

Indonesia

Ex-Post Evaluation of Japanese ODA Loan Project
Dumai Port Development Project (Phase II)

External Evaluator: Takako Haraguchi, International Development Associates

0. Summary

The expansion of cargo-handling facilities of Dumai Port is relevant to both policy priority and cargo demand including palm oil. Although efficiency of the project was fair due to delays in the project implementation, high effectiveness is shown in such evidence as the cargo throughput that largely exceeds the planned level as well as the shortening of the duration of vessel's stay. As a consequence, this project supported the high economic growth brought by palm oil production in Riau province. The status of the operation and maintenance of the facilities developed by the project is good, and thus sustainability is high. In light of the above, this project is evaluated to be highly satisfactory.

1. Project Description



Project Location



Palm oil wharf newly constructed
by the project

1.1 Background

Dumai Port, located in Dumai city, Riau province in the eastern central area of Sumatera Island and facing Straits of Malacca, is the second largest public seaport in the island after Belawan Port in Medan in the north. In response to the increasing cargo demand along with the rapid economic development of the province, Dumai Port Development Project Phase I (loan agreement signed in 1989) was implemented including the construction of a 400m-long multipurpose wharf and the procurement of cargo handling equipment. However, further expansion of the port became necessary as oil palmplantation expanded in the hinterland and thus the throughput of palm oil increased much faster than projected besides general cargo.

1.2 Project Outline

The objective of this project is to respond to increasing demand for cargo handling at Dumai Port located in Riau Province, Sumatera Island, by construction of palm oil wharf and extending the multipurpose cargo wharf, thereby contributing to the promotion of commodity distribution and the economic development of the region.

Loan Approved Amount/ Disbursed Amount	3,819 million yen / 2,895 million yen
Exchange of Notes Date/ Loan Agreement Signing Date	January 1998 / January 1998
Terms and Conditions	Interest Rate: 2.7% (2.3% for consulting services) Repayment Period: 30 years (Grace Period: 10 years) Conditions for Procurement: General Untied
Borrower / Executing Agency(ies)	Republic of Indonesia / Directorate General of Sea Transportation (DGST), Ministry of Transport
Final Disbursement Date	November 2008
Main Contractor (Over 1 billion yen)	PT. Adhi Karya (Indonesia) – Marubeni Corporation (Japan) – Rinkai Construction (Japan) (JV)
Main Consultant (Over 100 million yen)	PT. Diagram Triprosri (Indonesia) - PT. Indulexco (Indonesia) – Pacific Consultants International (Japan) (JV)
Feasibility Studies, etc.	“The Study on the Development Project of Dumai Port in the Republic of Indonesia”, JICA, 1983. (F/S)
Related Projects (if any)	“Dumai Port Development Project E/S” (L/A signed in 1983) “Dumai Port Development Project” (L/A signed in 1989) (hereafter “the Phase I project”

2. Outline of the Evaluation Study

2.1 External Evaluator

Takako Haraguchi, International Development Associates, Ltd.

2.2 Duration of Evaluation Study

Duration of the Study: October 2010 – October 2011

Duration of the Field Study: January 30, 2011 – February 13, 2011 and April 24, 2011 – May 3, 2011

2.3 Constraints during the Evaluation Study (if any)

None.

3. Results of the Evaluation (Overall Rating: A¹)

3.1 Relevance (Rating: ③²)

3.1.1 Relevance with the Development Plan of Indonesia

The Sixth Five Year Development Plan (1994-1998) at the time of the appraisal of this project held several development objectives in the sea transport sector including (i) port development as a center of economic activities, (ii) development of international hub ports functioning as cargo collection bases, (iii) development of non-commercial ports in remote areas, and (iv) development of local container and distribution bases. They are consistent with the direction of this project to develop a local hub port.

At the time of the ex-post evaluation, the Medium-term National Development Plan (2010-2014), the current national development plan, holds sea transport objectives such as (i) safety and security that meet international shipping standards, (ii) increase of market share of national shipping fleet, (iii) strengthening of international competitiveness and national logistic distribution by enhanced quality and quantity of services, (iv) more accessibility of sea transportation services in border regions, (v) establishment of the national port master plan, and (vi) promotion of entry of local governments, state-owned enterprises, private sectors and communities into sea transport services based on the new Maritime Law of 2008. The significance of this project is seen particularly in the light of the objectives (iii) and (vi) above. In relation to the objective (vi), options of sea transport development are more various than before, and the status and priority of the Dumai Port development do not seem fully consistent in several policies³. Nevertheless, such difference is not too big to nullify the significance of this project.

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

² ③: High, ② Fair, ① Low

³ First, the National Long-term Development Plan (2005-2025) positions seaports in Sumatera island in the following way: Batam Port located in a free trade zone in Riau Islands province as the hub port; Belawan Port as the international port for liquid and dry bulk cargo; and others as feeder ports for Batam Port. Second, the Medium-term Strategy of Ministry of Transport (2010-2014), aiming to selectively develop strategically-valuable ports, gives high priority to Belawan Port among ports in Sumatera. Third, in Riau province, development of Tanjung Buton Port in the capital Pekanbaru city is underway with participation of the Directorate General of Sea Transportation (DGST). Forth, the national port master plan was still being prepared when the evaluator visited Indonesia for the ex-post evaluation, but according to the Directorate of Ports and Dredging of DGST, the directorate in charge of the master plan, construction of a new public port in Dumai was being considered.

