Philippines

"Feeder Ports Program"

Project Summary

Borrower	Government of Republic of the Philippines
Executing Agency	Department of Transportation and Communications (DOTC)
Exchange of Notes	December 1987
Date of Loan Agreement	January 1988
Final Disbursement Date	October 1997
Loan Amount	¥2,090 million
Loan Disbursed Amount	¥2,046 million
Procurement Conditions	General Untied (Partial untied for consultanting portion)
Loan Conditions	Interest Rate: 3.0% Repayment Period: 30 years (10 years for grace period)

<Reference>

(1) Currency: Peso

(2) Exchange Rate: (IFS annual average market rate)

Year		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Rate	Peso/US$	20.57	21.10	21.74	24.31	24.48	25.51	27.12	26.42	25.71	26.22	29.47	40.89
	Yen/US$	144.6	128.2	138.0	144.8	134.7	126.7	111.2	102.2	94.1	108.8	121.0	130.9
	Peso/Yen	7.03	6.07	6.35	5.96	5.50	4.96	4.10	3.87	3.66	4.15	4.11	3.20
CPI*		71.8	78.1	87.6	100.0	118.7	129.3	139.1	151.7	164.0	177.8	186.8	207.8

* 1990 = 100

(3) Rate at the time of appraisal: 1 peso = ¥7.0 (May 1987)

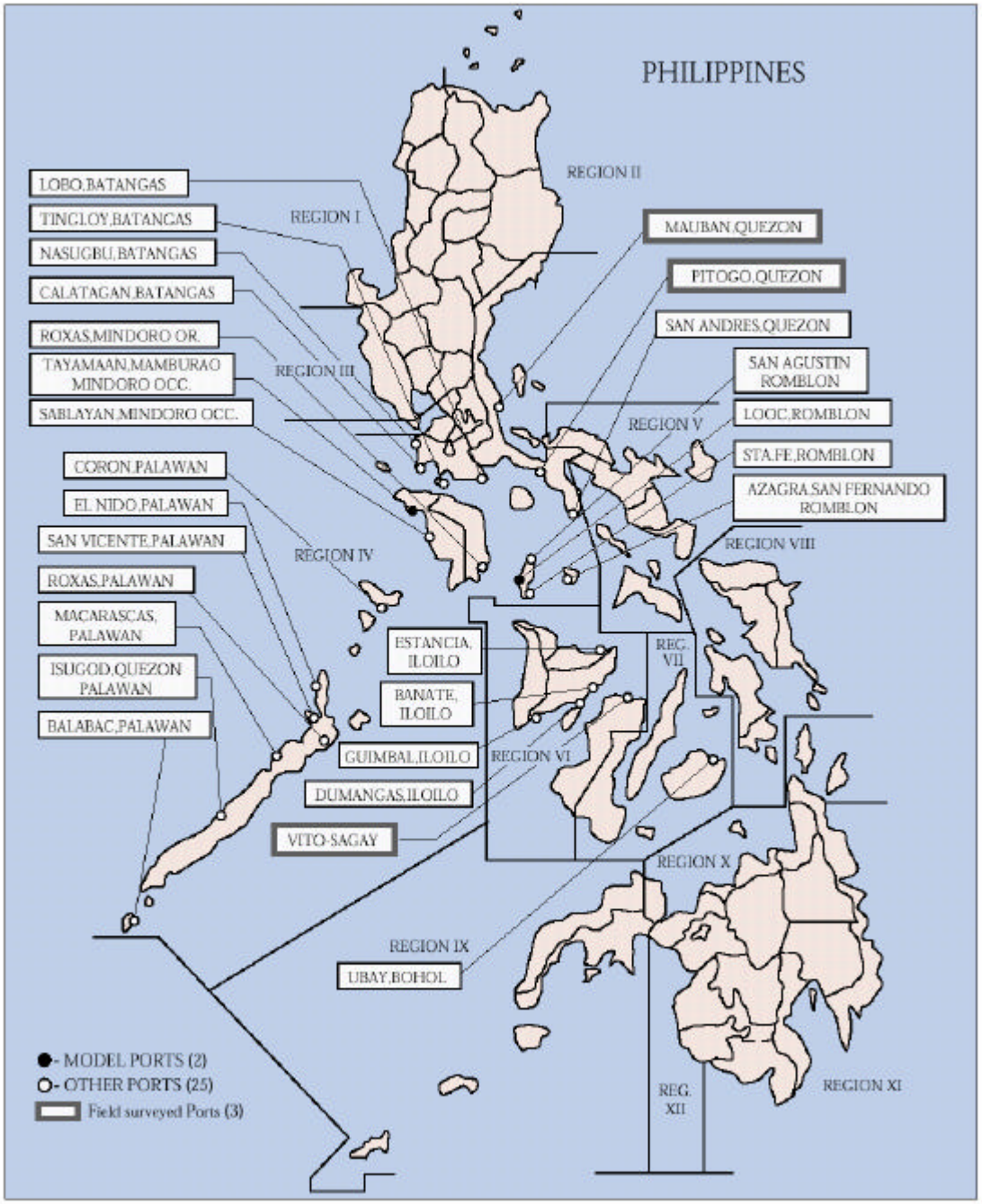
(4) Fiscal Year: January ~ December

(5) Abbreviations:

ADB	Asian Development Bank
DENR	Department of Environment and Natural Resources
DOTC	Department of Transport and Communications
DPWH	Department of Public Works and Highways
KfW	Kreditanstalt für Wienderaufbau
LGU	Local Government Unit
NEDA	National Economic Development Agency
NFPDP	Nationwide Feeder Port Development Program
PMO	Project Management Office
PPA	Philippines Port Authority
USAID	U.S. Agency for International Development

1. Project Summary and Comparison of Original Plan and Actual

1.1 Project Location



1.2 Project Summary and ODA Loan Portion

By systematically enhancing the infrastructure of existing small-scale ports (feeder ports) in Regions IV, VI, and VII (Bohol Island only) (refer to section 1.1 Project Location) of the Republic of the Philippines, this project aims to improve access to central provincial cities from remote areas that largely depend on water transport for daily transportation, and thereby to raise the living standards and the industrial foundation of these regions. The project scope as of appraisal consists of (1) the construction of 25 ports, (2) the procurement of construction equipment, surveying and monitoring equipment, etc., and (3) consulting services (Construction supervision of 25 ports of (1) above, detailed design of 50 ports including the ports of (1), and procurement of equipment related to (1) and (2)). The ODA loan covers the entire foreign currency portion and part of the local currency portion of the project costs.

