

Indonesia

Ex-Post Evaluation of Japanese Grant Aid Project
“The Project for Promotion of Sustainable Coastal Fisheries”

External Evaluator: Takayuki Kurita, ICONS Inc.

0. Summary

This project was implemented for the purpose of activating the whole fisheries industry in Larantuka Sub-district, East Flores District, toward making the fishery efficient and minimizing the post-catch loss, through constructing fishery facilities in the area. This project partly disagreed with the development needs of the target area. Therefore the relevance of this project is judged as fair. It resulted in shortening of times spent on landing and purchase by brokers, but on the contrary, the utilization of the facility by fishermen has been limited, and because the operation and maintenance setup of the facilities constructed in this project has been underdeveloped, the facilities have not fully demonstrated their functions. Therefore, the effectiveness and the impact of this project are judged as low. This project cost and period did not exceed the planned amount and length, thus the efficiency of this project is high. On the other hand, the sustainability of this project is fair, since problems still remain in the structure and technology of operation and maintenance due to unclear policy of administration.

In light of the above, this project is evaluated to be low.

1. Project Description



Project Location



Disposal Building

1.1 Background

The target area of this project, Amagarapati, Larantuka Sub-district is located in East Flores District, Flores Island, Indonesia. East Nusa Tenggara Province, which contains East Flores District, was economically the least developed area in 30 provinces of Indonesia at the planning time of this project, and the development disparity had tended to widen over the past few years. On the other hand, the Government of Indonesia had

designated East Flores District as an area of prioritized development, since this area had great potential for resource development and local supply in the fisheries field thanks to approximately 3,800 square kilometers of ocean area and yearly fish catches of 14,000 tons, although it was regarded to be economically the least developed. The Government of Indonesia had called for the elimination of poverty in the mid-term development strategy, and expected that the implementation of this project would promote fisheries in the target area including improvement in the livelihood of fishermen of low income near the shore, by preparing the environment for fisheries activities involving fishing port, ice manufacture and fuel service facilities. This was the background to this project for constructing fisheries facilities.

1.2 Project Outline

The purpose of this project was to activate the whole fisheries industry in Larantuka Sub-district, East Flores District, toward making the fishery efficient and minimizing the post-catch loss, through constructing a series of fishery facilities for landing, preparing fishing expeditions, conducting distribution, repairing fishing boats and so on.

Grant Limit/Actual Grant Amount	1,070 million yen / 926 million yen	
Exchange of Notes Date	July, 2007	
Implementing Agency	Ministry of Marine Affairs and Fisheries	
Project Completion Date	March, 2009	
Main Contractor(s)	Main Contractor	Wakachiku Co., Ltd.
	Consultants	Joint Venture of System Science Consultants Inc. and Nippon Koei Co., Ltd.
Basic Design	August, 2006	
Related Projects	Fisheries Management Policy and Planning (Advisor, 1991-2005) Fisheries Infrastructure Support and Coastal Communities Development Plan in Eastern Indonesia (2000-2002)	

2. Outline of the Evaluation Study

2.1 External Evaluator

Takayuki Kurita, ICONS Inc.

2.2 Duration of Evaluation Study

For this evaluation, the study was performed as follows.

Duration of the Study: December, 2011 – January, 2013

Duration of the Field Study: January 22, 2012 – February 14, 2012 and
May 20, 2012 – June 2, 2012

2.3 Constraints during the Evaluation Study

None.

3. Results of the Evaluation (Overall Rating: D¹)

3.1 Relevance (Rating: ②²)

3.1.1 Relevance with the Development Plan of Indonesia

At the time of the basic design study of this project, the Government of Indonesia declared (i) reactivation of fisheries, (ii) improvement of access to marine products in local societies, (iii) sustainable promotion of fisheries and construction of fisheries industry infrastructures, and (iv) promotion of preservation and management of marine resources and environment as basic strategies in the “Mid-term Strategy in Fisheries (2004-2009)”, and this project was relevant to these contents. At the time of ex-post evaluation, it declared (i) enforcement in human resources and systems concerning integrated fisheries, (ii) sustainable management of marine resources, (iii) enforcement of productivity and competitiveness, and (iv) expansion of access to international and domestic markets, as strategies in the “Mid-term Strategy in Fisheries (2010-2014)”. The Ministry of Marine Affairs and Fisheries promotes the construction of infrastructures such as fishing ports to execute this plan. From above, this project is relevant with Indonesia’s development policy, since it tries to promote fisheries through the construction of fishery facilities.

3.1.2 Relevance with the Development Needs of Indonesia

Though Indonesia has rich marine resources, about five million fishermen (about 5% of

¹ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

² ③: High, ②: Fair, ①: Low

working population) and foreign currency earnings of about two billion dollars (1999)³, their development and utilization were concentrated in the western area around Java and Sumatra and little aid by the government had been given for the development to the eastern area. Especially, East Flores District had the second largest catch (2004, 14,000 tons)⁴, next to Kupang District, which contains the capital of East Nusa Tenggara Province. It had future development potential so that its development level of marine resources was about 30%. However, fisheries in this area had been forced to operate inefficiently because of the poor preparation of basic facilities.

At the time of ex-post evaluation, in 2011, the Ministry of Marine Affairs and Fisheries designated East Flores District as a special project area of the fisheries industry called Minapolitan (24 areas in whole Indonesia). Also, concerning the fish trading environment that had not been centralized before, it declared the policy to distribute marine products to the neighboring marine product consuming areas based around this facility (hereinafter referred to as “PPI”).

In addition, fisheries are one of the main industries in the target area (East Flores District), accounting for 7% of GDP.

