.32	0.00	0.00 0.53	0.00	0.00 0.34	0.00	0.00 0.35	0.38	0.42 0.37	0.19	0.33	0.69 0.38	0.11 0.18	0.84 0.38	0.38 0.38	1.00 0.38	1.08 0.38	1.16 0.38	1,24 0.38	1.32 0.38	1.10 0,38	1.48 0.18	1.55 9.38	1.65	17.1 0.38	1.42	1.91	0.38 Jan 0.38 Acci. Pay ble Beg.
ince of the Year	0.00	0.00	0.00	0.00				1.91 -11(61	• 0.31 -1.47	-0.06	0.32	9.33	-1.78	16.0 	0.35 -1.37	0.36	0.38	0.37	0.38	0.38	0.38	0.38	['7\$ 9'28	0.38 	1.61	Q.38	0.38	6'39 - 1'0f	0.38	0.33	0.18	0.18	0.38 	0.38	0.31 	0.38 	0.35	0.48 Acct. Pay'ble Sed
Salance Sheet Tear	103	1991	1115	1883	1493	[[]]];	<u>2111108</u>	Pesos)	1197		·		······		· · · ·				····		-										2.30							3,32 GAIINCE GI LGE [41]
real Ariels sh & Teap. Investment	0.00	0.00	0.03 0.80	0.03	·	<u>а р</u> .	93	-0.71	-1.19	-3.62	-1.01	-2.35	-3.55	-5.39	-6.51	-7.11	-1.51	-1.05	-6.31	-5.55	• 8.65	-1.47	-2.14	-0.61	0.94	2014	4.61	8.81 18.8	8.88	016 7 11.21	13.13	18.39	1021	2022	1911	2024	1075	1016 Fear 17.60 Current Annets
annis Becelvable 2 Tecelvable 24 Cereeni Assets	6.00 0.00 0.00	9.60 9.00	0.00	0.00	9.0	0 0.	.00	-0.13 0.00	-4.20 0.41	. ~4.36 0.81	-3.80 0.10	-).11 0.25	-8,49 0,90	-6.39	-T.52 1.04	-8.28	-8.47 1.15	-8.15	-7.60	-8.81 1.25	-5.12 1.27	4.75	-3.43 1.29	-1.17	-0.35	1.4) 1.30	3.12 1.30	5.37 1.30	1.10	1.53 1.30	12,44	15.69	11.90 1.30	20.88	24.02	27.38 L-30	10.38	36.30 Cash & Teep. Investment 1.30 Accounts Receivable Note Receivable
d Assesta	0.08	0.20 0.00	0.00 0.00	0.00	12.2	5	11	182.42	178.69	114.97	171.24	157.51	163.79	160.07	156.34	157.62	148.89	115.17	માન	117.72	133.99	130.27	128.54	122.52	115.09	115.37	111.64	107.92	184.19	109.47	16.70	93.02	85.75	85.57	81.54	78.12	14.33	Giber Current Assets 71.40 Fixed Assets
struction in Progress recipble Assets ss:sccup, Depreciption	0.00 6.00 0.00	0.00 0.00 0.02	0.00 0.00 0.00	0.00 0.00 0.00	12.2 0.0	а J.	63	136.37 49.11	55.46 90.02	\$6.82 118.65	(5.11 138.70	32.74	22.92 152.35	15.04	11.23	7.46	5.39 113,97					0.92		0.45	0.32 185.15	0.32 185.25	0.15 183.32	0.13 145.33	0.08 135.40	0.05 185.42	0.04	0.03	0.02	0.01	0.01 155.11	0.01	0.00	Land 0.95 Construction in Progress 185.47 Deprectable Assets
Assels	0.00	9.00	0.00	0.00	0.0		00 . 03	3,88 0,68	6.74 0.00	10.51 8.80	0.05	17.96 9.03	\$1.58 0.05	25.43 0.00	39.13 . 0.00	32.85 Q.60	36.58 0.00	40.31 0.09	64.03 0.00	47.76	51.48 0.00	55.21 6.00	58.93 0.00	62.56 0.00	85.38 0.04	70.11 0.00	73.83 0.03	77.51 0.00	81.38 0.60	85.03 0.00	88.73 0.00	92,4E 0.CO	36.18 0.00	33.91	103.83 0.90	0.00	0.02	118.83 Lesu:Accus. Depreclasic 0.00 Other Assets
assers at Liabilities	0.09 0.00	0.00 0.00	0.60	0.00	13.3	1 10.	04	181.65 3.06	171.90	111.34	153.23	145.11	159.24	154.69	149.38	16.6	HL97.	198.11		112.17				122.15		118.67			113.07	111,70	112.45	109.41		107.75	107.16	105.10	106.57	109.20 TOTAL ASSETS
ovels Payable er Cerrent-Parable	0.90 9.00	0.00 0.00	0.00	0.00	1.1	i ii.	28	3.04	0.31	0.32 0.32	0.32	0.33 9.33	0.36	0,34	0.35	0.35	0.35	0.37	0.33	0.33	0.11	0.38 0.38	5.15 0.38	0.38	0.38 0.38	0.38 0.31	0.38 0.38	9.38 0.38	0.38 0.38	0.38 0.38	0.38 0.38	0.38 0.35	9.38 0.38	0.38	0.38 0.38	0.35	0.38	0.48 Current Liabilities 0.48 Accessis Payable Other Current Payable
