

Indonesia

Japanese ODA Loan Mid-term Review Report  
Rehabilitation and Improvement Project of Jakarta Fishing Port

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Field Survey : May 2009 - July 2009

1 . Project Profile



Map of Project Site



Pile foundation construction site

1.1 Project objectives

The objective of this project is to enhance efficiently utilize of the existing infrastructures through maintaining the function of the existing Jakarta Fishing Port (JFP) facilities by rehabilitation of the main structures of east and west quay wall of 1,349 m constructed as a Jakarta Fishing Port Construction Project (Phase I) ,which have been suffering from area-wide Jakarta City land subsidence, thereby contributing to effective and sustainable use of marine and coastal resources.

1.2 Outline of the Loan Agreement

Approved amount / Disbursed amount (as of March 2009)	3,437million yen / 412 million yen
Loan Agreement Signing Date / Closing Date	March 2004 / Sept. 2012
Executing Agency	Ministry of Marine Affairs and Fisheries (MMAF), Directorate General of Capture Fisheries (DGCF)
Main Contractor	Toa • Pembangunan Perumahan, PT. Utama Karya (Persero), PT Menara Agung Sentosa, CV Lestari Prima
Consulting Services	Oriental Consultants, Inc. • PT. Perentjana Djaja

### 1.3 Background

Five years have passed since L/A signing of the Jakarta Fishing Port Rehabilitation Project. The construction contract has been signed recently at the end of 2008. The civil works have just started since the beginning of this fiscal year except for the additional package of the emergency countermeasures against flooding signed at the end of 2007.

The north part of Jakarta where JFP is located has a significant amount of ground subsidence due to excessive ground water extraction in the city area. In addition, a global warming effect might have brought about frequent high tide, which can not be explained by estimated ground subsidence alone. As a result flooding by sea water in JFP became serious in these years, which may spoil the effectiveness of the JFP project itself. It is necessary to examine if the present project scope is proper or not and what kind of measures are required to maintain the effectiveness of the project. Thus, this project was selected as a mid-term review and the conclusion has been drawn from the field survey based on the review according to evaluation items.

## 2. Mid-term Review Results

### 2.1 Relevance

#### 2.1.1 Relevance to the National/Government Policies

The national plan and policy at appraisal was the National Development Program (PROPENAS : 2000—2004). The effective plan and policy at mid-term review (Sept. 2009) is the National Development Plan (RPJM 2005-2009). The Plan focuses on job creation and poverty reduction by higher economic growth rate. It has identified priority areas to achieve its goals:

- 1) Poverty reduction and economic growth;
- 2) Rectifying regional disparities; and
- 3) Promotion of human resource development through education, sanitary and medical activities, and social welfare.

One of the measures of the economic growth is to revitalize agriculture, forestry and fishery industries. More specifically, infrastructure, road network, and irrigation development are given a higher priority. Therefore, this project coincides with the Indonesian National Plan.

Based on the Strategic Plan of the Marine and Fisheries Development (2005-2009), which is valid at mid-term review, the objectives of the marine and fisheries development in the medium term development framework are:

- 1) To improve fishermen's living;
- 2) To improve the role of marine and fisheries sector in the national economy;
- 3) To maintain quality of environment conditions and to manage marine and fisheries resources for the sustainable development;
- 4) To increase consumption of marine products; and

5) To improve the marine role as the nation integrator and empowerment national marine culture.

The DGCF formulated a fishery development master plan in response to the MMAF's formulation of the master plan for developing the fishery industry and the market in 2003. JFP is categorized as an Oceanic Fishing Port in the Plan determined by the Government. The rehabilitation project of JFP coincides with the objectives of 1), 2), 3) mentioned above in the Strategic Plan (2005-2009).

#### 2.1.2 Relevance to the Development Needs

At appraisal, as JFP facilities settled due to the subsidence of Jakarta city area, which has been caused by excessive ground water extraction. In order to maintain the function of JFP and effective use of surrounding facilities, it had been pointed out that countermeasures should be taken against subsidence of JFP facilities including the east and west quay walls constructed as the JFP Construction Project (Phase I) completed in 1982,

The Government of Indonesia has recognized the subsidence since 1980 and investigated the fact. The ground subsidence has been measured at the fixed points using leveling measurements, ground water measurements and recently GPS methods. The results show that the degree of ground subsidence in Jakarta varies depending on the location and soil conditions but is influenced by the volume of ground water extraction. According to the GPS survey conducted by the Department of Geodetic Engineering at the Institute of Technology Bandung between Dec.1997 and June 1999, the land subsidence was observed with the rate of -2 to -12 cm/year.<sup>1</sup> The most significant subsidence was observed around the north-central and northeastern parts of Jakarta.

The height of the quay wall was designed at the elevation of +2.5 m so that the quay wall can be kept above sea level for 40 years based on the 1981 estimate of the wall subsidence, which is the same as the forecasted high tide level at +1.4 m of JFP standard water level in 2009.