3.1.2 Relevance with the Development Needs of Indonesia

There was a very high demand for cargo, especially palm oil both before and after the project. At the time of the appraisal, the annual average growth rate of cargo throughput of Dumai Port in the past 10 years exceeded 20% (compared to 4-6% in the whole country). In particular, palm oil throughput grew at 30% every year during 1991-1996. At that time, the congestion was increasing at Dumai Port, which only had the old cargo wharf and the 400m-long multipurpose wharf with pipelines to ship palm oil. The total cargo throughput, 2,320 thousand tons in 1996, exceeded the port capacity of 2,100 thousand tons.

As for the situation up to the time of the ex-post evaluation, the total throughput of Dumai Port grew at the annual average rate of 11% (or 5% on palm oil only) between 1994 and 2009, while in the whole country the rate was 4% in 1994-2006. The production of palm oil in Riau province increased at 16% every year in 1994-2009, which shows the continuing need for shipping facilities.

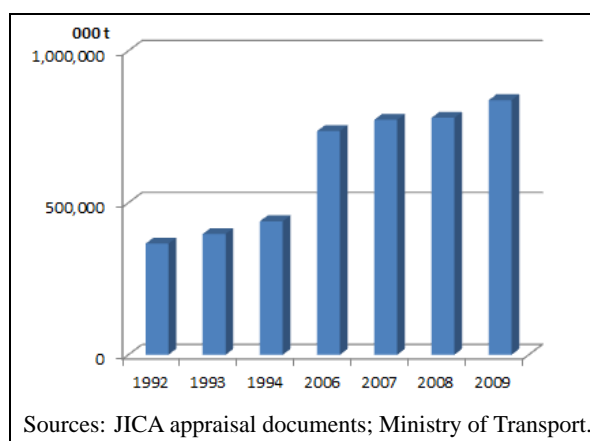


Figure 1: Demand for Maritime Cargo in Indonesia

The cargo handled at Dumai Port mainly consists of liquid bulk (palm oil) and dry bulk, and containers are not handled at the times of both the appraisal and the ex-post evaluation.

Demand for passenger transportation was growing fast at the time of the appraisal, and the throughput of Dumai Port was 450 thousand persons in 1996 compared to the capacity of 330 thousand persons. The demand then grew at annual average of 2% in 1996-2009. However, according to the Dumai branch of Indonesia Port Corporation I (PT Pelabuhan Indonesia I: PELINDO I), the operation and maintenance agency of the port, factors such as the emergence of low-cost air carriers⁴ make the future prospect on passenger demand unclear.

3.1.3 Relevance with Japan's ODA Policy

The country assistance strategy for Indonesia (agreed in 1994) held the improvement of industrial infrastructure as one of its five priority areas, and assistance in the transportation sector was positioned in the area.

⁴ For example, several carriers have regular flights between Jakarta, Pekanbaru and Riau Archipelago (including Batam and Bintang Islands that are free trade zones) and between Pekanbaru, Malacca and Kuala Lumpur (Malaysia).

This project has been highly relevant with the country's development plan, development needs, as well as Japan's ODA policy, therefore its relevance is high.

3.2 Efficiency (Rating: ②)

3.2.1 Project Outputs

The originally-planned outputs of this project consisted of the expansion of port facilities (extension of the multipurpose cargo wharf, construction of a palm oil wharf, revetment and reclamation, construction of container yard, etc.) and the consulting services. The comparison of the planned and actual outputs is shown in the table at the end of this report. In summary, the items related to the multipurpose wharf were reduced from the plan mainly due to a rise in steel price, while those related to palm oil shipping were increased⁵. Also, the construction of container yard was judged as too early, and thus only revetment and reclamation were carried out⁶. Besides the original plan, the project produced some additional outputs such as the construction of an inter-island wharf, rehabilitation of the existing multipurpose wharf (replacement of fenders that were developed in the Phase I project), and construction of drainage lines to prevent flooding.

These works are components of the phased construction plan based on the Dumai Port development master plan, and the mentioned changes of the outputs are either partial acceleration or postponement of the master plan. In the light of the development needs over Dumai Port as mentioned in *3.1 Relevance*, it is considered appropriate that the project allocated more resources to palm oil facilities that are highly needed. Figure 2 shows the master plan and the status of its implementation, and Figure 3 shows the layout of the port including the outputs of this project. Also see Table 1 for the overview of major wharfs.

As a result of the site visit, the completion of the outputs was well confirmed.

⁵ The original plan designed two 200m-long dolphin-type berths. However, the project changed the design to one 400m-long quay-type wharf, which allows more flexible berth layout (i.e., it can provide two or three berths depending on the size of vessels).

⁶ Meanwhile, the project widened the extended part of the multipurpose wharf from planned 25m to actual 40m to accommodate cranes to handle containers.