1.3 Background (at the time of appraisal)

1.3.1 Positioning of Project in Relation to Port Development

At the time of the appraisal stage of this project (1986), the Philippines had 622 public ports (936 ports including private ports), including 19 first-class ports, 75 second-class ports, and the remaining 528 ports (including ports unfit for use) feeder ports (so-called third-class ports). Whereas first-class and second-class ports are used for foreign trade and domestic shipping, feeder ports play an extremely important role for regional transportation and shipping between islands and in areas without a developed road network. However, the facilities of these feeder ports are insufficient. Many of these ports are left in a state of disrepair, and many other do not have piers for boats to berth. Some areas are so remote that residents have to travel between one and several days one way to avail themselves of public services such as medical care and education. Aware of the necessity of improving this situation, the Department of Public Works and Highways (DPWH) started a study titled "Nationwide Feeder Ports Development Program" from 1982[1], but the administration changed without any progress made in the infrastructure of ports. The Aquino administration born in 1986 defined a policy emphasizing regional development in its "Medium-Term Development Plan (1987 to 1992)", and this plan was implemented based on this policy.

The DPWH classed the 150 target ports for which the plan was to be implemented by region and requested funding assistance for 50 ports each to the Japanese government, the Asian Development Bank (ADB), and the World Bank[2]. Regarding the 3 zones for which the DPWH made a funding assistance request, Regions IV, VI, and VII (Bohol Island only) were assigned to JBIC, Regions VII,

1 From 1984 to 1986, a JICA expert participated in study for the selection of ports for this project.

2 Since the World Bank did not approve assistance for the 50 ports its assistance was requested for, this assistance was requested to USAID, which financed the infrastructure enhancement for 22 ports. Regarding the ADB, feeder ports were removed from the list of required projects due to the need for emergency aid during the Mount Pinatubo eruption in 1991. Infrastructure enhancement for 5 ports was also performed by KfW.

IX, X, XI, and XII were assigned to ADB, and Regions I, II, III, V, and VIII were assigned to the World Bank. For the zone assigned to JBIC, since the period from the ODA loan request to the commencement of the project was relatively short, regions with a high degree of urgency were selected. The term "this project" as used hereunder refers to the portion of the project assigned to JBIC.

In its "New Medium-Term Development Plan (1993 to 1998)", the government of the Philippines pursued its focus on enhancing the nation's feeder port infrastructure, and via ODA loans for "Social Reform Related Feeder Ports Development Project" (agreement signed in January 1997), the Japanese government has been participating in the enhancement of the infrastructure of feeder ports in poor regions.

1.3.2 History

1982		Start of investigation on "Nationwide Feeder Ports Improvement Program" by DPWH
1986	October	Request of ODA loan on this Project by the Philippine government
1987	May	Appraisal by JBIC
1988	January	Loan agreement signing
1995	April	Extension of final disbursement period (extension of 2 years and 6 months: from 20th April 1995 to 16th October 1997)
1996	February	Implementation of SAPI for the project
1997	January	Loan Agreement signing of the following project "Social Reform Related Feeder Ports Development Project"
1997	October	Final disbursement date
1998	February	Completion of construction

1.4 Comparison of Original Plan and Actual Result

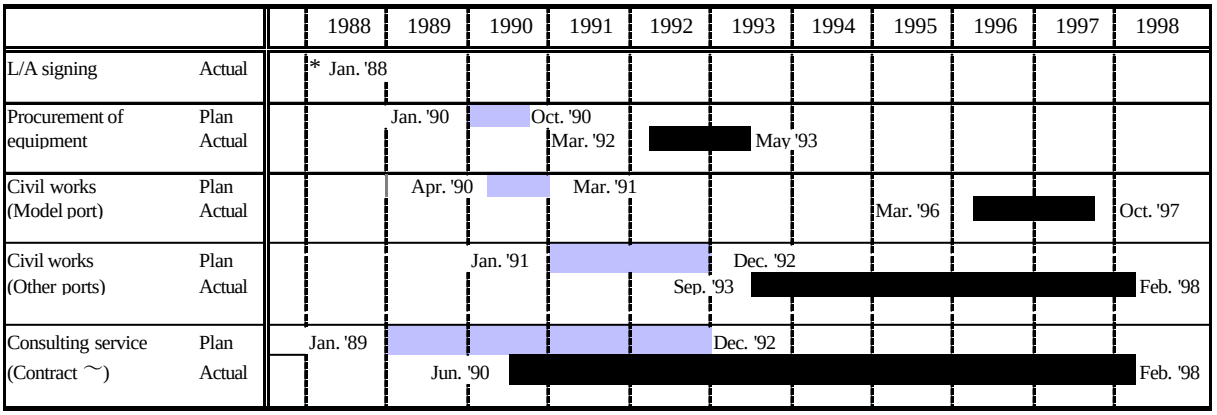
① Project Scope

	Plan (at the time of appraisal)	Actual	Difference
1) Port construction (civil works)	Total 25 ports	Total 27 ports	+2 ports
Model port	2 ports	2 ports	—
Other ports	23 ports	25 ports	+2 ports
2) Procurement of construction equipment and materials			
①Construction barge	3		
②Tugboat[2)]	1		
③Surveying instrument	13	Same as left	—
④Echo sounder	4		
⑤Rubber fender[3)]	204		
⑥Under water camera	2		
3) Consulting service	264M/M	554M/M	+290M/M
①Preparation of master plan/detailed design	50 ports	61 ports	+11 ports
②Supervision assistance of procurement and construction	25 ports	27 ports	+2 ports

Source: JBIC materials at the time of appraisal and DOTC materials

(Notes): 1) Barge: Cargo boat without a propulsion engine. In this case, barges are used to carry construction equipment and materials.
2) Tug boat: Boat used to pull or push other vessels. In this case, tug boats are used to move barges.
3) Fender: Attached to berthing facilities to weaken the impact when ships come along the berth.