At mid-term review, the quay wall has been constructed at the elevation of +2.8 m, 30 cm higher than the original design, because the frequent abnormal high tides (+1.7 m) were observed in these years possibly by global warming effect. So, this rehabilitation project is a well balanced project and meets both requirements of the ground subsidence and high tide.

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<sup>1</sup> Land Subsidence of Jakarta (Indonesia) and its Geodetic Monitoring System, Natural Hazards 23:365-387, 2001



Flooding in JFP (May 2009)

## 2.2 Efficiency

### 2.2.1 Project Outputs

The present port facilities before rehabilitation was constructed as the JFP Construction Project (Phase I) completed in 1982. It was anticipated with regret that the port facilities would not be effectively used due to the flooding of the wall during high tide caused by the settlement due to the Jakarta area land subsidence. This project aims to relief this situation and once completed, the present problems will be solved. The project is expected to be completed by 2011 including two years of the quay wall construction as planned and the maintenance period according to the present schedule.

The construction methods of the quay walls - install new piles reaching to the deeper bearing layer, reinforced concrete slabs on the existing quay walls together with the break water construction, and upgrading roads in the port- are appropriate as a rehabilitation work as well as restoring the already degraded function of JFP. The main parts of the civil work remain unchanged whereas the improvement length of access road and roads in JFP is significantly increased compared to the initial quantity due to unexpected ground subsidence of the port. The revetment wall construction/reconstruction to completely stop sea water intrusion and the new pump station construction to drain rain water were added.



Completed east revetment water walls (July 2009)

## 2.2.2 Project Period

Apart from the additional package of emergency countermeasures against flooding signed at the end of 2007, the start of the civil work was December 2008 when the contract was signed and the actual construction started in January 2009. We can not usually expect a significant progress for the first 3 months from the start. But the construction was going on and showed a significant progress during the mid-term review stage (May – July 2009). The construction will be completed by the end of 2010 since there are no land acquisition and compensation that sometimes hinder the progress.

There was a delay of one year for the consultant selection in comparison with the initially expected time period at appraisal. The construction started in December 2008 that is about two year delay compared with the initial construction period (Jan. 2007 to Dec. 2008) expected at appraisal. It was delayed due to the contract process including pre-qualification and tender. Nevertheless, the project will be completed by the loan closing date (September 2012) because the construction is expected to be finished in Dec. 2010.

## 2.3 Effectiveness (Impact)

### 2.3.1 Quantitative effect

Operation and effect indicators

Table-1 Operation and Effectiveness Indicators of JFP

Indicators (unit)	2001	2008	Target value (2 years after completion : 2012)
Fish catches (ton/year)	35,760	17,433	35,760
Fish handling amount (Rp./year)	1,673,000 million	265,916 million	1,673,000 million
Income from quay wall use (Rp./year)	2,350 million	4,120 million	2,350 million
Control tower usage (day/year)	0 (2003)	365	365

Source : Hearing from UPT

The purpose of the JFP rehabilitation project is to bring back JFP function to the former situation from the present degraded conditions. Thus, the same target values as at appraisal are adopted for the mid-term review.

Though original target year at appraisal was seven years after the completion of the project, it is proposed to apply two years after the completion that is usual time frame of the ex-post evaluation so that we can expect early realization of the rehabilitation effect.

### 2.3.2 Qualitative effect

It is expected to promote a private investment to JFP, which is a most important fishing port in Indonesia, of not only the frozen fish but also the export of fish products of JFP, once currently deteriorated functions of the fishing port such as the fish handling and production, and manufacturing and handling of fish processing is upgraded and maintained and furthermore the environment as a fresh food production center is secured by this rehabilitation project.

### 2.3.3 Impact

Currently it is impossible for fish landing during the high tide period. The fish handling will become always possible during a day together with the improved environment by the rehabilitation project. Accordingly already depressed fish landing and handling will be restored. In addition, the sustainable use of marine and coastal resources will be possible through the activated fish processing.

## 2.4 Others (factors that affect project effectiveness and impact)

### 2.4.1 Cooperation with NGO/Local Universities

There was no cooperation directly related to JFP with NPO and local universities.

### 2.4.2 Grant assistance/technical cooperation

Although the assistance from JICA expert of MMAF was expected at appraisal on the land subsidence due to excessive ground water extraction, there was no cooperation directly related to JFP with grant and technical cooperation.

### 2.4.3 Cooperation with other donors

No such cooperation was recognized.

### 2.4.4 Environmental/social impact

The environmental impact analysis (EIA), environmental management plan (RKL) and environmental monitoring plan (RPL) prepared at the Jakarta Fishing Port/Market Development Project phase IV are applied for the environmental impact. There was no adverse impact on natural habitat and environment, water contamination or air pollution. There was no land acquisition or relocation of houses for this project.

Insufficient operation and management of JFP is a rather problem to be solved. In reality, the port environment has been degraded due to standing dirty water (May 2009) and flooding on roads in the port and neighboring section. Indonesian government will start the improvement project by its own fund within 2009.