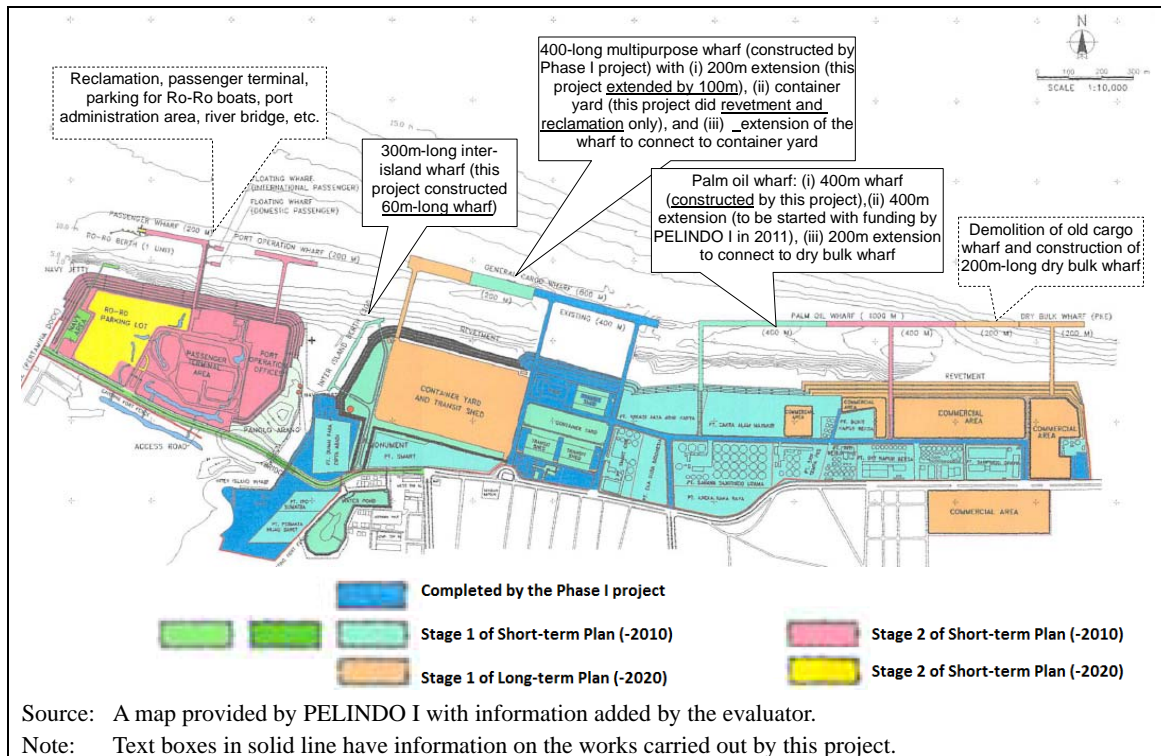


Figure 2: Dumai Port Development Master Plan (revised in 2009) and the Project Outputs

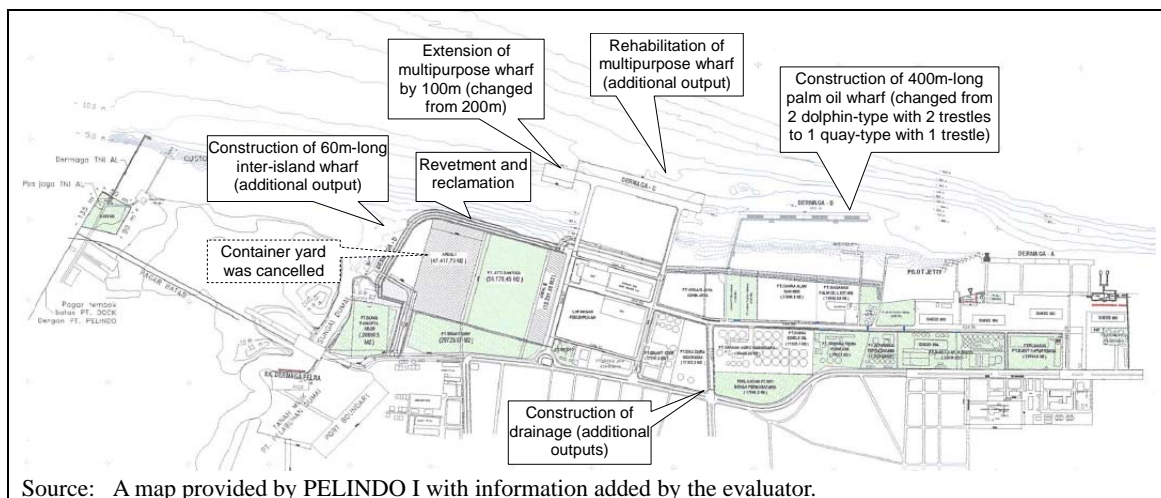


Figure 3: Layout of Current Facilities of Dumai Port including the Outputs of this Project

Figure 1: Overview of Major Wharfs of Dumai Port (Underlined: outputs of this project)

Name of wharf	Length(m)	Width(m)	Depth(m)	Use
Old cargo wharf	348	16	-7	General, palm oil
<u>Multipurpose wharf</u>	<u>400+100</u>	<u>25, 40</u>	-11	Dry bulk, palm oil
<u>Palm oil wharf</u>	<u>400</u>	<u>18</u>	<u>-11</u>	Palm oil
<u>Inter-island wharf</u>	<u>60</u>	<u>10</u>	<u>-3</u>	Small and medium size interisland ship

Source: PELINDO I



View of the palm oil wharf and pipe rack from the end of the trestle



Extended part of the multipurpose wharf after unloading of palm kernel shell (livestock feed).
The Phase I project output is in back.