② Implementation Schedule



(Source) JBIC materials at the time of appraisal and DOTC materials

③ Project Cost

(Unit: ¥ million, the figures in the parenthesis are million peso)

	Plan (at the time of appraisal)				Actual				Difference			
	Foreign currency		Local currency		Foreign currency		Local currency		Foreign currency		Local currency	
	Total amount	Loan amount	Total amount	Loan amount	Total amount	Loan amount	Total amount	Loan amount	Total amount	Loan amount	Total amount	Loan amount
Procurement of equipment	676	676	237 (34)	—	704	704	(59)	—	+28	+28	(+25)	—
Civil works	468	468	443 (63)	443 (63)	551	551	(152)	493 (119)	+83	+83	(+89)	+50 (+56)
Consulting service	266	266	66 (10)	66 (10)	214	214	(23)	84 (21)	-52	-52	(+13)	+18 (+11)
Contingency	104	104	78 (11)	67 (9)					-104	-104	(-11)	-67 (-9)
Total	1,514	1,514	824 (118)	576 (82)	1,469	1,469	(234)	577 (140)	-156	-156	(+116)	+1 (+58)
Loan amount	2,090				2,046				-44			
Portion borne by government	248				361				+113			
Total	2,338				2,407				+69			

Source: JBIC materials at the time of appraisal and DOTC materials

[Exchange rate] At the time of appraisal 1 peso = ¥7.0

Actual 1 peso = ¥4.0 (rate at the time of loan disbursement)

2. Analysis and Evaluation

2.1 Evaluation on Project Implementation

2.1.1 Project Scope

Fifty ports were selected by the DPWH for infrastructure enhancement in this project, and as the result of taking into consideration of the implementation schedule and project costs at the time of appraisal, detailed design targeted the same 50 ports, but the number of ports where actual infrastructure construction would be performed was lowered to 25. The 25 ports with the highest priority were selected from the list of 50 ports, but it was assumed, based on an agreement during the appraisal stage, that the group of port would not be strictly fixed to the 25 ports initially selected, and that ports could be flexibly substituted, deleted, or added, as needed. The reasons for this flexible arrangement were (1) it would be necessary to perform adjustments after the planning stage with local officials in each region, and (2) since the estimate of project costs was done using a comparatively simple method, there was the possibility that actual project costs may slightly differ, and the greatest possible number of ports should be made to fit within the budget. As a result, detailed design was performed for 61 ports, and constructions were performed for 27 out of these 61 ports.

(1) Selection of ports

As previously described, out of the master list of 150 ports selected by the DPWH for its "Nationwide Feeder Ports Improvement Plan", the 50 ports selected for this project belonged to regions IV, VI, and VII (Bohol Island only). At the time of the appraisal, consultants were to perform detailed design for these 50 ports, but due to the addition of a "review" of these 50 ports to the consultant TOR and reselection of ports for the master list, a total of 104 ports were selected. The policy of the DPWH regarding the 50 candidate ports at the time of the appraisal was to prepare this list to secure a development budget from the National Economic Development Authority (NEDA), and after securing this budget, to perform a selection based on careful study of the ports.

The main criteria in the initial selection (50 ports) consisted of the remoteness of the ports (water transport only, paved status of access roads, nearest major ports, main roads, distance to city). For the reselection (104 ports), economic indices (income per capita, population, size of local government, volume of water transport), frequency of use of existing ports, and various other factors were added to enable a more detailed selection. The consultants selected 61 ports[3] by order of priority from this list of 104 ports, and then selected 27 ports for infrastructure enhancement.

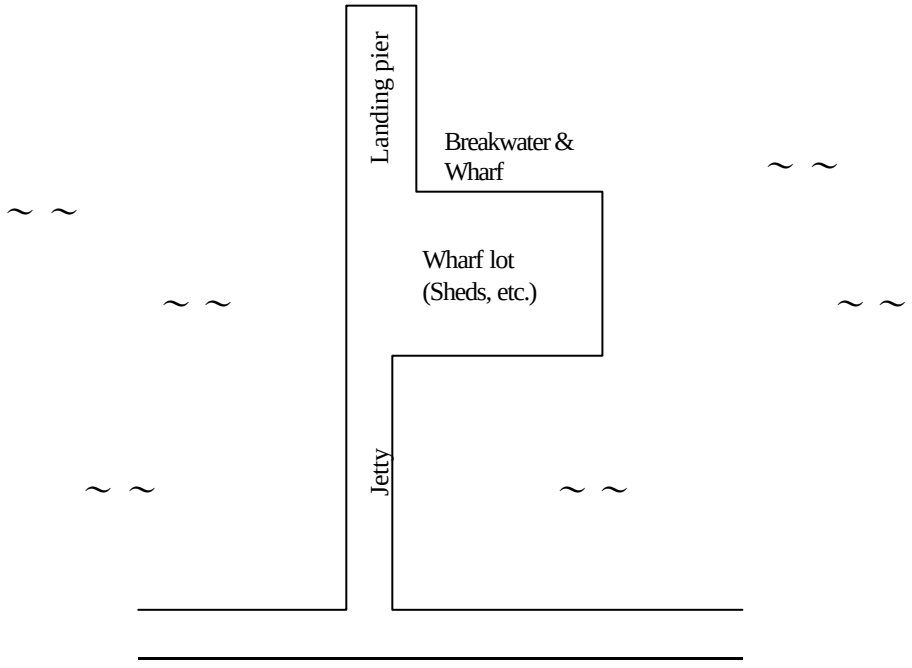
[3] The reason for the increase in the number of ports selected for detailed design was that 10 of the ports were judged to be unqualified for construction during detailed design, and consequently an additional 10 ports had to be added. Out of the 61 ports for which detailed design was performed, the 34 ports that were rejected for infrastructure enhancements later became candidates for the "Social Reform Related Feeder Ports Development Project", and out of these 34 ports, the 12 ports with the highest priority were selected.

