

Eastern Seaboard Development Plan Laem Chabang Port Project (1) – (3)

1. Project Summary and Japan's ODA Loan

- (1) **Background:** Since Bangkok (Klong Toey) Port, which handled almost all of Thailand's shipping, is a river harbor with shallow water and narrow channel, large container ships are unable to enter there. For this reason, in order to be able to handle larger container ships, it was essential to construct a deep sea port to supplement and substitute for Bangkok Port. Furthermore, the construction of a commercial port to meet shipping demands (in and out) of the industrial estates built in the Eastern Seaboard was indispensable as a key element in the Eastern Seaboard Development Plan.
- (2) **Objectives:** To supplement and substitute for Bangkok Port to cope with entry of larger container carriers
- (3) **Project Scope:** New construction of a deep sea commercial port. The ODA loan covered the total sum of foreign currency cost for construction. PAT has established the master plan in three phases (Phase 1 through 3) to meet the container demands by the year 2025. Phase 1 (annual capacity to handle containers: 1.65 million TEU) includes the portion covered by the ODA loan plus the portion expanded by PAT.
- (4) **Borrower/Executing Agency:** Both are the Port Authority of Thailand (PAT) (Guarantor: Kingdom of Thailand)
- (5) **Outline of the Loan Agreement:** Three loan agreements were concluded according to the scope of project (dredging and landfill, other construction work, and procurement of equipment) for the portion covered by the ODA loan in Phase 1 for the Laem Chabang Port.

	Phase (1)	Phase (2)	Phase (3)
Loan Amount	¥ 4,172 million	¥ 12,283 million	¥ 6,436 million
Loan Disbursed Amount	¥ 3,178 million	¥ 4,843 million	¥ 5,868 million
Date of Exchange of Notes Date of Loan Agreement	July 1984 September 1984	September 1985 November 1986	February 1990 February 1990
Loan Conditions Interest Rate Repayment Period(Grace Period)	3.5% 30 years (10 years)	3.5% 30 years (10 years)	2.7% 30 years (10 years)
Final Disbursement Date	June 1993	November 1993	May 1995

2. Analysis and Evaluation

- (1) **Project Scope:** Construction of a terminal for tapioca and that for sugar and molasses was a part of the project scope in the detailed design stage, but these were excluded from the scope of loan in consideration of the Thai government's capacity to bear the loan at the time of appraisal. These terminals were included in the scope of bidding as an option because of a concern for delay in meeting the increasing transport demand. Consequently, this option was executed since the whole expenses including this option could be covered by the loaned fund. On the other hand,

the Government of Thailand changed the terminal utilization plan, due to substantial increase of expected volume of container cargo, and PAT independently executed the additional work associated with above change because it was considered a change of the original scope, so it was not approved to be covered by the loan. The actual performance of cargo handling of the Laem Chabang Port exceeded substantially the projection at the time of appraisal, so that implementation of the additional works is considered reasonable.

- (2) **Implementation Schedule:** Construction works lagged by about one year behind the original plan. The reason is that the Government of Thailand temporarily suspend the Eastern Seaboard Development Plan so as to review the foreign loan borrowing plan to stabilize its macroeconomy. But the time required for the construction remained almost as planned and the delay was limited only to the suspended period. Equipment procurement (port cargo handling equipment, etc.) was originally scheduled for the latter half of the project and therefore implemented approximately according to the original plan, without being affected by the suspension.
- (3) **Project Cost:** The construction costs was about 80% of the original plan (in bahts). Reduction in the costs was due to heated competition for contract award. (Note that the project cost here does not include the additional costs due to change in the terminal utilization plan.)

Comparison of Original Plan and Actual

Item	Plan	Actual
Project Scope		
- Construction works		
1. Dredging, landfill	8.3 million m ³	8.3 million m ³
2. Breakwater/ Shore Protection	1,700 m / 2,900 m	1,300 m / 2,900 m
3. Terminals		
Container	300 m×2	300 m×3
Bulk cargo	300 m×1	-
Multipurpose	-	300 m×1
Tapioca	-	300 m×1
Sugar and molasses	-	300 m×1
Domestic Shipping	200 m×1	200 m×1
Management and operation	100 m×1	-
4. Other facilities	Roads, buildings, etc.	Roads, buildings, etc.
- Equipment procurement		
1. Container crane	6 units	6 units
2. Vessels (tugboat, etc.)	11	11
3. Navigation aids	1 set	1 set
- Consulting services	550 M/M	681 M/M
Implementation Schedule (commencement to completion)		
- Construction works	September 1986 to August 1990	December 1987 to October 1991
- Equipment procurement	January 1990 to August 1991	June 1990 to August 1991