The consulting services including detailed design, tender assistance and environmental impact assessment (EIA) for future construction of the passenger terminal were provided as planned. In addition, a study on the common pipeline system for more efficient cargo handling and port management was conducted, and the port management information system was developed. The work volume of the consultants increased due to the additional services and the extended implementation period (see 3.2.2.1 *Project Period*).

3.2.2 Project Inputs

3.2.2.1 Project Cost

The planned total project cost estimated at the appraisal was 5,092 million yen, and the actual cost was 3,281 million yen, which was lower than planned with the cancellation of some outputs⁷. Likewise, the approved amount of the Japanese ODA loan was 3,819 million yen, and the disbursed amount, 2,895 million yen, was lower than planned.

3.2.2.2 Project Period

In the appraisal, the project period was planned to be 76 months from November 1997 (signing on the loan agreement) to February 2004⁸. The actual project duration, 133 months from January 1998 to January 2009, was significantly longer than planned. The delays are notable in the stages of selection of consultants (26 month longer than planned) and tender (21 month longer than planned), where it took long time to consider the method of consultant selection and conditions of procurement and to carry forward the procedures⁹ under the

⁷ Out of the planned project cost as of the appraisal, approx. 1,350 million yen had been estimated for the outputs that were cancelled later. Therefore, taking the additional outputs into consideration together, the actual project cost is still lower than planned even after subtracting the cost that would have been spent for the cancelled outputs.

⁸ In this project, the project completion date was defined as the end date of the maintenance period (one year after the completion of construction).

⁹ Due to the delays, the loan agreement period was extended, and the end date of the period was

unstable political and economic conditions.

Although the project cost was within the plan, the project period exceeded, therefore efficiency of the project is fair.

3.3 Effectiveness (Rating: ③)

3.3.1 Quantitative Effects

3.3.1.1 Results from Operation and Effect Indicators

Figure 4 shows the cargo throughput of Dumai Port. It had already exceeded the demand forecast¹⁰ at the project appraisal in 1996, and continued to increase to a level far beyond the handling capacity before the project completion. In 2010, total cargo throughput was approx. 6,630 thousand tons, of which palm oil, the main cargo, was approx. 4,890 thousand tons. The volume of cargo other than palm oil (such as fertilizer and forest products) has remained almost the same level over time. The number of palm oil companies operating at Dumai Port increased from 5 (with the total palm oil tank capacity of 160 thousand tons) to 13 (380 thousand tons) before and after the project.

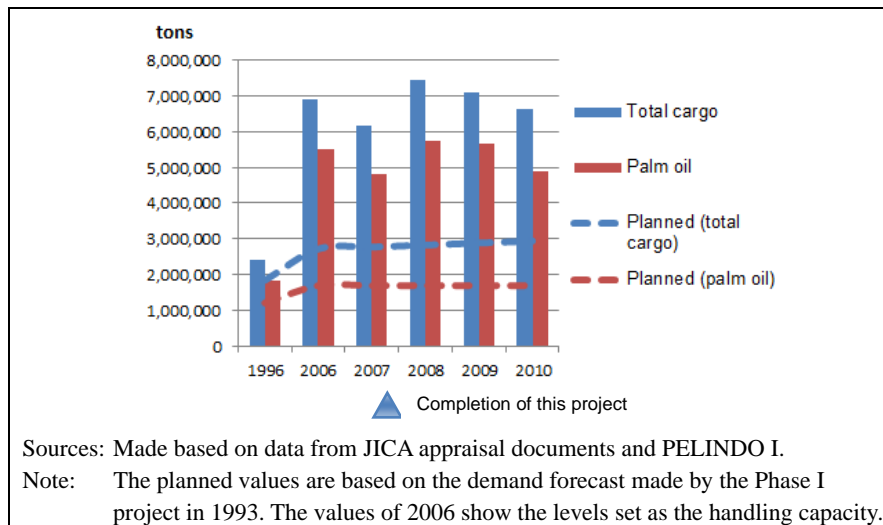


Figure 4: Trend of Cargo Throughput at Dumai Port

changed from February 2006 to November 2008. According to the record of the Indonesian government and Japan International Cooperation Agency (JICA), the situation was as follows: in the original plan, project consultant was to be selected by direct appointment of the consultant that provided services in the Phase I project. However, under the unstable political and economic conditions due to the currency crisis and political power shift, the executing agency proposed to select consultant by short list. It took a long time for JICA to review the proposal for appropriateness and for the executing agency to prepare the short list. As for the mode of procurement, the executing agency proposed to ease the pre-qualification criteria to promote price competition under the said political and economic conditions. JICA insisted on adherence to the standard and appropriate criteria, and it took time for both sides to reach a consensus.

¹⁰ The appraisal of this project used the demand forecast made in 1993 by the Phase I project.

The project decreased, though not to the ideal level, the congestion of the port¹¹. As shown in Figure 5, the length of stay of vessels in terms of turnaround time was shortened after the project to average 85 hours, while the ideal time is considered to be around 48 hours¹². Berth occupation rates were very high at around 90% before the project, and they generally decreased as this project increased the number of berths from 7 to 11 (Table 2). However, the rate on the palm oil wharf increased again to more than 80% in 2010.