(Refer to section 1.1 Project Location). As a result, large changes occurred with regard to the group of selected ports. For example, out of the 25 ports for which constructions was initially planned at the time of appraisal, only 11 ports received actual constructions [4]. These changes have been envisioned from the beginning of appraisal due to the nature of the project, and a stricter selection can be said to represent a process in keeping with the purpose of this project.

(2) Construction of ports

Construction for 27 ports, including 2 model ports, were performed in this project. It was judged that constructions for the 2 model ports should be done prior to those for the other ports, and thus detailed design was already completed at the time of appraisal. One company was contracted for each one of the two model ports, and another company was contracted for the remaining 25 ports, thus a total of 3 companies were contracted for the project. Figure 2-1 shows a conceptual diagram of the port facilities that were constructed, and while piers are either present or absent and their size differs depending on the port, all the ports have roughly the same comparatively simple structure.

Figure 2-1 Conceptual Diagram of Feeder Ports



[4] The reasons why some ports, though selected for construction at the time of appraisal, actually did not receive constructions were, among others, that (1) water transport volume was low and demand insufficient, (2) the geology and topography of the ports made them unfit for constructions, and (3) good ports were discovered nearby which could serve as alternative ports.

(3) Equipment procurement

Since the project cost for each port was small, the project covered a large area, and moreover further constructions would follow in the future, the DPWH, which was the executing agency of the project, procured and owned all the construction equipment and surveying and monitoring equipment, lending it to the contractors and consultants.

(4) Consulting services

During the appraisal, the scope of consulting services was divided into two parts, (1) preparation of a master plan (long-term development plan) and detailed design for each of the 50 ports, and (2) supervision assistance of procurement and construction of 25 ports. The results consisted of the reselection of the master list, in addition. Although foreigner M/M decreased, the total M/M count more than doubled, from 264 M/M to 554 M/M (Table 2-1). This increase was mainly due to the extension of the implementation schedule (described in the following section).

Table 2-1 Consulting Services

Item	Plan (at the time of appraisal)	Actual	Difference
Total M/M	264 M/M	554 M/M	+290 M/M
Foreigners	74 M/M	16 M/M	-58 M/M
Filipinos	190 M/M	538 M/M	+ 348 M/M

(Source) Appraisal materials, DOTC materials

2.1.2 Implementation Schedule

At the time of appraisal, an implementation schedule of 5 years was planned, from the conclusion of the loan agreement to completion of constructions. This period was set somewhat on the long side considering the fact that the various targeted ports are distributed across a large geographical area and the fact that transportation and communication facilities at each site are poor.

However, the actual implementation of the project took 10 years and 1 month, a delay of about 5 years. The loan disbursement period was 7 years, but was extended by 2 years and 6 months in April 1995. Thus it lasted until October 1997.

The main reasons for the extension of the overall implementation schedule were (1) delays in the selection of consultants (from signing of L/A to contract), and (2) delays in civil works. While 12 months had been predicted for the selection of consultants, it actually took 30 months. This delay was due, among others, to the facts that (1) the TOR for consulting services had to be resubmitted, (2) invitations has to be resubmitted, and (3) evaluation results had to be verified. Regarding civil works, it was decided in the plan during the appraisal stage that construction work would start first on the two model ports. Since the remaining 23 ports were covered by a single contract, it was decided that construction work would be done for 3 ports at a time, with the construction period for

each port lasting 4 months. Construction for these 23 ports was divided into two parts, with 11 ports scheduled for the first year, and 12 ports for the second year. However, construction start for the 2 model ports was delayed in part due to the necessity of performing two retenders. Also, the implementation schedule for the remaining 25 ports extended beyond the initially planned period of 2 years by 30 months, taking 4 years and a half. Although the 2 model ports should have been completed prior to the other ports, it wound up in the end being completed in the same period as the other ports. The delay in the completion of the other 25 ports was due to (1) the obtainment of construction permits from the Department of Environment and Natural Resources (DENR) taking a long time, (2) the temporary interruption of construction work due to typhoon damage, worsening condition of access roads, and repair work of damaged locations, and (3) due to the fact that 25 ports were being constructed in remote areas under a single contract, moving equipment and materials was difficult, the cash flow of civil engineering contractors became a constraining factor, and smooth construction start preparations were difficult. Although (2) could not be avoided, a number of measures should have been taken, including obtaining construction permits more in advance for (1), splitting the contract into several lots by region and increasing the amount of equipment[5] and materials for (3)[6].

2.1.3 Project Cost

Of the 2.338 billion yen overall cost of the project, the ODA loan was fixed by contract to a maximum of 2.09 billion yen (covering the entire foreign currency portion and part of the local currency portion). Actually, the overall project cost 2.47 billion yen and the ODA loan disbursement amount was 2.046 billion yen. Thus the overall project cost exceeded the expected amount by 69 million yen, the ODA loan was 44 million yen lower than planned, and the cost borne by the government of the Philippines increased by 113 million yen.

Broken down by category, total civil works increased by 248 million yen (approx. 27%), due to price escalation caused by the prolongation of the implementation schedule, and due to port repair work following the completion of construction, made necessary by natural damages such as those occasioned by typhoons. With regard to consulting services, the increase in the M/M count caused an increase in the local currency portion of 24 million pesos, while on the other hand the foreign currency portion decreased by 52 million yen, resulting in an overall reduction of 26 million.

A look at the construction cost of individual ports shows that they averaged approximately 40 million yen. While there were considerable differences among the various regions, with the most expensive construction project costing 91 million yen and the least expensive one costing 36 million yen, overall the amounts involved were small.

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5 Only one tug boat capable of moving 3 construction barges was procured, but according to the executing agency, it became impossible to move barges due to the lack of tug boats, which resulted in construction delays.

6 In the subsequent "Social Reform Related Feeder Ports Development Project", the total of 35 ports were divided into 5 packages.