### 2.4.5 Operation/Maintenance/Technology/Finance

The facilities in JFP are operated and maintained by two organizations. One is the Fishing Port Management Agency (UPT) that is responsible for O/M of public facilities and another is the Fishery Corporation (PERUM) under the Ministry of National Enterprises responsible for commercial facilities. UPT is taking charges of O/M of the facilities of the rehabilitation project. In reality, there are obscure responsibilities in O/M and reconstruction between UPT and PERUM such as O/M of dirty water from the private facilities into the public sewage system.

There will be a problem of handling and transportation of fish because of the height differences between the quay wall level and the neighboring existing buildings. This is brought by the upgrading of quay walls by the rehabilitation project. It will be necessary not only to renovate partial problems but also to review the overall management schemes in the future when the subsidence develops more

than forecasted and abnormal high tide appears frequently due to possible global warming. The O/M responsible bodies are demarcated according to either public or private facilities. The detail procedures are written in the guideline (Standard Operation Procedures 2008). The guideline for each O/M activity determines the maintenance of quay walls, measures against sanitary problems and the related organizations in detail according to the work items for either public or private facilities. But this guideline only remains as a textbook for maintenance activities and work flow, which does not connected directly to the actual maintenance practices.

The financial situation of UPT in charge of the public facilities 2004 to 2007 is shown in the table below.

Table-2 Financial situation of UPT

(unit x1000 Rupiah)

year	Income	Expenses	
		Budget	Actual
2004	1,386,379	1,100,403	1,668,885
2005	758,503	6,372,575	1,135,832
2006	913,038	11,042,969	10,172,061
2007	1,204,507	10,731,168	9,956,019

Source : Data from UPT

The breakdown of the income-expenses in 2007 is shown in the table below.

Table-3 Breakdown of income/expenditure of UPT (2007)

(unit : x1,000Rupiah)

year	item	income	expenditure	
			budget	actual
2007	Enter fee ticket	754,685		
	Canteen	166,188		
	Tug boat	1,500		
	Building facility	174,656		
	Equipment storage	81,816		
	Sanitary	10,400		
	Others	15,261		
	Official expenses		2,360,180	3,020,330
	Goods/material		5,665,094	4,304,847
	Financial capital		2,705,894	2,630,843
	Total	1,204,507	10,731,168	9,956,019

As seen in Table-2, the expenditures exceed the income in the last four years resulting in deficit spending. Currently JFP is not financially independent because incomes from port activities are taken into the national revenue and then the necessary expenses are allocated by the government. Although the expenses from the year 2006 increased by ten times as much as the previous year, the present budget is not enough for O/M of public facilities in JFP according to UPT officials.

The biggest income item is the entrance fee of Rp.750 million. Other major items are the building facility of about Rp.170 million, and the canteen income of about Rp.170 million. Expenses are for O/M goods and materials of about Rp.4,304 million, for the official expenses of Rp.3,020 million ,

and for the financial capital of Rp.2,630 million. According to the amount of expenses budget, it could be said that O/M is minimum (goods and materials for maintenance) that barely maintain the port management without involving major reconstruction and repairs. Besides, the O/M budget of the pump station will be required for the drainage of rain water as countermeasures against sea water intrusion implemented by the rehabilitation project. Further budget allocation will be necessary to keep the rehabilitation project effective and sustainable.

### 3. Conclusions, Lessons Learnt, and Recommendations

#### 3.1 Conclusions

The ground subsidence of JFP and surroundings are extensive and rapid, which is far more than expected at appraisal of the rehabilitation project. In spite of the treatment facility located in JFP, dirty water stays in the port bringing about the worsened environment. Indonesian government will start the improvement project in the port by its own fund within 2009 in parallel with the rehabilitation project. It is expected to realize the better environment by the improvement project.

While the current rehabilitation project will restore the original function of the quay wall, there is a possibility that the gap between the heightened quay wall and the existing facilities might cause some difficulties to unload and transport goods. Although the improvement of private facilities are to be dealt by private sectors, if the subsidence and high tide developed more than expected in the future, spot or partial improvement might not be sufficient to solve the problem. If such case arises, it might be necessary to review and revise the entire operation plan of JFP.

#### 3.2 Recommendations

##### 3.2.1 Recommendations to Executing Agencies

The establishment of the appropriate O/M organization and the budget allocation are crucial and a key to the smooth start of O/M after completion of the project. It is also necessary to clearly demarcate the responsibility of UPT and PERUM again for maintenance and operation of facilities because presently it is not clear on some points. The well manned, equipped with better technology organization, and sufficient income sources and budget will be required for a satisfactory O/M of the port.

It is necessary to study comprehensive measures for the future subsidence problems in JFP as a whole. For this purpose, the formulation of an organization for investigating restoration of the function of JFP is necessary with the efforts of both private and public O/M organizations.

##### 3.2.2 Recommendations to JICA

It is appropriate to keep using the same operation and effect indicators set at appraisal for JFP as the indicators because the objectives of the rehabilitation project is to restore the previous function and DGCF has the same idea as well.

#### 3.3 Lessons Learnt



None