Table 1 Ratio of each industry to GDP in East Flores District
based on the market price of 2000

		2008 ratio to GDP	2009 ratio to GDP	2008-2009 <i>annual</i> <i>growth</i>	2010 ratio to GDP	2009-2010 <i>annual</i> <i>growth</i>
1	Agriculture and fisheries	34.12%	35.22%	3.24%	35.98%	2.13%
	Fisheries (out of the above)	6.41%	6.87%	7.23%	7.17%	4.27%
2	Mining and stone crushing	0.75%	0.74%	-1.07%	0.77%	3.90%
3	Processing industry	1.13%	1.16%	3.43%	1.18%	1.61%
4	Electricity, gas and water supply	0.34%	0.35%	4.00%	0.39%	11.77%
5	Construction	4.34%	3.73%	-14.11%	3.86%	3.32%
6	Trade, restaurant and hotel	11.47%	12.11%	5.62%	12.86%	6.20%
7	Transport and communication	10.27%	10.61%	3.36%	11.10%	4.56%
8	Finance, rent and private service	4.58%	4.79%	4.51%	5.11%	6.75%
9	Public service	33.01%	34.01%	3.02%	36.80%	8.22%

(Source) Flores Timur in Figures 2009-2011 (East Flores District Statistics Yearbook 2009-2011)

³ Source: JICA, “The Study on Fisheries Infrastructure Support and Coastal Communities Development Plan in Eastern Indonesia”, 2002

⁴ Source: JICA, “Basic Design Study Report on the Project for the Promotion of Sustainable Coastal Fisheries in the Republic of Indonesia”, 2007

At the time of basic design, Larantuka Sub-district, East Flores District, which is the target area of this project, was reported in the development study “The study on Fisheries Infrastructure Support and Coastal Communities Development Plan in Eastern Indonesia” implemented by Japan in 2000-2002 as follows: (i) working days are limited because of the lack of fishery production facilities, (ii) distribution and processing are limited because of the lack of water for drinking and miscellaneous uses, and (iii) income from fishery and living standards of fishermen near the shore are extremely low. East Flores District had the second largest catch (2004, 14,000 tons) in East Nusa Tenggara Province, next to Kupang District that contains the capital of East Nusa Tenggara Province. It had future development potential so that its development level of marine resources was about 30%. However, there were problems such as (i) loss in work and time because the sea is shallow for a good distance from the whole shore and there is a high and low tide range as large as 3 meters, (ii) loss in opportunities for distributors because there are no ice manufacturing facilities that have enough capacity to deal with the catch in busy seasons, and landing places are dispersed⁵. To solve such problems, the construction of fisheries industry facilities was necessary, in order to increase the income of small-scale fishermen and supply marine products stably.

As fishing methods, there are pole and line fishing for skipjacks, seine fishing for tunas, seine / dragnet fishing, surrounding net fishing, gill net fishing and lift net fishing in and around Larantuka Sub-district. The main fish species are skipjack and tuna, accounting for more than 70% of the entire catch, and they are mainly purchased by private companies and exported to Japan and the United States. There are several such private companies in and around Larantuka Sub-district, and approximately three of these companies have facilities such as piers, processing plants and ice factories and there are some fishermen who enter into contracts with such companies and act without using PPI.

Pole and line fishing, seine fishing and dragnet fishing are used for skipjack and tuna fishing, while in other fishing methods, small pelagic fish that are consumed in and surrounding the Sub-district are caught. This project plan was set up with the primary aim of benefiting small-scale fishermen engaged in catching fish other than tunas and skipjacks, and it entailed construction of facilities and provision of equipment. Meanwhile, although there are differences in fishing methods, fish species and signing or not of contracts with private operators, all the fishermen basically conduct subsistence activities. Depending on season, surrounding net fishermen may be engaged in a skipjacks and tunas fishery by commissioned business. By contraries, the small fishermen who mainly engage in tunas and skipjacks fishing may also engage in pelagic fish and small fishing.

⁵ Source: JICA, “Basic Design Study Report on the Project for the Promotion of the Sustainable Coastal Fisheries in the Republic of Indonesia”, 2007

According to the results of beneficiary survey, about 55% of neighboring fishermen land at facilities of private companies, on the sea or at their own houses without using PPI⁶. Some fishermen (especially those in the north of Larantuka Sub-district, East Flores District) directly transport and sell marine products in Maumere⁷, a neighboring area of consumption, to cut down on light oil consumed for ship trips to PPI, and some have dealings with brokers at sea. Such styles of distribution based on private relations between fishermen, and brokers and private companies have existed since about 2000, and even now, they mainly have dealings with private companies. In case they perform their fishery activities by entrusting to private companies, ice and light oil are usually advanced by companies. Since such a style is very efficient for small-scale fishermen for whom it is difficult to raise fish expedition funds, there are many of them who do not use ice manufacturing and oil supplying facilities of PPI.

In the plan of this project, it was supposed that (i) eliminating congestion of landing in commercial port, and (ii) eliminating the hard work of landing on foreshore, caused because of the absence of a public exclusive fishery facility; thereby enabling small fishermen, who are placed at a disadvantage due to the above-mentioned business practices, to directly land catches to PPI, have multiple brokers set prices at the disposal facility and appropriate prices could be set. However, due to the influence of traditional business practices, as noted in the "effectiveness", the use of PPI has been limited and the facility has not been fully utilized.

Considering such a situation, as a result of the interviews conducted with the Ministry of Marine Affairs and Fisheries and District Fishery Department, it was found that East Flores District Government plans to impose an obligation on neighboring fishermen to use PPI in order to ensure its efficient use⁸. This might increase the frequency of use of PPI.

It can be said, however, that related organizations such as the Ministry of Marine Affairs and Fisheries and District Fishery Department did not prepare concrete plans and means to develop fisheries by using PPI in advance, since at the time of planning this

⁶ Beneficiary survey was implemented on total 250 persons, of 220 fishermen and 30 brokers who live in the target area and do not belong to organizations such as private companies, but individually engaged in fishing industry. Three surveyors visited each residence of fishermen and interviewed with them according to questionnaires. The evaluator partly joined in the survey. Residential areas of the respondents are as follows:

Larantuka (154 persons/70.00%), Adorana (24 persons/10.91%), Ile(21persons/9.55%), Solar (8persons/3.64%), Wotan (7persons/3.18%), Others 3 persons

In addition, the fishing methods of the respondents are as follows.

Hook and line: 74.5%, Gillnets: 9.5%, Surrounding net: 7.7%, Lift net: 3.6%, etc.

⁷ Maumere is situated 95km west-southwest of Larantuka and about three hours by land.