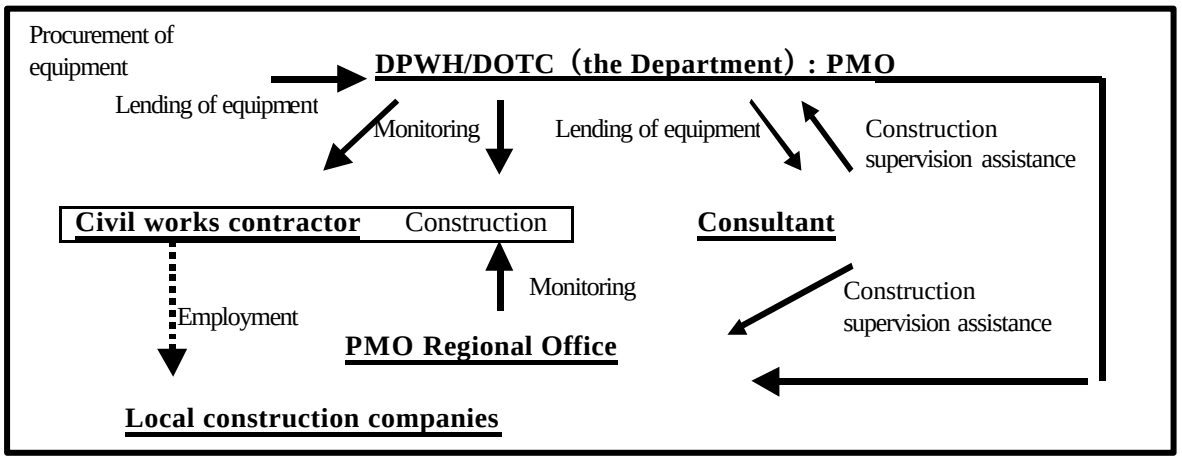
2.1.4 Implementation Scheme

Figure 2-2 shows the project implementation scheme. The executing agency was the Department of Public Works and Highways (DPWH), and the Project Management Office (PMO) established for this project implemented port construction work on a service contract basis. The DPWH-PMO itself procured, owned, and lent the construction equipment and surveying and monitoring equipment to the contractors and consultants. Construction supervision was performed by the DPWH-PMO through regional offices, with the consultants providing assistance.

(1) Executing Agency

At the time of appraisal, the executing agency was the DPWH, but the system was revised to concentrate responsibility for transport-related work to the Department of Transport and Communications (DOTC), and from August 1991, the PMO, which has been implementing this project, became placed under the DOTC. However, there were no particular problems regarding the organization within the PMO, as there were no changes in personnel, etc.

Figure 2-2 Implementation Scheme



(2) Consultant

Regarding the consultants, Filipino consultants were selected based on an LDC untied using the short list method. According to the executing agency, consulting services were largely satisfactory.

(3) Contractor

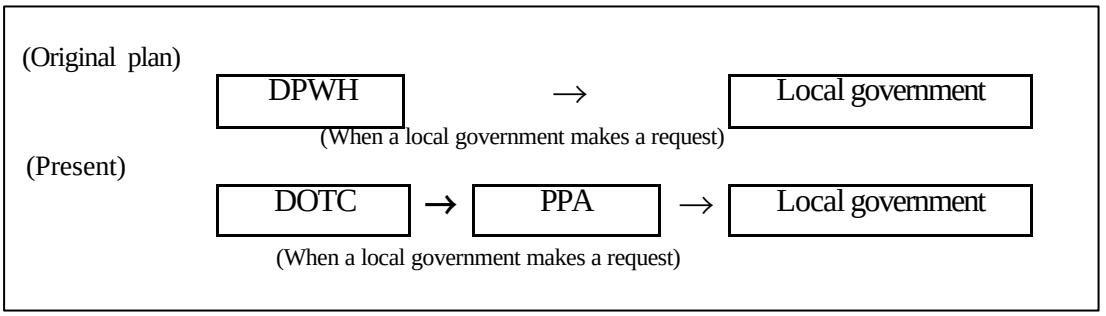
The construction at the 27 ports was divided into 3 packages, and through an international competitive tender including pre-qualifications (P/Q), three Filipino contractors were selected. (The three packages into which the 27 ports were divided consisted of a package for each of the two model ports, and one package for the remaining 25 ports.) According to the executing agency, while all three companies performed satisfactorily, the company in charge of the 25 ports experienced various problems such as construction preparations for the 25 ports, which are scattered in remote areas, taking time, and construction equipment and worker shortages due to simultaneous construction at various ports. These difficulties were compounded by natural disasters, which resulted in a 30-month delay in the implementation schedule. According to the executing agency, rather than being caused by the lack of expertise of the contractors, grouping the 25 ports into a single package was probably unreasonable in itself.

2.2 Evaluation on Operations and Maintenance

2.2.1 Operations and Maintenance Scheme

The operations and maintenance scheme is not yet sufficiently established. During the planning stage, it was planned that responsibilities related to operation and maintenance would be transferred from the DPWH, which is the executing agency, to the local governments, but when the executing agency changed, the procedure for the transfer of operation and maintenance was also changed. While construction is the responsibility of the DOTC, which is the new executing agency, ownership is transferred to the Philippine Ports Authority (PPA) following completion of construction, and the PPA is in charge of operation and maintenance. Furthermore, according to PPA Administrative Order No. 02-98 issued on August 5, 1998, operation and maintenance duties for feeder ports not included in the PPA Port System (comprising medium-scale and large ports, numbering 115 as of July 1999) can be transferred from the PPA to local governments is so requested by them (refer to Figure 2-3). According to this administrative order, if operation and maintenance is transferred to a local government that has so requested, that local government has all responsibilities and port usage fee collection rights related to operation and maintenance, but ownership of the port remains to the PPA, and the local government must pay 10% of collected port charges to the PPA.

Figure 2.3 Transfer Method of Operations and Maintenance



At the time of the field survey (in August 1998), ownership of all ports involved in this project has been transferred to the PPA, but since this occurred prior to the date on which the above-mentioned administrative order took effect, operation and maintenance duties were not transferred to the local governments. One year later, in November 1999, when JBIC reconfirmed with the DOTC and PPA about the operation and maintenance scheme for this project, out of the 27 ports, local governments had requested to have operation and maintenance duties for only 3 ports transferred to them, and official procedures between the PPA and the local governments in question were in progress. Therefore, as of November 1999, the PPA had responsibility for the operation and maintenance of all 27 ports per the system in place. However, in actual terms, feeder ports outside the jurisdiction of the PPA Port System are located in remote areas, and they handle only small amounts of cargo and small numbers of passengers. There are too few personnel and funds to allocate in the operation of PPA, and except for 5[7] of the ports covered in this project, the PPA is not in fact performing actual maintenance. Therefore, it does not collect port usage fees for these ports, and at present there is no budget system in place for operation and maintenance for the ports in this project.