-tern Lisbilliy	0.00	0.00	0.09	0.00			-	95.51	83.57	95.57	\$5.57	95.32	92.72	88.90	85.08	81.25	11.44	13.62	69.80		62.35	38.14	\$6.32	\$3.20	18.88	43.08	33.24		31.60	27.78	23.96	20.11	16.37	12.50	8.68	4.83	1.25	0.00 Long-ters Lizbility
L CAABILITI Yortk	0.00 0.00	¢.09 6.00	. 9.60 0.60	0.00	) 7.5 ) 5.5	6 19. 5 83.		98.86 83.07	93.85 72.02	95.69 75.65	15.10	95.65 69.52	93.03 67.19	88.26 85.44	85.43 54.35	#1.6L 63.84	71.89 61.17	73.39 64.12	70.11 F4.90		42.53 65.81	50.73 60.08	\$1.50 69.50	51.08 71.07	47.26 12.78	43.46 74.64	39.62 18.64	35.80 78.79		28.16 83.56	24.34 46.34	20,52 85.83	18.30 81.80	12.88 94.87	9.08 98.11	5.21	1.64 105.01	0.47 TOTAL LIABILITY 103.72 Bet Vertb
itzz Costribution	0.00	0.00	0.00	0.00	0.0																	÷ .															· · · ·	Capital Contribution
pralani Supplus spita Bearrue ntingent Supplus	0.00 0.00 0.00	0.00 0.00 0.00	0.49 0.49 0.60	0.00	) 0.0 ) 5.9	0 0. 5 81.		0.00 0.00 89.90	\$5.90	82.90	89.30	81.10	69.90	85.30	49.99	63.90	85.20	89.90	89.50			89.90	83.90	88.90		87.90		89,90			89.90	89,90	89.90	\$3.30	89.50	85.93	89.90	Appralsat Sappiss Sarpius Reserve 89.90 Contingent Sarpies
talard Fernings 1 134611.117 und St7 VORTH	0.00 0.00	0.00 0.00	0.00	0.90 0.90				-8,83 181.68	-10.88 174.90	-16.65 178.34	-17.55	-20.38 155.27	-22.71 160.24	-24.46 154.6B	149.78	-26.07 145.45	-26.13	-25.58 198.11	-25.00 135.08			-21,83 125,80		-18.83				-11.11 114.59	-8.81 113.07	-6.36 111.70	-3.75	-1.01 103.43	1.88	6.87 107.75	8.20 107.18	31.59 106.10	15.14	18.82 Recalmed Vernings 103.20 Votal Liddillist and WET Vo
·····	9.60	6.00	0.00	0.00	0.0	÷ 0.	63	0.63	6.00	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.60	0.65	0.00	0.00	0.05	0.00	0.09	9.00	6.00	6.00	0.00	0.00	0.03	0.00	0.00	9.60	0.00	0.50	0.00	0.00	0.00	9.00
iscose and Ispesse Access			•			{Peit:	2111100	Pesos }							2003	2004	2665		1887 7							2051 2	als 7	3132	11 <del>7 ··· · 3</del>	n:x		07a		2819			-	
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nt Chirges n-traditional Income	0.00	0.50 9.60	0.00 6.00	0.00	. 0.0	ġ Q.	00	0.80 0.65	8.24 0.00	8.68 0.00	0.00	9.52 5.69	10.06	10.61	0,00	11.39 0.00 1.32	1).87 0.00	0.00	87.86 6.00	12.83	12.73	12.98	12.98	12.98 0.00 1.53	12.93	9.00	12.98 9.00 7.33	12.58 0.00 7.53	12.92	0.00	0.00	12.98	12.98 0.00 7.53	9.00	92.98 0.00	12.98 0.00 7.53	12.98	12.98 Gfort (bergen 0.60 @fan-traditions) Incone
ersting Expenses ersonnel Services egules & Rajotenance	0.00 0.00 0.00	0.00 0.00 0.00	02.6 03.0 00.0	8.93 8.93 8.93	0.0 0.0	o 0. 0 0.	00	1.68 0.60 0.60	0.82	0.87	0.92	9.55	1.01	1.06	1.12	1.15	1.19 1.85 0.39	1.13	1.49	1.25	1.17	1.30	1.30	1.10	1.30	1.30	2.30	6.30 6.85 0.65	1.30 1.85 0.65	1.30 1.85 0.55	1.30	1.10 1.15 0.65	1.19	1.39	1.30 1.85	1.10	7.33 1.30 1.85	7.55 DOperatizg Expenses 1.30 OPersonnel Services 1.85 ORepairs & Maintenance
ither Adum. Cost Iredging Espenses Ispreclatica Cost	9.09 9.09 9.00	0.00 0.00 0.00	0.00	0.00 0.00 0.00	0.0 0.0	D 0.	00 00 00	0.09 0.09 3.65	0.41 0.03 3.13	0.43 0.00 3.73	0.46 0.00 3.73	0.46 0.00 3.73	0.50 9.00 3.73	0.53 0.00 1.73	0.00	0.0D 3.73	0.00	0.62 0.00 1.73	0.64 0.00 3.73	0.00	0.64 0.00 3.73	0.65	0.65 0.10 3.73	0.65 0.00 3.73	Q.65 C.CO J.73	0.00	0.00	0.60 3.73	0.00	6.00 3.73	0.09 3.73	0.00	0.00	0.45 0.00 3.73	0.65 0.00 3.73	0.65 0.00 3.73	0.65 0.00 3.71	0.65 Olther Idan, Cost 0.00 Obredging Expenses 1.75 Obeprecietion Cost