Ship calls also increased rapidly from the level at the appraisal. However, the gross tonnage is decreasing except the year 2010 (Figure 6), and trends of increasing in size of vessels are not seen unlike many other seaports.

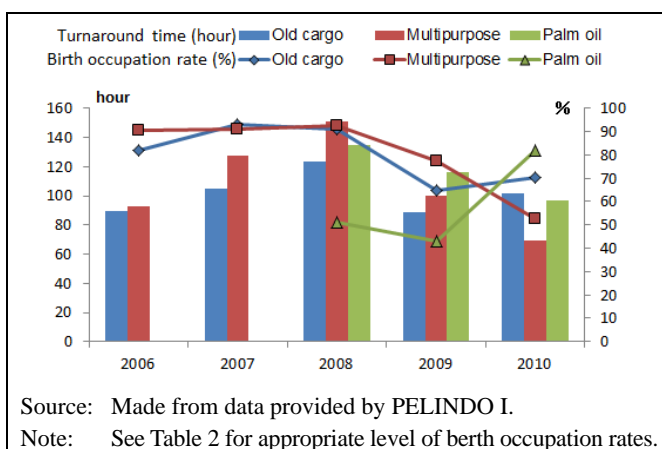


Figure 5: Turnaround Time per Vessel at Dumai Port

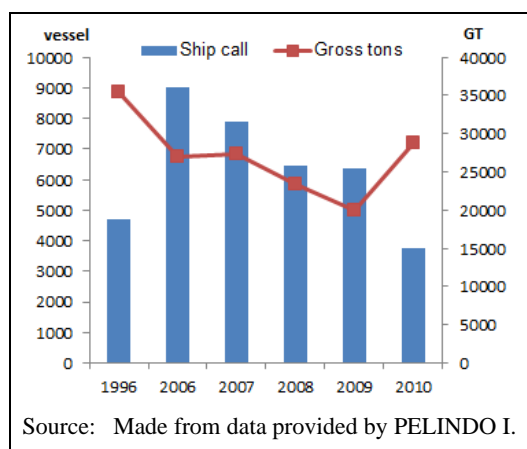


Figure 6: Number of Ship Calls to Dumai Port

Table 2: Number of Berths of Dumai Port

	Before this project	After this project (planned value)	After this project (Actual)	Appropriate level of berth occupation rate
Old cargo wharf	3 berths	3 berths	3 berths	59%
Multipurpose wharf	4 berths	6 berths	5 berths	70%
Palm oil wharf	None	2 berths	3 berths	59%

Sources: JICA appraisal documents; PELINDO I.

Note: Appropriate level of berth occupation rates depends on the number of berths. The figures of the appropriate level presented in this table were taken from JICA.

¹¹ See also 3.3.2 *Qualitative Effects*.

¹² Turnaround time is defined as the time between a vessel's arrival at- and departure from the pilot station (water area where a pilot meets the vessel), including waiting time at the pilot station, navigation time to- and within the port, loading/unloading and related activities. The plan at the project appraisal was to reduce waiting time from 2.08 days to 0.04-0.01 days. However, as Dumai Port defines and records time spent by vessels in a different way from the one as of the appraisal, data comparable to the planned values were not collected.

3.3.1.2 Results of Calculations of Internal Rates of Return (IRR)

(1) Financial Internal Rate of Return (FIRR)

FIRR was not calculated in the project appraisal, but the financial analysis made by the consultant of the Phase I project computed a negative FIRR. At the time of the ex-post evaluation, a trial re-calculation was made by substituting the actual figures of cost (project cost, operation and maintenance cost, and interest payment for this project) and benefit (port revenue) as much as possible¹³, and the value turned out to be 4.9%. A possible factor for the higher FIRR than the calculation by the Phase I project consultant is the great decrease in the project cost compared to the estimated amount. Although the higher cargo throughput than estimated is also considered to have affected the value, verification was not possible due to the limitation of available data.

(2) Economic Internal Rate of Return (EIRR)

The planned EIRR value calculated at the appraisal was 13.1% taking the project cost and operation and maintenance cost as the cost items and reduction of waiting time as the benefit item. At the time of the ex-post evaluation, EIRR was roughly recalculated at 22.2% but to the extent possible with the available data¹⁴. Like FIRR, the increase in the recalculated value might be due to the significant decrease in the project cost. Further analysis is not possible, however, because before- and after comparison of data is difficult.

3.3.2 Qualitative Effects

(1) Opinions of palm oil companies

On the site visit for the ex-post evaluation, the evaluator conducted interviews with two palm oil production and export companies (one of them is the biggest in the industry) and one shipping company that handles palm oil. All of the three respondents expressed a common opinion that the congestion of the port was eased since this project developed facilities specialized for palm oil tankers. All three companies have expanded their palm oil business at Dumai Port (e.g., concentration of palm oil from plants in other areas of Indonesia to Dumai Port and increase of frequency of visits to Dumai Port). They also said

¹³ The project life was set at 30 years in the same way as the calculation in the calculation by the Phase I project consultant. In estimating the extent of contribution of this project to the total revenue, data were not available on the proportion of revenue from each wharf, and thus the proportion of the number of berths at each wharf was alternatively used.