Project Costs		
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- Construction works		
Foreign currency	¥ 16,445 million	¥ 8,012 million
Local currency	957 million bahts	660 million bahts
Total	2,765 million bahts (¥ 25,162 million)	2,172 million bahts (¥ 11,510 million)
Exchange rate	1 baht = ¥ 9.1	1 baht = ¥ 5.3
- Equipment procurement		
Foreign currency	¥ 6,436 million	¥ 5,868 million
Local currency	641 million bahts	525 million bahts
Total	1,790 million bahts (¥ 10,024 million)	1,632 million bahts (¥ 8,651 million)
Exchange Rate	1 baht = ¥ 5.6	1 baht = ¥ 5.3

Note: The Performance column shows the portion completed in 1991. Subsequently, PAT expanded the port facilities.

(4) Project Implementation Scheme: The executing agency is Port Authority of Thailand (PAT) which was founded in 1951 for the purpose of administration of Bangkok Port. Although this was the first large-scale port construction project for PAT, its performance was evaluated highly for completing the construction safely without delay.

(5) Operations and Maintenance: Operations and maintenance of Laem Chagang Commercial Port is under control of PAT. In order to ensure more efficient management, the operation of terminals is commissioned to private contractors. The operation performance of seven contractors can be considered satisfactory.

(6) Operational Performance: Since opening of the port, the cargo handling amount, mainly of container cargoes, has grown steadily.

Year	1991	1992	1993	1994	1995	1996	1997	1998
Number of ship call	68	223	664	1,158	1,549	2,359	2,864	3,050
General cargoes (tons)	681	1,207	485	420	913	1,573	2,211	1,197
Container (thousand tons) (Unit: thousand TEU)	15 (1)	85 (9)	1,582 (169)	3,423 (333)	5,030 (504)	7,030 (729)	10,076 (1,036)	12,693 (1,425)

Note: The year is the fiscal year in Thailand (example, 1998 = October 1, 1997 to September 30, 1998).

(7) Management Performance of PAT (See [Appendix 2](#) for more detailed discussion): PAT relies mainly on Bangkok (Klong Toey) and Laem Chabang ports for its revenue. With abundant cargo handling, its management performance can be considered satisfactory. When only the Laem Chabang Port is viewed independently, its recurring income is growing yearly.

(8) Resettlement of Residents (See [Appendix 1](#) for more detailed discussion): To construct the Laem Chabang Port, PAT acquired the land of 6,341 rai (about 10 km²), resulting in resettlement of 1,726 households. As of 1998, 235 households have not yet moved. Since they do not cause any hindrance to operation of the port, PAT is not planning to force resettlement of these households. It is a responsibility of PAT and the Government of Thailand for the future measure, but it is advisable to continue the measure with due attention to these residents.

(9) Project Effects and Impacts

(i) Quantitative Effects

- (a) Cargo Handling Amount:** Concerning container cargoes, which are major handling cargoes for the Laem Chabang Port, the port has achieved the record (12.7 million tons in fiscal 1998) which is more than double of the estimation in the appraisal. It may be said that the Laem Chabang Port has supported the rapid economic growth of Thailand through handling of increasing container cargoes.
- (b) Supplementation and Substitute of Bangkok Port:** Laem Chabang Port (1.4 million TEU) exceeded Bangkok Port (1.1 million TEU) in terms of the container cargo handling quantity for 1998. In the future, the ratio may increase further. This project can be said to have well achieved the original project objective of making this port to be a supplement and substitute of Bangkok Port.
- (c) Efficient Operation of Container Terminal:** Laem Chabang Port offers more efficient container cargo handling than traditional Bangkok Port because it was specifically designed for such purpose and operation of the container terminals is commissioned to private contractors (for the container handling quantity per crane, 28 pieces/hour in the case of Laem Chabang Port and 20 pieces/hour in the case of Bangkok Port).
- (c) Economic Internal Rate of Return:** Calculation based on the actual performance shows that EIRR of Laem Chabang is 11.6%.