⁸ Imposing an obligation on those who are engaged in fishery to use PPI promotes the use of PPI; on the other hand, it makes a great change in existing commercial customs. It is thought to be necessary to secure adequate understanding from fishermen and private companies, etc..

project, even though there have been such commercial customs, no administration regulations were established. Prior study such as development study (“The Study on Fisheries Infrastructure Support and Coastal Communities Development Plan in Eastern Indonesia”) investigated the environment surrounding fisheries including facilities and equipment belonging to private companies in the target area, stakeholders’ analysis and analysis of commercial customs. Based on the study, this project targeted small-scale fishermen; however, the project was not based on customs of private companies and those who were engaged in fisheries so that most of them use facilities and equipment of private companies. In addition, the main direction of the use of the facility was also changed: the facility was also opened to middle- and large-scale fishermen because of the bad operation after PPI started to operate. From these, it can be said that this project plan was not connected to the solution for needs and problems of fishermen.

In the basic design, “loss in work and time because the sea is shallow for a good distance from the whole shore and there is a high and low tide range as large as three meters” was listed as a problem of fisheries in the target area. Regarding this point, the results of interviews with fishermen and officials of Ministry of Marine Affairs and Fisheries show that the problems such as safety during fish landing are not solved. Specially, small-scale fishermen that are the targets of this project pointed out the problem of the height of the piers.

From above, this project partly disagrees with the development needs.

3.1.3 Relevance with Japan’s ODA Policy

Japan promotes the construction of fishery facilities etc., to strengthen friendly relations between Japan and developing countries and ensure fishing grounds for Japanese fishing boats under a long-term vision, through the promotion of fisheries in those countries as a part of ODA. The implementation of this project maintains and strengthens the friendly cooperative relation between Japan and Indonesia in the field of fisheries, where cooperation is important for conducting measures to address IUU (illegal, unregulated and unreported) operations in international tuna fishing grounds.⁹

Considering that agriculture and fisheries are conducted on a subsistence scale and infrastructures such as fishing ports are not prepared enough in rural and fishing villages in Indonesia, JICA settles on “poverty reduction” in its country-separate project

⁹ Fisheries grant aid has been established from the viewpoint of maintaining and developing the friendly and cooperative relations with Japan in the fishery based on the fact that many developing countries have strengthened the claim of the right to exclusive use of coastal waters fishery resources from the late 1960s, in response to a request under these developing countries, by conducting grant aid for fisheries related projects. Basically, fishery grant aid is similar to general grant aid; however, selecting the target countries in that friendly relations with Japan are taken into consideration in the field of fisheries. (extracted from the Ministry of Foreign Affairs web site)

implementation plan and implements cooperation projects such as the technical cooperation undertaking “Project for the Promotion of the Sustainable Coastal Fisheries,” etc. From this, this project is judged to agree with Japan’s ODA policy at the time of basic design.

This project was partly irrelevant with the country’s development needs, therefore its relevance is fair.

3.2 Effectiveness¹⁰ (Rating: ①)

3.2.1 Quantitative Effects

Concerning the point that "PPI will contribute to the activation of the fisheries industry in the target area" which is the purpose of this project, the catch in the target area has increased as shown in Table 2 below. However, at the time of the ex-post evaluation survey, catch landings at PPI are less than 300 tons per year as shown in Table 2. In the basic design of this project, the scale was set as 1,548 tons catch in the disposal of goods facility, and concerning PPI frequency of usage, approximately 200 days per year and 8.5tons/day in the fishing season and 1.2 tons/day in the off-season. Although the annual amount of catch was not shown clearly, it has fallen much lower than the design even when compared to these figures.

Table 2 Changes in catch in the whole target area and at PPI

	2007	2008	2009	2010	2011
Catch landing in the whole target area	11,277 tons	11,755 tons	9,708 tons	13,705 tons	13,755 tons
Catch landing at PPI	No record ¹¹			291 tons (2.12% of total)	291 tons (2.12% of total)

(Source) Materials furnished by East Flores District Fishery Department

The data on the PPI mooring of ships are as follows. In the basic design study, it was expected that 149 fishing vessels would moor and 23 vessels would anchor at PPI. As there is no data on the number of vessels available, comparison is difficult, but it is calculated that only around four vessels are anchored per day on average in 2011

¹⁰ Sub-rating for effectiveness is to be put with consideration of impact

¹¹ JICA, “Basic Design Study Report on the Project for the Promotion of she Sustainable Coastal Fisheries in the Republic of Indonesia”, 2007 estimated that there are 892 tons of catch at public markets and local societies. It should be noted that the amount of catch was assumed from 10,000 to 15,000 tons in this report.

(assuming operation for roughly 200 days). This average number of anchorage was also confirmed at the site survey.

Table 3 Mooring vessels PPI data

		2010	2011
Moorage	No. of cases	721	893
	Hours	948	1,415
Anchorage	No. of cases	69	57
	Hours	1,753	2,164

(Source) Materials furnished by East Flores District Fishery Department

PPI is not used very frequently, since there exist a strong dealing relation as a commercial custom where private companies loan ice and diesel oil to small-scale fishermen in advance before fishing expeditions. In the beneficiary survey, 45% (100 of 220 persons answered) of fishermen in the target area answered that they use PPI; specifically 23 answered “always use”, 42 “sometimes” and 35 “almost always land at other facilities”. Although there are those who are involved in the commission of private contractors among the respondents of the beneficiary survey, fishermen engaged in tunas and skipjacks fishing are also engaged in small, pelagic fish depending on the season. It is impossible to strictly separate from fishermen who engaged in fishing for tunas and skipjacks and the other fishermen and it is analyzed that this result represents the circumstances pertaining to the use of PPI. Besides, reasons for not using PPI are listed in Table 4. The most common is “long distance to PPI”, which although is not connected to the work commissioned for tuna and skipjack, indicates that these respondents sell their products to neighboring brokers or private companies.

Table 4 Reasons of not using PPI (including multiple answers)

Reasons	Answers	Answer rate
No dealings in demersal fish	4	3.33%
Direct selling to brokers	27	22.50%
Consumption at home	1	0.83%
Selling at other places	21	17.50%
Long distance to PPI	51	42.50%
Expensive charge for use of PPI	1	0.83%
Small dimension of work	37	30.83%

(Source) Results of beneficiary survey

Although frequency of use of PPI is very low, from the results of the beneficiary survey, fishermen who use PPI are highly satisfied; specifically, 69% of them answered “very satisfied” and 27% “slightly satisfied”. Satisfying points are listed in Table 5.