Uperating Income	0.60	8.00	0.00	0.00	9.0	o 0.	60	-3.95	1.47	1.80	2.10	2.51	2.91	3.44	3.91	4.28	4.31	4.90	5.35	5.33	3.24	5.65	5.46	5.46	5.66	5.46	5.18	5.44	5.45	5.48	5.16	5.65	5.46	\$.16	5.45	5.65	5.46	5.44 @¥et Operating income
ther Income and Charge and Basagearnt Bacane lass Other Expenses	0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.60 0.00	) Q.G	9 -0, 9 0, 9 0,	35 01	-3.62 0.12 3.54	-5.47 -0.18	-5.37 -0.08 5.29 5.29	-\$.33 -0.04 \$.29 \$.29	-3.32	-5.30 -0.03 5.28 5.28	-5,19 -0,03 5,11 5,13	-5.00 -6.08 6.92 4.92	-4.75 -0.08 4.71 4.71	-1.55 -0.08 4.50	-6.36 -0.01 6.23 6.23	-4.15 -0.01 4.08		-0.05	-1.19 -0.05	-3.21	-3.03	-2.82 -0.62 2.81 2.81	-1.60	-1.37 0.01 2.39 2.39	-2.15 0.03 2.11	-1.52 0.01 1.95	~1.63 0.0F 1.25	-1.45 0.05 1.34	-1.22 0.10 1.33 1.33	-0.11 0.13 1.12	-0.72 0.18 0.91 0.91	-0.18 0.21	0.24 0.24 0.18	0.03	9.73 GOther farone und Churge 9.30 Gived Annagement larone
Interest of Lozas AmpetDeferred Charge	0.00 9.00 0.00	0.00	04.0 00.0	0.00 0.00	0.0 0.0	0 0.	36	3.56	-9.18 5.23 5.29	5.29	5.19	-0.03 5.19 5.29	5.22	5.13	4.92	1.11	4.50	4.23	1.08	3.67	3.65	3.41 3.41	-0.04 3.23 3.23	-0.03 3.02 3.02	1.81	0.04 2.43 2.43	1.39	1.17	1.56	1.75	1.54	1.33	1.11	0.91	0.69 6.59	0.11	9.17 0.21	0.07 Pless Other Espeases 0.07 Olaterest of Louis OAmortDeferred Charge MOthers
Dthers L Incone(Loss)	0.00 0.00 0.00	6.00 6.50 6.10	0.00 0.05	0.00 0.03		0 - Č.	35	-8.45	-4:03	-3.57 0.00 -3.51	·3.13 0.00 -3.13	-2.81	-2.33	-1.15	-1.0\$	-0.51 0.00	-0.57 8.03	0.54 0.19 0.35	1.21 6.12	1.40	1.53	1.95	7.15 0.17	2.41 0.44	2.63	2.86	3.08 1.98	3.31 1.15	3.54 3.21	3.77	4.00 1.40	4.23	4.47 1.35	6.73 1.66	4.97 1.14 3.23	5.71 1.42	5.45 1.91	5.67 @Xet incone(Loss) 1.98 @Flux 3.68 Wel Income after fax
cose siler far	0.00	0.00	0.05 9.00	0.00	0.0	0 0. 0 0.	32	-5.13	-4.05	-3.51	-3.13	-2.31	-2.33	~1.75	-1.09	-9.55	-9.61	0.33	0.78	16-0	D.99	1.18	1.42	1.57	1.71	1.86	3.00	2.13	1.30	2.45	2.60	1.15	2.90	3.08	3.23	3,33	3.55	3.58 Hel Jacobe after fax
inancial Endicators		1491	1992	1393	-1224	1435		56		1598	1995	1999				2004	· .	1.1			¢09 3		2011		2013			29.296		29.295	013 2 YC 210		29.291		2023			2026 Tear
ing Batlo(\$) uting Batlo(\$)	¥.4. #.4.	¥.1. ¥.1.	F.A. F.A.	ж.а. В.А.	¥.A.	К.А. К.А.			37.528	36.361	35.268	34,493 13.623	33.411 10.465	32.483 67.583	31.521 64.991	31.001 63.135	30.828 82.00%	30.045 69.25%			25.581	"29.29% 57.\$7%	29.29% 57.97%	29,19% 57,97%							57.971	29.23X 57.91X		29.295 57.975	13.295 57.975	29.291 57.975	29.29% 57.97%	28.25% Working Ratio(%) 58.14% Operating Ratio(%)
ating satists) of Telurn on Set Fixed Assets		J.A.	¥.4.	¥.J.	0.0			-1.682	0.801	1.031	1.293	1,503	1.615	2.158	2.50%	2.805	1.031	3.311	3.781		3.913	4.395	4.313	4.442	1.583	1.735	4.613	3.661		5.428		5.838	6.115	6.383	6.611	6.933	7.331	7.59% Rate of Return on Mel Fined
Serrice Coverage Batio	¥.4,	¥.ż.	1.1.	I.A.	<u></u>	0.	00	0.00	0.91	1.01	1.12	1,13	~ 0.15	0.80	0.87	0.96	0.19	1.05	1.15	1.11	1.20	1.11	1.10	1.14	1.39	1.43	1.4	1.53	1.59 Soc	1.65 rce:Céles	lated by t	1.78	1.86 (00) Tean 3	1.94 based on ti	2.03 be \$PA fissa	2,12 Tat Plue 14	2.39	6.91 Bebl Service Coverage Ballo