¹⁴ As data on waiting time with the same definition as that of the appraisal were not available, the turnaround time before the project completion (2007) was assumed as the length of stay that a vessel must have spent without this project. Then, time saving was calculated as the differences between the said turnaround time and the turnaround time after 2008. Data on current ship operation cost were not available, either. Therefore, the evaluator used the amount that was used at the appraisal after converting to the price of the base year. The project life was set at 30 years.

that waiting time was shortened from 6-7 days before the project to 2-3 days after the project. Although the figures are on a different level, the trend is consistent with the one described in 3.3.1 *Quantitative Effects*.

(2) Improved efficiency of cargo handling

According to PELINDO I, the productivity of the loading/unloading at Dumai Port was improved due to the development of facilities specialized for palm oil by this project as well as to some other factors such as the enhancement of cargo handling equipment (PELINDO I's financing) and the enhancement of performance of palm oil pumps¹⁵ (financing by palm oil companies).

On the other hand, some point out that the productivity is not maximized yet. For example, the project consultant recommended the streamlining of palm oil handling by introducing a common pipe system. However, there is a study by another expert that palm oil companies prefer using their own pipes rather than the common pipe, inside which they consider residuals of other companies' products might remain. In addition, one pointed out that palm oil tankers are allowed to berth at other wharfs than the palm oil wharf, and the mixing of tankers and other cargo ship especially at the multipurpose wharf may hinder efficient berth management. PELINDO I commented on the former issue that the common pipe has been installed as planned, but the evaluator could not check details of its utilization. As for the latter issue, the evaluator could not reach a firm conclusion given an opposite opinion from the above-mentioned shipping company that it is favourable for them that they have more choices of wharfs to berth tankers.

This project has largely achieved its objectives, therefore its effectiveness is high.

3.4 Impact

3.4.1 Intended Impacts

Figure 7 shows the gross regional domestic products (GRDP) of provinces in Sumatera Island. GRDP of Riau province shows the fastest growth in the island, being 319 trillion Rupiah in 2009. This GRDP consists mostly of production of plantation crops such as palm, and the cropped area is likewise increasing steadily (approx. 1,910 thousand hectares in 2009). GRDP per capita in Riau province in 2009 was approx. 60 million Rupiah (approx. 600 thousand yen), which was far beyond the national average of 24 million Rupiah. As foreign export accounts for around 80% of the palm oil throughput at Dumai Port (shown in 3.3 *Effectiveness*), the port is

¹⁵ According to PELINDO I, the productivity was improved from 150 tons per hour to 300 tons per hour.

considered to have contributed to economic growth through exports of palm oil, a principal product of the area.

At the same time, the data collected for the ex-post evaluation also show large contribution of other ports in Dumai, not only Dumai Port: while palm oil production in Riau province was 5,940 thousand tons, loading at Dumai Port was 4,930 thousand tons¹⁶. In Dumai city, there are five to six ports or similar facilities where big private palm oil companies ship their products. If including the volume of palm oil loaded at those facilities, the total loading in Dumai City amounted to approx. 7,950 tons, which shows palm oil is collected and loaded from outside Riau province (Figure 8)¹⁷.

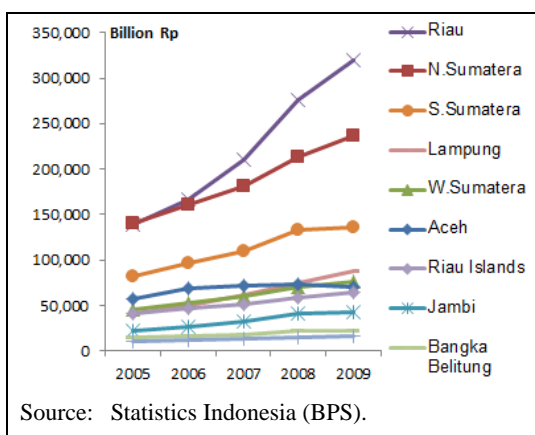


Figure 7: GRDP in Sumatera Island

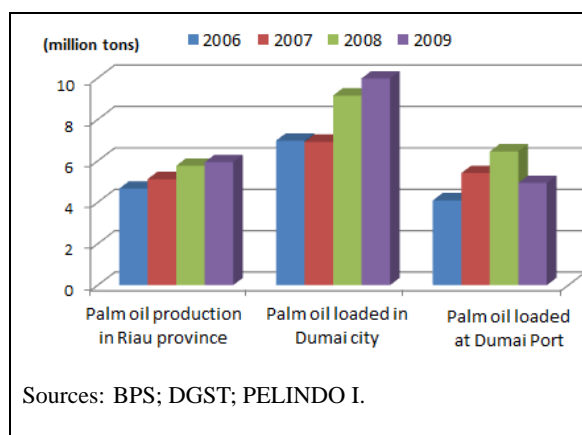


Figure 8: Palm Oil Production in Riau Province and Loading in Dumai

The maximum positive impacts of this project might be hampered by the poor condition of access roads. Palm oil produced in Riau province is all transported by tank trucks. However, the two-lane national highway is heavily damaged. On the way to the port during the field study, the evaluator often observed large trucks that were stuck in potholes and causing traffic jams. The condition of roads in Dumai City is also poor, and some point out dusts (see the next section). Such situations might negatively affect container transportation that may be started in future¹⁸.