Although there are more than 500 feeder ports in the Philippines, at present, one year after the above-mentioned administrative order went into effect, requests for the transfer of operation and maintenance duties to local governments has been received only for 14 ports. According to the DOTC, local governments do not have the budgets necessary for large-scale repairs of port facilities and lack the skills[8] required for maintenance and port usage fee collection. They are hesitant about requesting the transfer of operation and maintenance. On the other hand, operation and maintenance of feeder ports by the PPA is difficult in realistic terms, and thus the PPA is promoting the transfer of these responsibilities to local governments. According to the PPA, above-mentioned administrative order is still not well known by local governments is the reason behind the small

[7] Of the 27 ports covered by this project, 5 (El Nido, Coron, Estancia, Dumangas, and Ubay) are part of the PPA Port System.

[8] Regarding the level of operation and maintenance skills of local governments, local government employees in charge of such tasks are to receive training at local port offices of the PPA as part of the procedure for the transfer of operation and maintenance duties from the PPA to local governments. Incidentally, part of the consulting services in the "Regional Reform Related Feeder Ports Development Project" funded by the following ODA loan includes technical assistance for strengthening the operation and maintenance scheme.

number of transfer requests, and the PPA states that it wants to stimulate the dissemination of information via local port offices of the PPA.

However, this does not mean that the ports covered by this project are not being maintained. As later described, while system-wise, operation and maintenance duties have not been transferred to local governments, local governments are actively tackling various measures to make these ports more convenient to use, such as the painting of jetties and the installation of hand rails. This attempt to perform port operation and maintenance to the greatest possible extent on the part of local governments represents their ownership to the ports, and amply indicates that local governments are capable of acting as the main parties in the operation and maintenance of ports.

Since the ports covered by this project are small in scale and have a relatively simple structure, daily maintenance is simple. Moreover, at present, the facilities at all the ports are new and large-scale repairs are not required. However, the necessity of large-scale repairs, such as in the case of large-scale natural damages like typhoon damages, must be included as part of planning. Considering maintenance from a long-term perspective, it is necessary to clearly define the actual locus of responsibility for operation and maintenance, and thus measures including a revision of the system by the DOTC and PPA are desirable[9].

Based on the above, a concrete suggestion for such an operation and maintenance scheme would be for the PPA, which owns the port facilities, to be responsible for large-scale repairs for recovery of calamities, expansion of port facilities, etc., while local governments would be responsible for small-scale maintenance and repairs, thus dividing responsibilities between the body owning port facilities and the body performing operation and maintenance, clarifying the respective responsibilities of each while taking into consideration their financial situation.

2.2.2 Utility / Operations and Maintenance

Table 2-2 lists data about cargo volume and number of passengers handled at the 27 ports covered by this project, as collected by consultants during detailed design (in 1990) and upon completion of the project (in 1997). According to this data, many ports greatly increased the amount of cargo and the number of passengers they handle, with the average value of cargo volume handled by all 27 ports rising 47%, and the average number of passengers jumping 324%, in other words almost quadrupling. Thus, the ports covered by this project are being used extremely well. A field survey (in August 1998) further gathered more detailed information about individual ports, enabling confirmation of the current status of 3 ports[10].

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9 Currently, the DOTC and PPA are engaged in discussions regarding this matter and formulating measures.

10 Due to survey limitations, only 3 ports that the JBIC had not inspected until then were surveyed during a period of 3 days.

Table 2-2 Cargo Volume and Number of Passengers Handled at 27 Ports Covered by Project (Comparison of Data during Detailed Design and Project Completion)

Port Name	State	Cargo Volume (MT)			Number of Passengers		
		1990	1997	Change	1990	1997	Change
1 Calatagan	Batangas	5,606	7,525	+34%	1,600	6,000	+275%
2 Lobo	Batangas	5,749	9,042	+57%	6,400	6,622	+3%
3 Nasugbu	Batangas	3,835	3,732	-3%	29,600	300,000	+914%
4 Tingloy	Batangas	129	195	+51%	9,000	16,000	+78%
5 Ubay	Bohol	4,004	5,081	+27%	115,984	200,000	+72%
6 Banate	Iloilo	10,321	14,404	+40%	25,200	120,000	+376%
7 Dumangas	Iloilo	9,166	11,124	+21%	n.a.	n.a.	n.a.
8 Estancia	Iloilo	3,507	4,327	+23%	46,820	156,000	+233%
9 Guimbal	Iloilo	3,801	4,299	+13%	100,800	133,218	+32%
10 Tayamaan, Mamburao	Mindoro Occidental	16,771	21,858	+30%	30,100	40,444	+34%
11 Sablayan	Mindoro Occidental	19,999	26,161	+31%	48,000	80,000	+67%
12 Roxas	Mindoro Oriental	8,862	17,481	+97%	6,240	23,000	+269%
13 Vito Sagay	Negros Occidental	1,230	1,741	+42%	36,300	64,000	+76%
14 Balabac	Palawan	2,185	4,084	+87%	4,128	24,000	+481%
15 Coron	Palawan	22,799	37,057	+63%	16,560	80,000	+383%
16 El Nido	Palawan	10,126	24,366	+141%	17,360	48,600	+180%
17 Macarascas	Palawan	1,640	3,260	+99%	n.a.	n.a.	n.a.
18 Roxas	Palawan	8,862	17,481	+97%	6,240	23,000	+269%
19 San Vicente	Palawan	3,115	5,641	+81%	2,688	14,400	+436%
20 Mauban	Quezon	19,988	24,336	+22%	60,000	79,886	+33%
21 Pitogo	Quezon	5,700	7,481	+31%	6,000	90,000	+1400%
22 San Andres	Quezon	3,430	6,657	+94%	10,000	195,000	+1850%
23 Isugod, Quezon	Palawan	3,199	3,695	+16%	n.a.	n.a.	n.a.
24 Looc	Romblon	1,122	1,244	+11%	18,240	23,222	+27%
25 Azagra, San Fernando	Romblon	17,601	21,289	+21%	46,560	100,000	+115%
26 San Agustin	Romblon	10,581	12,779	+21%	38,400	66,800	+74%
27 Sta. Fe	Romblon	1,889	2,385	+26%	28,800	60,000	+108%
Average		7,601	11,064	+47%	29,626	81,258	+324%

(Source): DOTC materials

(Note): Shaded parts are locally surveyed ports.