The achievement of indices on quantitative effects posed in the Preliminary Project Plan is shown in Table 6 below. Although there are some indicators that have been achieved, the effects are limited due to the low usage frequency by fishery industry workers, as described above.

Table 5 Satisfying points in this project for fishermen (multiple answer allowed)

Satisfying points	Answers
Reduced landing time	53
Increased dealing price of fish	21
Lowered price of ice	14
Tentative keeping of excess marine products available	12
Ice purchasable at any time	9
Sanitary environment of fish dealings	4
Others	45

(Source) Result of beneficiary survey
(100 persons answered)

Table 6 [Quantitative effects] Achievement of indices

Indices (unit)	Baseline (2006)	Target (2009)	Actual ① (2009)	Actual ② (2012)
(1) Time for catch landing by round haul netters at low tide	About 2 hours/boat	About 1 hour/boat	About 1 hour	About 1 hour
(2) Purchasing price of ice for fishing boats	About Rp 20,000 (per 25kg ice cube equivalent)	About Rp 8,000 per 25kg ice cube	Rp 12,000 per 25kg ice cube	Rp 12,000 per 25kg ice cube
(3) Purchasing price of light oil for fishing boats	About Rp 5,000/L	About Rp 4,500/L	Rp 5,000/L	Rp 4,500/L
(4) Purchasing time for brokers	2-3 hours	1-2 hours	1-2 hours	1-2 hours

(Source) Preliminary Project Plan, data furnished by PPI

Each item where there are differences was analyzed. The contents are described below.

(1) Time for catch landing by round haul netters at low tide

From the results of the beneficiary survey, 66% of fishermen who use PPI answered that their landing time is within one hour (see Table 7). The target is achieved, and this project contributes to making fishermen’s work more efficient. However, the interviews

with fishermen often reported that there are many boats at anchor even after finishing landing, and these boats obstruct their work. There is a plan to station two staff members of PPI (1 person × 2 shifts) at the piers, but it currently does not work. At the time of the survey, there was no staff member of PPI, and there was no comment that staff members were stationed there in the interviews with fishermen, too.

Table 7 Fishermen’s landing time

	Answers
Within 30 minutes	35
30 minutes - 1 hour	31
1 - 1.5 hours	7
1.5 - 2 hours	8
Over 2 hours	2
NA	17

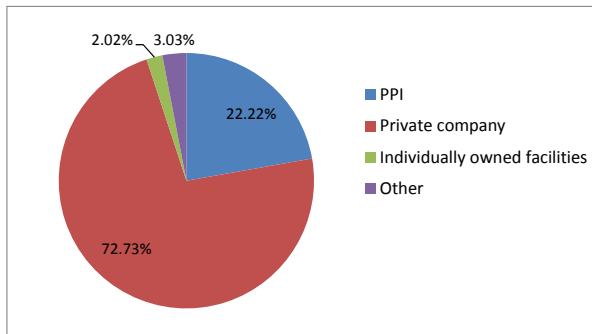
(Source) Result of beneficiary survey
(100 persons answered)



Photo Since there are many boats at anchor even after finishing landing, ice is carried through a bridge of boats.

(2) Purchasing price of ice for fishing boats

According to the result of interviews with staff members of PPI, ice has to be loaned at this price (ice cube: Rp 12,000/25kg, crushed ice: Rp 14,000/25kg) with regard for profit. The market price is Rp 15,000/25kg, which is more expensive than at PPI. Concerning the usage situation of ice facilities by the fishermen, as the place to obtain ice for fishermen shown in Figure 1, there is situation where fishermen do not want to buy ice from PPI, but obtain the ice on loan from private contractors. In the basic design of this project, although fishermen involved in fishing tunas and skipjacks were planning to buy ice from the PPI, in the case of consignment work with private companies, ice is loaned in advance from private companies before fishing, and as a result, fishermen have not purchased ice much from PPI.



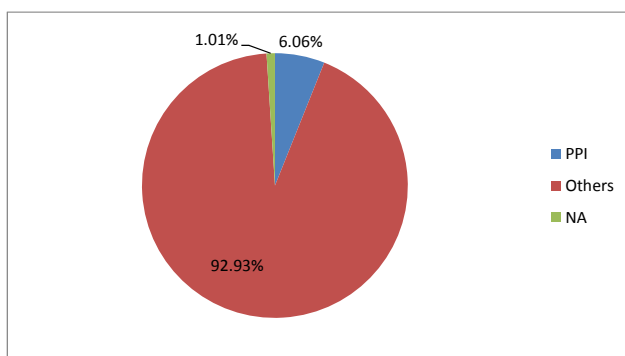
The results are that 22% of fishermen purchase ice at PPI, but 73% of fishermen obtain ice from private companies. Also, in case of fishing based on contract with private contractors, the ice is loaned in advance from the private sector, and in case of purchasing, it is Rp 15,000/25kg.

(Source) Result of beneficiary survey

Figure 1 Purchasing place of ice (99 fishermen answered)

(3) Purchasing price of light oil for fishing boats

Light oil had been sold at the price of Rp 5,000 per liter since PPI started to operate. In February 2012, this price was reduced to Rp 4,500 per liter after tank trucks were stationed and mass transport was enabled. However, as shown in Figure 2 below, the ratio of fishermen who procure light oil at PPI is 6%, while others obtain it from private companies. Therefore, the situation has become clear that fishermen's main activities are commissioned business with private companies, and they do not use PPI.



6% of fishermen purchase light oil through PPI. Others have it loaned in advance by contracting private companies, or they purchase it in market. From the results of beneficiary survey, the reasons for not purchasing light oil are as follows: "expensive price of fuel" and "others" shares much, and there are many comments in interviews that they purchase from private companies. The answers "expensive price of fuel" are thought to be because of advance payment in case of contract with private companies.