¹⁶ Palm oil production in Riau province is equivalent to around 30% of the production in Indonesia. At Belawan Port, the largest seaport in Sumatera Island, 300-400 tons of palm oil is loaded every year. According to PELINDO I, palm oil shipped from Belawan Port is collected mainly from Aceh province and the northern part of Riau province.

¹⁷ In 2009, the loading at Dumai Port decreased while the loading at other ports/shipping facilities in Dumai increased. This is understandable if considering the fact that Dumai Port only cannot absorb the demand and the on-going transition of organizational structure of port management that have been dominated by PELINDO so far (see 3.5 *Sustainability*), and thus would not lessen effectiveness of Dumai Port, which has handled palm oil beyond its capacity.

¹⁸ The evaluator visited Belawan Port during the field study for the ex-post evaluation. Belawan Port is around 10km away from Medan, the capital of North Sumatera province, and the road conditions looked good with a well-maintained motorway connecting the port and the city center.

Currently, a north-south highway in Sumatera is being planned as part of the Indonesia Economic Development Corridors¹⁹. The highway route from Pekanbaru, the capital city of Riau province, to Dumai is being discussed. Once this plan is realized, access to Dumai Port will remarkably improve.



Palm Oil Company Area
in the Port Premises



Berth Allocation Meeting with Shipping
Companies Organized by PELINDO I
Dumai Branch Every Day

3.4.2 Other Impacts

(1) Impacts on natural environment

According to the EIA approved in 1997, this project was not likely to cause serious environmental problems because large-scale dredging was not planned and general environmental measures including disposal of effluent water and control of turbidity²⁰ were considered. Actually, no particular problems were reported during the project implementation.

After the project completion, the Dumai branch of PELINDO I, the operation and maintenance agency of this project, commissions environmental monitoring to an outside laboratory twice a year. The monitoring results and measures taken by PELINDO I are as follows:

Air: there is a high level of dust inside and outside the port due to bulk cargo and trucks. The other parameters are within the standard. In response, PELINDO I has repaired the

When the evaluator visited Dumai Port, it took more than five hours to drive the 150km-long route from the provincial capital Pekanbaru to the port.

¹⁹ Indonesia Economic Development Corridors is a plan of the Indonesia government to build economic clusters and business centers in all major islands in Indonesia to support local economies.

²⁰ The passenger terminal construction plan in the Dumai Port development master plan required a separate EIA as the project site was in the habitat of mangroves, and the EIA was included in the consulting services of this project. However, the passenger terminal plan was later excluded from the master plan due to low profitability and a passenger terminal that a local government constructed near Dumai Port.

port roads and surrounding roads little by little, though that seemed not enough yet. There seems no such measure as water sprinkling.

Water: although water is polluted to some extent by palm oil facilities, passengers and nearby residents, the measured parameters are all within the standard. No information was available on countermeasures by PELINDO I.

Flora and fauna: mangroves have decreased due to car exhaust and construction works, but there are no quantitative indicators to support it. PELINDO I has planted mangrove trees within the port after the project.

Living conditions of people: according a survey to people, a half of the respondents agreed on positive changes such as “more convenience” and “more employment”, both due to the expansion of the port, and the rest half said “no change”.

(2) Land acquisition and resettlement

This project did not involve land acquisition and resettlement.

(3) Unintended positive/negative impacts

No other impacts than already mentioned were not observed.

From the above, the intended impacts are considered to have been brought. When estimating the number of beneficiaries of this project, population of Riau province (approx. 5,540,000 according to the census in 2010) would give an indication of the size of the beneficiaries including indirect ones.

3.5 Sustainability (Rating: ③)

3.5.1 Structural Aspects of Operation and Maintenance

As planned in the appraisal, the operation and maintenance (O&M) agency of this project is the Dumai branch of PELINDO I, a 100% state-owned enterprise. As one of the four PELINDO in the country, PELINDO I is in charge of 12 ports located in three provinces in the north and central Sumatera, including Dumai Port and Belawan Port.

On the government side, DGST has Port Administration Office (ADPEL) at each port. ADPEL, headed by Harbourmaster, has been in charge of port security.

PELINDO had exclusively undertaken management (excluding security), operation and maintenance of public ports, until the new Maritime Law in 2008 clearly separated responsibilities of port administrators and port operators, and provided that the government select port operators through competitive bidding among state-owned enterprises, local governments and private companies that are registered as port entities.

The separation of port administrator and port operator is to be gradually carried out from

large ports²¹. It had not taken place on Dumai Port as of the time of the field study for the ex-post evaluation, though there was a plan to set up the Port Authority to undertake port administration²². As for operation of existing ports, Article 344 of the new Maritime Law stipulates that the current operators keep operating them. PELINDO I is already entitled as a port entity, and has received business permit from Ministry of Transport under the new system. Therefore, it is likely that PELINDO I will continue operation of Dumai Port without new bidding.

The ownership of facilities of Dumai Port will be continuously on PELINDO I based on Article 345 of the Law and the notice dated May 2011 from Ministry of Transport to PELINDO I.

As shown above, it is likely that the ownership and operator of Dumai Port will not change even with the transition of the port management structure, thus being no serious problem on operation and maintenance of this project.