(1) Surveyed ports

There were 3 locally surveyed ports as of the field suvey in August 1998, Pitogo Port, Mauban Port, and Vito Sagay Port. (See Table 2-3.)

Pitogo Port is located in the city of Pitogo, population of about 15,000 persons in the south-western part of Quezon State, about six hours by car from Manila. The quasi-majority of the population of Pitogo depends on small-scale fishing for its livelihood. The existing 30-meter jetty of Pitogo Port

was extended to 40 meters in this project.

Mauban Port is located in the city of Mauban, population of about 80,000 persons, in the north-eastern part of Quezon state, about 5 hours by car from Manila. About 30% of the working population of the city is engaged in fishing, rice cropping, or commerce respectively. The existing 50-meter jetty of the port was extended to 70 meters, and a landing pier was newly constructed in this project.

Vito Sagay Port is located in Vito Village, which is itself part of Sagay City, in the northern part of the Negros Occidental State. The majority of Sagay city's population derives its livelihood from the sugarcane industry. Under this project, a 100-meter jetty was newly built.

Table 2-3 Outline of 3 Locally Surveyed Ports

Port Name (Local Government)	Population	Construction Cost (1,000 pesos)	Construction Completion	Size	Construction Contents
Pitogo Port (Pitogo City)	15,000	5,252	July 1995	Small-scale	1. Jetty extension: 40 m 2. Jetty concrete surface: 280 m^2 3. Step breakwaters: 4
Mauban Port (Mauban City)	80,000	15,159	December 1996	Large-scale	1. Jetty extension: 70 m 2. New landing pier construction: 24 m 3. Installed fenders: 8 4. Installed mooring posts: 6 5. Jetty concrete surface: 280 m^2 6. Step breakwater: 1 7. Repair of existing jetty (due to typhoon damage)
Vito Sagay Port (SagayCity)	130,000	13,022	March 1995	Large-scale	1. Reclaimed land area: 2,350 m^2 2. New jetty construction: 100 m 3. Step breakwater: 3-m width, 4 4. Bulkheads: 1,741 m 5. Concrete surface of jetty, etc.: 3,000 m^2

(Source): Interviews at the time of local survey (August 1998), DOTC materials

(2) Utilization Status

Table 2-4 shows the utilization status of the locally surveyed ports.

Table 2-4 Utilization Status of 3 Locally Surveyed Ports (as of August 1998)

Item	Pitogo	Mauban	Vito Sagay
No. of boats/day	Bunker boats(Note): 20 Fishing boats: 30	n.a.	Bunker boats & fishing boats: Approx. 200 Passenger ferries: 5/week
Handled cargo volume (t)/day	15-25	n.a.	6
Cargo types	IN: fish, agricultural products OUT: Daily goods, foods	IN: fish, agricultural products OUT: Daily goods, foods	IN: fish, agricultural products OUT: Daily goods, foods
Major destination	Marinduque Island, Unisan City	Polilio Island	Bantaya Island, Molo Cambo Island, Don Island, Escalante City's fishing villages

(Source) LGU and DOTC materials, local survey (August 1998)
(Note): Bunker boat = Typical small boat of the Philippines consisting of a dugout canoe with bamboo floats.

Regarding Pitogo Port, Pitogo City had a rather small population of about 15,000 and since fishermen set out on fishing expeditions for an extended period to the north-east of Quezon State from May to October, almost no fishing boats used Pitogo Port at the time of the survey. Moreover, the survey was conducted during the low tide in the daytime, and it appeared that the port was being little used. Particularly, the water depth is only 0.5 meter during the low tide, and even small 3-tonne boats could not use the jetty. Furthermore, while there are access roads that lead from Pitogo Port to main roads, a stretch of 4 km from Pitogo Port is not paved and some parts are indeed difficult to travel[11]. However, as shown in Table 2-4, the amount of cargo handled in one day is between 15 and 25 tons, and between October and April, the port is being fully used by commercial fishing boats.

The survey of Mauban Port, which was done in the daytime during the low tide, showed the port not being actively used just like Pitogo Port, but according to Mauban City, since small trucks (3 tons) can drive onto the jetty during when catches are unloaded, the jetty plays an extremely useful role and greatly increases cargo handling efficiency. Moreover, at the time of the survey, the captain of a medium-sized boat (14-ton class) said he ferried between Mauban Port and Polillo Port 3 times a week, carrying mainly daily goods and foods in addition to passengers. He also said that since cargo handling had been done via the shore, construction of a port made cargo handling much faster and safer. Since information about usage frequency could not be obtained, some aspects are difficult to

[11] The "Regional Reform Related Feeder Port Development Project" funded by a subsequent ODA loan, which includes the expansion/enhancement of the surrounding infrastructure, such as access roads, market, and refrigeration facilities, incorporates improvement measures to raise the usability of the port.

evaluate, but it was surmised that construction of a port helped improve maritime transport in the area.

The survey of Vito Sagay Port was performed during high tide. The port had a larger jetty than the other two, allowing more than 20 trucks and buses from driving onto it. As a result, the local survey of the port found that Vito Sagay Port was being more used than the other two ports.

Vito City reported that, originally, this port did not have a jetty, and the construction of a jetty made it possible for small ferries to come in and out, resulting in a rapid increase in the number of passengers. Moreover, fish caught in surrounding villages or in isolated islands started being dropped off at Vito Sagay Port, and the amount of fish handled increased. As a result, the port is full that often boats cannot use the jetty for lack of openings. Interviews of users on the jetty at the time of the survey also revealed that in the past fishing boats would moor off the coast, with small bunker boats being used to carry cargo to and from the shore, and that the construction of the jetty increased cargo handling efficiency. A major reason that usage frequency rose at Vito Sagay Port is believed that Vito City paved access roads. Immediately after the construction of Vito Sagay Port, access roads (approx. 7 km) leading to the main roads were paved, allowing road transport of cargo without damage to Sagay City or farther away to Macolod, a middle-sized city.