(Source) Result of beneficiary survey

Figure 2 Purchasing place of light oil (99 persons answered)

Table 8 Reasons for not purchasing light oil at PPI

Reasons	Answers
Expensive price of fuel	14
Long distance to PPI	7
Bad service	0
Others	54
NA	18

(Source) Results of beneficiary survey

(4) Purchasing time for brokers

According to the results of beneficiary survey, 89% of fishermen sell marine products to brokers within two hours, and the target is achieved. Also in the interviews with brokers, 53.3% (16 of 30 persons answered) of brokers answered “it has become possible to purchase marine products at once”.

Slipways and docks that were constructed in this project are not often used as well. The reason is there are no boat repair mechanics stationed and no spare parts for boats¹².

3.2.2 Qualitative Effects

The achievement of indices on quantitative effects posed in the Preliminary Project Plan is listed in Table 9 below. Management of fisheries in the target area by PPI does not function very much, since the regulations for the administration of PPI have not been established and its direction has not been decided, and human resources that manage the facility and fishermen have not been trained enough.

Table 9 [Qualitative effects] Achievement of indices

Indices (unit)	Baseline (2006)	Target (2009)	Results ① (2009)	Results ② (2012)
(1) Environment of fish trade	Corners of shores and merchandise ports	Disposal places (unavailable on piers and shore protection works)	In disposal places and on piers and shore protection works	In disposal places and on piers and shore protection works
(2) Tentative keeping of excess marine products	Small cool bags at open stores	Large cool bags at tentative keeping places	Large cool bags at tentative keeping places	Large and medium-sized cool bags at tentative keeping places

¹² Data of 2011 furnished by PPI show the frequency of use of slipways and docks of 95 hours and repair factories of 90 hours per year respectively.

(3) Fishing port leader candidates and personnel members of District Fishery Department learn the knowledge of how to start initial fishing port administration.	Not learnt	Learnt	Not learnt	Not learnt
(4) Regulations for the administration established in the soft component	None	Principles are obeyed	Under examination	Under examination

(Source) Preliminary Project Plan, East Flores District Fishery Department and the results of interviews with PPI staff members

Each item was analyzed where there are differences. Its contents are described below.

(1) Environment of fish trade

In the beneficiary survey for those who are engaged in fisheries and site survey, there are many cases where brokers and fishermen directly trade landed products on piers and trade in disposal places were not confirmed. Though PPI holds briefing sessions for those who are engaged in fisheries to trade fish only in disposal places and pressures them to follow, PPI said that they tend not to obey. On the other hand, in interviews with those who are engaged in fisheries, they said that there is no such a briefing meeting held and they are not aware of such pressure from PPI staff members.



Photo Landed fish are traded not in disposal places but on piers.

(2) Tentative keeping of excess marine products

The large cool bags supplied in this project are used and the target is achieved. If the landed products are many, medium-scale cool bags purchased by PPI are used. According to materials furnished by PPI, the large- and the medium-scale cool bags were used 226 and 98 times respectively in 2011.

(3) Fishing port leader candidates and personnel members of District Fishery Department learn the knowledge of how to start initial fishing port administration.

Concerning the skill, although training was conducted in the soft-component of this

project, it was analyzed that the introduced skill has not particularly been utilized as management of fishermen, activities related to facility management of PPI and accounting procedures related to these activities have not been conducted at the time of ex-post evaluation. Thus the target is not achieved.

(4) Regulations for the administration established in the soft component

In the soft component, proposals were submitted about the establishment of a fishing port committee and the committee regulations. However, at the time of ex-post evaluation, PPI and persons related with the fishermen's cooperative commented in interviews that the establishment of the committee and the committee regulations were under examination, but there is no clear movement for the establishment of the regulations.

3.3 Impact

3.3.1 Intended Impacts

Concerning changes in the income of fishermen by implementing this project, from the results of beneficiary survey, 1% of fishermen using PPI have their income increased¹³. As listed in Table 2, although the amount of catch in the target area increases, it is analyzed that it has not achieved sufficient level for small-scale fishermen using PPI to feel the increase in their income.

Realization of Indicators showing the indirect effects of this project is described below.

(1) Central role of fisheries

Before the construction of PPI, catch landing was done in the commercial port nearby; it is confirmed at the time of exploratory survey that there were no catch landing the port now. However, even in such a situation, reflecting that PPI is not used very often, the District Fishery Department and PPI permitted its use for not only small-scale fishermen but medium-scale and large-scale fishery private companies who are engaged in tunas and skipjacks fishery in 2011, to increase the frequency of use of PPI. According to interviews with those who are engaged in fisheries, after the permission, the use and recognition of PPI has increased and the frequency of use is increasing as well. The regulations are currently planned to state that neighboring people who are engaged in fisheries must use PPI, and the system whereby PPI plays a central role of fisheries in the target area is now under construction¹⁴.

¹³ From the result of beneficiary survey, 1 fisherman answered "the income increased", 82 answered "the income remains the same", 12 "decreased" and 5 "unknown" after the implementation of this project respectively.

¹⁴ Private companies concern that this regulation may hinder the operation since business trouble increases etc. However, a merit will appear for District Fishery Department that the management system will be

However, trading of tuna and skipjack, which many fishermen are engaged in, is conducted not by PPI but directly by neighboring private companies, so the frequency of use of PPI is not likely to increase rapidly with the regulations. In the management of fishermen by PPI, private companies as well as those who are engaged in fisheries are also required to report amount of catch to the District Fishery Department and PPI. Since private companies are required to pay charges to PPI corresponding to catch, it might be necessary for PPI to confirm the situation and conduct management in order to appropriately collect charges.

In addition, fishermen's cooperatives in the target area or PPI do not act based on organizing fishermen (management including auctions, calling on the participation in the auctions, collection of trading price information and public relations, etc.), so it cannot be said that they are organized.

By the way, private companies loan ice and light oil to fishermen in advance. In doing so, they create good climate for fishing activities of small-scale fishermen and perform empowerment for the whole villages in that they supply an environment for easy action by small-scale fishermen and make donations to the villages of the fishermen who are engaged in their business. Thus fishermen are organized around private companies and it is analyzed that it is difficult to organize fishermen around PPI, and based on these situation, it is analyzed that it is important to conduct a study with private companies on how to contribute to improvement of the fishery industry using this facility.