3.5.2 Technical Aspects of Operation and Maintenance

Technical problems are not seen, either. Although the technical staff (12 persons) in charge of maintenance of Dumai Port was reported as insufficient in both quantitative and qualitative terms at the time of the project completion, the number was increased to 16 persons after the project, and PELINDO I says they are sufficient in both number and capabilities. The number of port operation staff is 82 including pilots and tag boat operators.

PELINDO I provides periodic training to the staff at its head office in such subjects as maintenance of the electric system and civil engineering facilities as well as operation of equipment.

3.5.3 Financial Aspects of Operation and Maintenance

The O&M cost for the facilities developed by this project is all borne by PELINDO I without government subsidies. PELINDO I is in a good financial condition, and receives “AA” (the highest rating) every year from Ministry of State-owned Enterprises.

There is a system of cross-subsidizing branches (ports) under PELINDO I, but Dumai Port turns a profit every year given the increase in cargo throughput. The O&M expenses are thus fully covered by the revenue.

²¹ Currently, public ports in Indonesia are classified in Special Port (4 ports including Belawan Port) and Class I to Class V ports. Dumai Port is one of the 11 Class I ports.

²² Port Authority is to be set up under DGST. At ADPEL in Dumai there was an explanation that ADPEL, which is also under DGST, would undertake a role of Port Authority. However, official information was not available on details of the administrative structure after the transition.

Table 3: Income Statement of Dumai Port

(Unit: million Rupiah)

	2008	2009	2010
Operating revenue	123,959	164,226	137,713
Operating expenses	92,659	83,637	92,320
of which O&M	64,374	50,746	55,126

Source: PELINDO I.

Table 4: Financial Indicators of PELINDO I

(Unit: million Rupiah and %)

	2008	2009	2010
Net profit	180,366	174,725	164,824
Return on asset	12%	11%	8%
Current ratio	70%	81%	60%

Source: PELINDO I.

3.5.4 Current Status of Operation and Maintenance

According to PELINDO I, the facilities developed by this project are maintained in accordance with the port maintenance guidelines. The good conditions of the facilities were also observed during the site visit for the ex-post evaluation.

No major problems have been observed in the operation and maintenance system, therefore sustainability of the project effect is high.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The expansion of cargo-handling facilities of Dumai Port is relevant to both policy priority and cargo demand including palm oil. Although efficiency of the project was fair due to delays in the project implementation, high effectiveness is shown in such evidence as the cargo throughput that largely exceeds the planned level as well as the shortening of the duration of vessel's stay. As a consequence, this project supported the high economic growth brought by palm oil production in Riau province. The status of the operation and maintenance of the facilities developed by the project is good, and thus sustainability is high.

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

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

The division of responsibility between port administrators and port operators is under way based on the new Maritime Law. It is expected that Dumai Port will soon have Port Authority to which the responsibilities such as management of vessels and navigation that PELINDO I currently undertakes will be transferred. When that occurs, DGST is recommended to share information with ADPEL and PELINDO I in order to avoid any negative effects on port operation and maintenance.

In addition, it is recommended that DGST ensure full coordination among future development of Dumai Port and other port development initiatives taken by local governments and the private sector, new entities to port operation.

4.2.2 Recommendations to JICA

None.

4.3 Lessons Learned

As mentioned in the *Impact* section, the conditions of access roads to Dumai Port are bad, and that might affect the further achievement of the impact-level objectives of this project. The scope of this project did not include road development components, while there are cases of in other countries where port development projects incorporated such components that would closely associated with project effects and consequently brought an improvement of the total logistic distribution in the area. Although many countries have separate administrative bodies for port development and road development, respectively, future port development projects should consider a possibility of maximizing the impacts by totally developing ports and access roads.

Comparison of the Original and Actual Scope of the Project

Item	Original	Actual
1. Project Outputs		
Extension of multipurpose wharf	Length: 200m, Width: 25m, Depth: -10m	Length: 100m, Width: 40m, Depth: -10m
Construction of palm oil wharf	2 dorphin-type Length: 200m, Depth: -10m Length: 200m, Depth: -12m	1 quay-type Length: 400m, Depth: -12m
Construction of trestles	1 for multipurpose wharf, 2 for palm oil wharf	For multipurpose wharf: cancelled, For palm oil wharf: same as planned
Construction of container yard	3ha	Cancelled
Revetment and reclamation	Revetment: 1,000m Reclamation: 260,000m ²	Same as planned
Other construction works	Soil improvement, utilities	Soil improvement: mostly as planned Water supply: cancelled <u>Additional outputs:</u> Inter-island whafr (length: 60m) Drainage, Mooring dolphins, Rehabilitation of existing facilities
Consulting services		
International engineers	132 MM	176.5 MM
Local engineers	219 MM	267.3 MM
2. Project Period	November 1997 – February 2004 (76 months)	January 1998 – January 2009 (133 months)
3. Project Cost		
Amount paid in Foreign currency	2,650 million yen	742 million yen
Amount paid in Local currency	2,442 million yen (186,848 million Rupiah)	2,539 million yen (317,375 million Rupiah)
Total	5,092 million yen	3,281 million yen
Japanese ODA loan portion	3,819 million yen	2,895 million yen
Exchange rate	1 Rupiah = 0.052 yen (As of April 1997)	1 Rupiah = 0.008 yen (Average between 2001 and 2008)