(3) Operations and Maintenance

Regarding the maintenance of feeder ports, there is no destruction unless a major calamity such as a typhoon occurs. There have been no major problems with regard to maintenance for the ports covered by field surveys.

However, as mentioned above, since operation and maintenance duties have not been transferred from the PPA to the local governments[12], no usage fees are being collected at these 3 ports, and anybody is free to make use of the port facilities. However, this does not mean that the constructed ports are not being maintained. Our survey found that, although the local governments do not formally have operation and maintenance duties, various port improvements are being performed by the local government (city) and local villages. As shown in Table 2-5, improvement measures to make port use more practical are actively being implemented by the local governments, and facilities also get built in the port vicinity as required using local funds. This type of maintenance is not unique to the 3 locally surveyed ports, and is also being practiced at other feeder ports.

[12] With regard to Vito Sagay Port, the PPA has received a request for the transfer of operation and maintenance duties for the port from Vito City, and this request is currently being processed.

Table 2-5 Maintenance Cases: 3 Locally Surveyed Ports

Maintenance Case	Port
① Establishment of electric lamps on jetty, improvement to enable safe use even at night (paid for with city funds)	① Pitogo, Mauban, Vito Sagay
② Painting of jetty, improvement to enable safe use even at night (paid for with city funds)	② Mauban
③ Installation of handrails on step breakwaters, improvement to enable safe cargo handling work (paid for with local GU funds)	③ Vito Sagay
④ Paving of access roads, for improvement of cargo distribution (paid for with city funds)	④ Vito Sagay
⑤ Start of land reclamation work for creation of warehouses on side of jetty (paid for with city funds)	⑤ Vito Sagay
⑥ Construction of Village Office on side of jetty (paid for with village funds)	⑥ Pitogo
⑦ Construction of rain shelter on jetty berth (paid for with city funds)	⑦ Mauban
⑧ Periodic patrolling by coast guards to ensure port safety	⑧ Vito Sagay

(Source): Field inspection (August 1998)

2.2.3 Environmental Impact

Since the ports covered by this project are feeder ports, no special adverse environmental impact resulting from implementation of the project was found. Moreover, implementation permits were obtained from DENR prior to construction at the ports, and suitable formalities were carried out with the environmental administration.

2.3 Project Effects and Impacts

2.3.1 Project Effects and Impacts on Overall Project

(1) Quantitative effects

The economic internal rate of return (EIRR) was calculated at the time of the detailed design (1990) and upon completion of the project by consultants, and according to these calculations, the average EIRR for the 27 ports upon completion of the project was 22.4%, higher than the average value of 21.7% calculated at the time of detailed design. (Refer to Appendix.) Benefits consisted of (1) reduction of cargo handling time, (2) reduction of passenger embarkment/disembarkment time, and (3) Reduction of cargo damage, and costs consisted of (1) construction costs and (2) maintenance costs.

(2) Qualitative effects

1) Direct effects

Direct effects that can be mentioned, as evidenced by the above EIRR calculations, are improved efficiency and safety for port cargo handling and passenger transportation. A particularly noticeable effect is that, while prior to this project, port facilities used to be insufficient. Therefore, only bunker boats could come alongside the pier, with larger boats having to moor off the coast and bunker boats carrying cargo back and forth (offshore stevedoring), and passengers having to be transferred to smaller boats for transportation to/from the shore, all this became unnecessary thanks to this project. Moreover, this project also contributed to greatly improving access from remote areas to major regional cities.

2) Indirect effects

Since the objective of this project was to provide the infrastructure needed as a minimum by regions that until then insufficiently benefited from development, it is also important to pay attention to the indirect effects produced on these regions. The DOTC reports that this project contributed to creating regional village income and employment, thus having a positive socioeconomic impact. In particular during port construction, local builders were employed. Furthermore, by offering better transport and shipping means for small businesses such as fishermen, farmers, and dealers, this project is contributing to the expansion of the range of their economic activities.

2.3.2 Project Effects on Surveyed Ports

Since the qualitative improvements regarding port use as observed by the field surveys have already been described above, this section describes (1) access improvements, and (2) socioeconomic effects of the ports on region.

(1) Access improvements

Regarding the locally surveyed ports, access from surrounding remote areas to central provincial cities has been greatly improved now that it is possible to travel via the improved ports. With regard to Pitogo Port, access roads leading from surrounding villages to main roads were not sufficient, but now that it is possible to travel via Pitogo Port, it is easy to access main roads. Enhancement of the Mauban Port has made it possible to get from Burdeos City on Polillo Island, which is remotely located, to Mauban City, which has a regional hospital, etc., in just 2 hours. An additional 2-hour drive gets travelers to Lucena, a central provincial city. Moreover, with regard to Vito Sagay Port, traffic with Bantaya Island and Don Island is very active, and is now easy to get from these islands to the central provincial city of Bacolod via Vito Sagay.

(2) Socioeconomic Effects on Region

Although quantitative data could be obtained on the socioeconomic effects on the surveyed ports, fragmentary effects have been identified.

According to Pitogo City, the Pitogo Port expansion construction project has contributed to the creation of jobs and income for the various villages around Pitogo City, and has improved life in the area. In the case of Mauban Port, since data could not be obtained from Mauban City, it is difficult to ascertain concrete facts. With regard to Vito Sagay, the Fishermen's Association of Vito City explained that lots of people visit from other areas now that the port has been expanded, and that local fishermen have seen their incomes rise as they can now sell their catch in the port. Additionally, ice dealers in Sagay City and eating houses around the port are successfully expanding their business, and the companies running buses between Vito Sagay Port, Sagay City, and Macolod City are also seeing rising revenues. According to the leader of Vito Village, easier access from neighboring areas and islands has resulted in booming enrollment at Vito High School, and the implementation of this project is creating various indirect social benefits.