(2) Manufacture and supply of ice

Detailed data of manufacture and supply of ice are listed in "Table 10 Data of ice manufacture in PPI". At the time of ex-post evaluation, PPI staff members and those who are engaged in fisheries commented that the ice manufacture facility is quite often used, but sometimes they cannot purchase or sell ice because of short supply. The reason is that water supply pipes to the ice manufacture facility were out of order and the capacity decreased from 168 blocks per day (1 block weighs 25 kilograms) to maximum 112 blocks per day. In addition, medium-scale and large brokers started to purchase ice at PPI. However, the pipes are under repair at the time of survey, and the capacity supposed to be restored to the original level.

The District Fishery Department has conducted examination with a view to limiting the activities of medium and large-scale brokers in PPI. If their activities are limited, the short supply of ice would be solved, while it is forecast that small-scale fishermen who have strong trade relations with private companies are expected to be unlikely to purchase ice at PPI. In order to efficiently use the ice manufacture facility, clear directions should

enforced (on condition that the staff members perform their jobs orderly).

be determined to operate it, e.g. concerning whom to sell ice to.

Table 10 Data of ice manufacture in PPI

	2010	2011	Growth rate
1. Time of manufacturing	546	832	52.38%
2. Amount of production (25kg)	30,576	46,592	52.38%
3. Frequency of purchasing	2,907	2,967	2.06%
Ice cube (25kg)	1,573	1,510	-4.01%
Crushed ice (25kg)	1,512	1,612	6.61%
4. Amount sold (25kg)	30,390	46,488.5	52.97%
Ice cube (25kg)	16,807.5	29,311	74.39%
Crushed ice (25kg)	13,582.5	17,178	26.47%

(Source) Materials furnished by PPI

3.3.2 Other Impacts

(1) Impacts on the natural environment

Since no traffic jams occur on surrounding roads after the implementation of this project, there is no negative impact confirmed in the situation of traffic in the surrounding area. No problem occurs concerning garbage collection since Larantuka Sub-district regularly cleanses the site. According to interviews with PPI staff members and site survey, wastewater from PPI is drained after primary treatment.

(2) Land acquisition and resettlement

For land acquisition, the purchasing prices were decided after the negotiation with habitants. It was confirmed through the District Fishery Department that no problem occurred in the negotiation though there was a meeting hall for local residents, and there was no resettlement. The total expense of land acquisition was about Rp 100 million, and the budget for which was secured without any problem by East Flores District Government.

(3) Other indirect impacts

From the results of the beneficiary survey, 12% of the respondents indicate satisfaction in that temporary storage of excess catch is available thanks to upgrading of ice machine maintenance and introduction of cool boxes, thereby contributing to reduction of post-harvest losses.

Concerning the effectiveness, expression of effectiveness is limited in that fishermen in the targeted area do not actively use PPI and the amount of catch handled was greatly less than planned in the basic design.

It is confirmed that some targets were achieved such as shortened landing time and time for purchasing of marine products from fishermen by brokers who use PPI, and as fishermen who use PPI show a certain degree of satisfaction for the PPI, it is considered that its functions such as improvement of the working environment for the fishermen are exhibited.

On the other hand, impact is limited as the targets on fishing port administration activities are not achieved, PPI does not play a central role of fisheries, and it does not contribute to increasing the income of fishermen in the target area using PPI.

From above, this project has achieved its objectives at a limited level, therefore its effectiveness and impact is low.

3.4 Efficiency (Rating: ③)

3.4.1 Project Outputs

The outputs of this project are summarized in Tables 11 and 12 below. If there are any differences between the plans and the actuals, their contents are described.

Table 11 Outputs of this project (Japanese side)

Items	Contents	Difference analysis
Civil facilities	Landing piers, connecting piers (partly causeway), slipway, premises roads and parking lots, premises rain drains, landing pier safety lamps, reinforcement of existing shore protection	Change in height of landing piers, connecting bridges and causeways
Architectural facilities and equipment	Disposal building, ice factory building, ice manufacturer, ice warehouse, administrative building / kiosk, fuel service building, workshop, electricity and water supply building (elevated water reservoir), water reserve tank, premises toilets, guard building, simple wastewater treatment facilities, waste space, shallow wells, fire prevention water reservoir, emergency generator, external equipment, sprinklers, premises electric furnace, premises water supply and sewage channels, ladling space	No difference
Supplied machinery		
Machinery for supporting landing and disposal	Handcarts, fish boxes, buckets, drum carriers, hand pumps, platform scales (100kg), balances (30kg), cool bags	No difference
Machinery for facility maintenance (Also for repairing fishing boats)	Boring machines, engine welders, mobile lifts, engine compressors	No difference
Machinery for premises safety assurance	Fire extinguishers with casters and small fire extinguishers	No difference
Soft component	Instructions for fishermen's cooperative and fishing	No difference

	port administration	
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(Source) Materials furnished by JICA

Table 12 Outputs of this project (Indonesian side)

Items	Difference analysis
Necessary personnel, construction materials and machines, expenses for administration and maintenance	No difference

(Source) Materials furnished by JICA

3.4.2 Project Inputs

3.4.2.1 Project Cost

The planned cost of this project at the time of ex-ante evaluation was 1,070 million yen. The actual project cost was 926 million yen, which was within the planned amount (the ratio to the planned: 87.4%).

3.4.2.2 Project Period

This project period planned at the time of ex-ante evaluation was 20 months, and the actual one was also 20 months¹⁵. Therefore this project period was as planned (the ratio to the planned: 100%).

From above, both the cost and the period of this project were below the planned values, so the efficiency is high.