(1) Iloilo

a. Profitability

The rate of return on net fixed assets is less often than the average interest rate of the funds (5.61%) until 1994 but after 1995 it exceeds the average interest rate.

b. Loan repayment capacity

The debt service coverage ratios exceed i throughout the project life. There will be no problem with the repayments of the long-term loans using the annual operating revenues.

c. Operational Efficiency

Both the operating ratios and the working ratios maintain favorable levels.

(2) Bacolod (with subsidy case)

e de la companya de l

a. Profitability

The rate of return on net fixed assets is less than the average interest rate of the funds (5.53%) until 2019 but after 2020 it exceeds the average interest rate.

b. Loan repayment capacity

The debt service coverage ratios exceed 1 throughout the project life except 1997 and from 2001 through 2005. There will be no problem with the repayments of the long-term loans using the annual operating revenues.

c. Operational efficiency

Both the operating ratios and the working ratios maintain favorable levels.

#### E, Conclusion and Remaining Issues

24. Judging from the above analyses, and assuming that the prerequisites used for the calculation are realized these projects both of Iloilo and Bacolod can be regarded as financially feasible. However, there are some factors to be taken carefully in terms of institutional aspects.

25. In the financial analysis both lloilo and Bacolod, it is assumed that a fee against vehecle are charged instead of the charge against cargo. The reason is not only that the existing port charges are not sufficient enough to cover the cost of the new installation, but that the existing fare structure does not meet the requirement of facilities and services of Ro/Ro transport. With these points in mind, the study team suggested that the new fare scheme to encourage Ro/Ro transport be adopted for both the port management bodies and stevedore/arrastre firms.

As has been mentioned, the project in Iloilo port will be conducted by 26. the PPA (and PMO-Iloilo). Since it is the government agency, it is qualified to obtain loans from foreign or international public lending agencies. On the other hand, in case of port of Bacolod, there might be a possibility that the private firm which is operating the Banago Pier will implement the project. In general terms, private firms may not be qualified to obtain direct public loans. If this is the case, in the financial market situation of Philippines with limited fund resources and hiked interest, the implementation of the project will be jeopard-However, there are examples in the country that private firms have a ized. loan from foreign or international lending agencies through the government. It is therefore recommended that in view of the importance of the Ro/Ro project of the link, the government makes the arrangement of a public fund being available for the implementing private firm.

[Reference]

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I. PPA Financial Plan 1987-1995, PPA

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