3.5 Sustainability (Rating: ②)

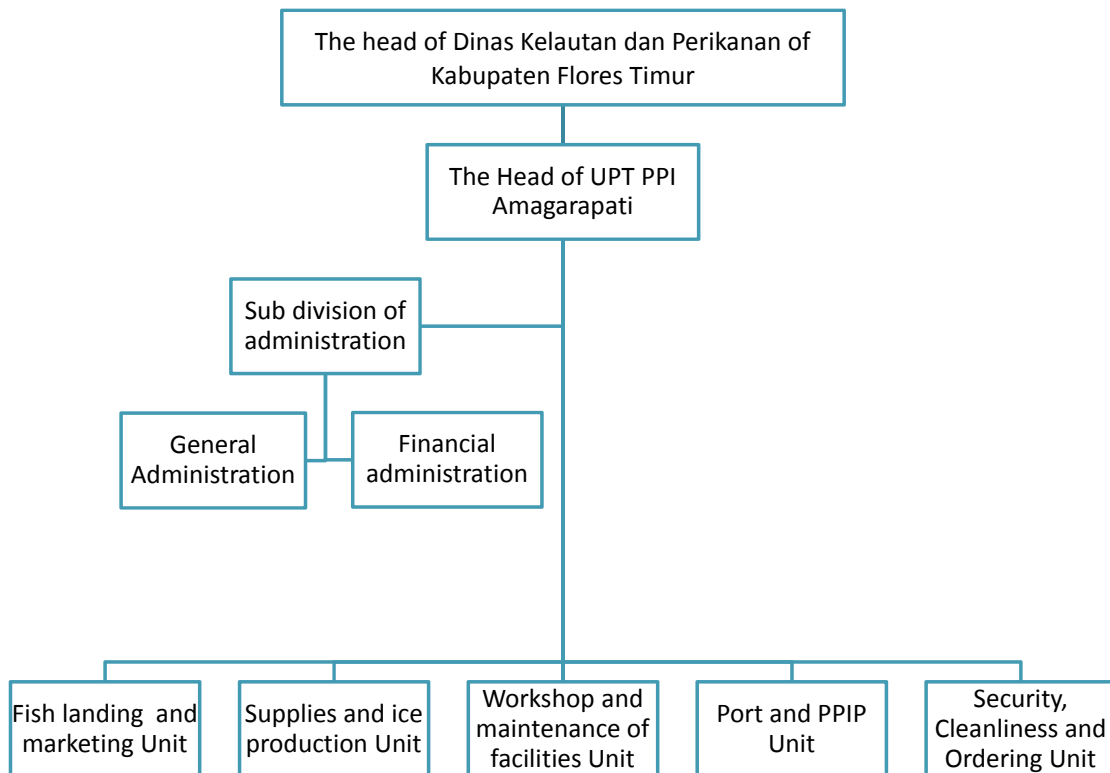
3.5.1 Structural Aspects of Operation and Maintenance

PPI has been under the management of the Ministry of Marine Affairs and Fisheries since it started to operate in July 2009. At the time of ex-post evaluation, the management was being transferred to East Flores District Government, and after the Ministry of Finance of Indonesia approves this issue, it will be under the management of East Flores District Government. The regulations on fishing port administration are still under examination and have not yet been established. After it comes under the management of the East Flores District Government, East Flores District Government will be the main body for the operation and maintenance including regulations and budget planning, thus making it feasible. The Ministry of Marine Affairs and Fisheries recognizes that it will be approved in 2013. Even after the transfer, financing help from the Ministry of Marine Affairs and Fisheries is supposed to be continued and a current structure will be

¹⁵ July 25, 2007 (consultant agreement) - March 20, 2009 (completion of this project)

maintained. On the other hand, the East Flores District Government will operate PPI by itself without the approval of the Ministry of Marine Affairs and Fisheries, and it is expected to enable flexible administration reflecting more of the local status and needs.

PPI is in charge of the operation and maintenance, where 27 staff members (of which two are proper and the others are contract workers) are stationed, as one of the posts of the District Fishery Department within the jurisdiction of the Ministry of Marine Affairs and Fisheries. Division of duties of each staff members are clearly stated and sufficient number of staff is ensured. The District Fishery Department aims at appropriate operation of PPI, dispatching its three staff members to other fishing ports that have already been operated for a long time and make them learn how to operate fishing ports. Figure 3 shows the organization chart of PPI.



(Source) Materials furnished by District Fishery Department

Figure 3 Organization chart of PPI

At the time of basic design, a plan, in which a newly established public company will be in charge of the operation and maintenance of PPI, was examined but not put into practice. The reason was that the purpose of the operation of PPI is not decided: that is, whether it aims for the activation of small-scale fishermen as a public project, or it aims

for a self-supporting accounting system. If it aims for the former, the price of ice and light oil should be cheaper and the environment of activities should be prepared for small-scale fishermen to easily conducted activities other than those contracted by private companies. In this case, the account will not balance and it will be difficult to establish a public company. Therefore, the Ministry of Marine Affairs and Fisheries, District Fishery Department and PPI are aiming for the modification of the environment for fishermen's activities under the current system and to operate PPI as a public service, rather than to establish a public company and to aim for a self-supporting accounting system; the operation will be examined mainly by PPI regarding profit or public nature.

3.5.2 Technical Aspects of Operation and Maintenance

According to interviews with related persons such as staff members of the District Fishery Department and PPI, though there are some results of training courses on fishing port operation such as visits of staff members to other fishing ports, staff members of both the District Fishery Department and PPI are learning skills of fishing port operation and recognize that their skills are not enough. Though fishing port operation is instructed in the training courses of this project, it could have reflected the actual status including dealing with the real problems if the instruction had been performed after the start of operation.

In the technical aspect, both human resources and technology are not enough: currently slipways and docks are not used very often. According to interviews with PPI staff members, the causes for not utilizing the slipway and the dock are attributed to there being no boat repair mechanics and no spare parts for boats. At the time of ex-post evaluation, there are no plans to station boat repair mechanics nor to develop human resources such as training courses. If human resources such as boat repair mechanics are stationed in future, promotion activities for services should be started such as repair of fishing boats and selling of spare parts, and examination should be conducted to build the system to use mechanics and facilities to the maximum extent: consumables and spare parts should be appropriately supplied using subsidies from the Government of Indonesia. Since the jurisdiction of PPI will be transferred to East Flores District, it is expected that the arrangement of human resources and the supply of necessary machinery will be appropriately performed reflecting the needs.

3.5.3 Financial Aspects of Operation and Maintenance

The income of PPI consists of the grant and the charges for the use of facilities and machinery of PPI provided by the regulations of East Flores District. Some of those who are engaged in fisheries commented that PPI staff members have not appropriately

collected the charges since the start of PPI operation in 2009. PPI staff members explained that there are some cases where those who are engaged in fisheries do not agree to pay. Under such circumstances, there was situation that delays in paying PPI staff wage occur, and necessary funds for operation and maintenance are difficult to secure. However, in FY 2011 and 2012, budget of Rp 500 million each year was provided by the Government of Indonesia for the purpose of the operation and maintenance of PPI and there was a comment from PPI staff that lack of funds has been corrected for labor costs, the procurement of materials and equipment. According to interviews with the Ministry of Marine Affairs and Fisheries, the grant will continue. The income in 2011 exceeded the one shown in the basic design study, since the grant from the Government of Indonesia was delivered and the selling of ice and water ended in the black¹⁶.

However, since its opening, the situation has not improved in that PPI fees are still not collected, and 90% of the income has been from ice selling. Since the regulations provide for collecting other charges such as for mooring and anchoring, it is necessary to collect charges from users and administrate appropriately, on condition of supplying proper services. It is also necessary to establish the administration regulations of PPI and to secure the budget properly in order to spend the grant effectively for the promotion of fisheries in the target area.

3.5.4 Current Status of Operation and Maintenance

At the time of ex-post evaluation, ice crushers, the outer moat and lightning equipment supplied in this project had been repaired after they fell out of order. As a result of reconnaissance survey and interviews with related members of PPI, facilities and machinery are not regularly maintained but repaired when they are out of order. The drainage facilities and the radiators are cleaned once a week routinely and interference is not caused.

According to interviews with those who are engaged in fisheries, the work on fishing port operation such as the collection of charges on anchoring of boats, auctions and the management of catch is not performed well, and the sufficient management and service is not conducted or offered.

When this project started, office spaces of PPI were rented to private companies to increase the operating rates, but not at the time of the survey. In this regard, too, it is necessary to define the policy of administration.

From above, for operation and maintenance of this project, required number of personnel is stationed, and the grant is provided by the Government of Indonesia, and the

¹⁶ Financial data (income and expenditures of each year) were requested to PPI, but not furnished.

maintenance of facilities and equipment is performed routinely. The operation and maintenance of the hardware side is properly conducted. However, problems still remain in the software side such as structure and technology of operation and maintenance due to unclear policy of administration, therefore sustainability of the project effect is fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project was implemented with the objective of activating the whole fisheries industry in Larantuka Sub-district, East Flores District, toward making fisheries efficient and minimizing the post-catch loss, through constructing fishery facilities in the area. This project partly disagreed with the development needs of the target area. Therefore the relevance of this project is judged as fair. It resulted in shortening of times spent on landing and purchase by brokers, but on the contrary, the utilization of the facility by fishermen has been limited, and because the operation and maintenance setup of the facilities constructed in this project has been underdeveloped, the facilities have not fully demonstrated their functions. Therefore, the effectiveness and the impact of this project are judged as low. This project cost and period did not exceed the planned amount and length, thus the efficiency of this project is high. On the other hand, the sustainability of this project is fair, since problems still remain in the structure and technology of operation and maintenance due to unclear policy of administration.

In light of the above, this project is evaluated to be low.

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

(1) Transfer of PPI control to the east Flores District

At the time of ex-post evaluation, work to transfer the PPI jurisdiction from the Ministry of Maritime Affairs and Fisheries to East Flores District government has been carried out, but as three year have passed since the implementation of this project, jurisdiction transfer needs to be carried out immediately.

(2) Establishment of administration regulations

It is quite clear that the fishery is a very important industry and its promotion is necessary in the target area. However, the regulations for the administration of PPI have not been established, and the direction of the administration of PPI has not been decided. Hence it is necessary to confirm measures for the promotion of fisheries in the target area among related parties, to establish the administration regulations of PPI on those measures, to show its contents not only inside the organizations but to those who are

engaged in fisheries in the area, and to perform each job.

(3) Preparation and enforcement of the organization depending on administration regulations

It is necessary to station and train required personnel following the administration regulations. The Bureau of Marine Affairs and Fisheries is required to support the arrangement of personnel and training courses. It is also necessary to strive for the effective use of PPI and the development of fisheries industry, in conference with some private companies that have continued their business for a long time and have taken root in the area.

(4) Provide of appropriate services

It is necessary to provide appropriate services for smooth fisheries such as the management of piers and trade of fish, repair of boats to those who are engaged in fisheries and to collect charges from them. In addition, it is also necessary to perform the promotion activities of these services more actively by PPI to small-scale fishermen.

(5) Sharing of measures for promoting fisheries among related parties

There is a movement to establish regulations and force those who are engaged in fisheries to use PPI, and limit the activities of brokers such as direct trade. Such regulations are desirable to be enforced after explaining their contents to those who are engaged in fisheries and obtaining their agreement.

4.2.2 Recommendations to JICA

Since low frequency of use of PPI was found, JICA Indonesia Office conducted follow-up by fishery advisor (including guidance in the field by employing consultant) and some improvements to the usage of the facility was seen. In the future it is expected to make the Indonesian side itself establish the policy for the promotion of the fisheries industry reflecting the properties in the target area including commercial customs and the direction of appropriate administration of PPI, and it will be necessary to monitor the activities.

4.3 Lessons Learned

(1) In the target area of this project, fisheries industry was performed where private companies constructed relations with many habitants before implementation of this project. As measures to further develop fisheries industry in the target area, it was necessary to implement this project after obtaining understanding of those who are related

to the fisheries industry, fluently sharing the purpose of this project in common with the related parties, and confirming the administration policy of PPI in Indonesian side, reflecting the results of analyses of stakeholders and commercial customs.

(2) On that basis, it is desirable that guidelines are formulated for the management by Indonesian side in order to contribute to the fishery promotion. It is also desirable that management of personnel, finances and facilities is conducted, and that the situation of execution of Indonesian responsibility including appropriate personnel and budgetary arrangements at the time of this project implementation are reported, and that the policy of Indonesia and the status of operation of the facility are ascertained as needed even during the project implementation.