(ii) Qualitative Effects

- (a) Development of the Eastern Seaboard:** With construction of Laem Chabang Port, parts import or product export of local factories became more convenient in the Eastern Seaboard. As a result, establishment of factories in this area grew, pushing forward industrial development here.
- (b) Effect on Traffic Congestion of Bangkok:** With construction of Laem Chabang Port, the reduction in cargo handling in Bangkok Port caused the decrease of transport with trucks which convey the cargo to and from Bangkok Port. In consequence, construction of this port may be considered to limit further worsening of traffic congestion in Bangkok, although that impact is not so large compared to the total traffic volume in Bangkok.

3. Lessons Learned

- (1) From a viewpoint of efficient utilization of loan amount, it is essential that JBIC judges feasibility of any change of the original plan necessary for achievement of the project objectives and effects, and responds to such changes in a mobile and flexible manner using the available budget such as reserves.
- (2) It is important for JBIC to positively support the survey and planning contributing to improvement of the operation efficiency, such as review of the operation scheme of the port terminals, etc.
- (3) For the project which causes resettlement of residents, it is essential to consider and support the residents from the early stage.

Relocation of Residents concerning Laem Chabang Port Project

Concerning the relocation of residents relating to this project, interviews were conducted, in November 1998, with the officials in charge of general affairs of PAT (Laem Chabang Port Office) and with the representatives of the Village Committees of Bang Laem Chabang and of Bang Nong Khra, who were elected by the villagers¹. Bang Laem Chabang is the village where residents still remain, and Bang Nong Khra is a resettlement area prepared for the people moving from the land acquired for Laem Chabang Port. The following description is mostly based on said interviews.

(1) Acquisition of the Land for Laem Chabang Port and Relocation of Residents

PAT has newly acquired a land of 6,341 rai (approximately 10 km²) for the construction of Laem Chabang Port. The acquisition of the land had been carried out in accordance with the 1978 Land Acquisition Act for Laem Chabang Port through the end of the 1980's, when the construction began.

According to PAT, the number of residents to be relocated as a result of the acquisition of the land is shown in Table 1. 1,491 out of the 1,726 households to be relocated had already moved as of 1998. Many of these relocated households resettled in the 1980's along with the progress of the acquisition of the land. 1,263 households out of those already relocated were landowners, who had agreed to resettle with compensation of about 20,000 to 80,000 bahts/rai (about 12.5 to 50 bahts/m²), according to the land price which prevailed when the Land Acquisition Act was enacted in 1978. The remaining 228 households were occupants of public land, who received compensation for relocation. Some of them moved to the resettlement area (Bang Nong Khra) prepared partly by the government. According to PAT, the number of households which moved in the resettlement area totals 180 households, including landowners and occupants of public land.

The people who have not yet finished their relocation are those living in Bang Laem Chabang, which is located between Laem Chabang Port and Laem Chabang Point where there is a control radar for the port. The area of Bang Laem Chabang is about 300 rai, which is equivalent to approximately 5 % of the land area acquired for the construction of Laem Chabang Port. According to PAT, there still remain 235 households in the village. In this zone where such people reside, currently, there is no

¹ A village (community) called Mu-Ban is the smallest unit of Thai administration and there are 65,944 of such villages over the country. They are similar to neighborhood associations or residents' associations of Japan. Many of them have their own councils or committees and 7 to 11 members are elected by the villagers (source: Facts About DOLA 1994).

port-related facility, and no hindrance has arisen to the operation of Laem Chabang Port². As a result, as of 1998, PAT was continuing relocation negotiations with them, but was not forcing them to relocate.

² The land for Laem Chabang Port with an area of 6,341 rai is land of about 10 km² that includes Phases 1, 2, and 3 which are to be developed with the long term development plan.

Table 1 Number of Residents to be Relocated for the Construction of Laem Chabang Port (1998)

Residents to be relocated : 1,726 households	Residents Already relocated : 1,491 households	Landowners:	1,263 households
		Occupants of Public Land:	228 households
	Residents still residing: 235 households	Landowners:	133 households
		Occupants of Public Land:	102 households

Source: PAT

Of the residents to be relocated, 1,311 households have finished their relocation separately. This does not include the 235 households still living in Bang Laem Chabang and 180 households who have already moved to the resettlement village, Bang Nong Khra. The subsequent situation of these 1,311 households is unknown, since they relocate individually and already dispersed. For this evaluation, interviews were conducted with representatives of the village committees of Bang Laem Chabang and Bang Nong Khra.

(2) Bang Laem Chabang

Products of Bang Laem Chabang consist of fish, squid, shrimp, crabs and so on, some of which, after being subject to simple processing (of dried fish, etc.), are shipped to the nearby cities including Si Racha. Due to introduction of modern fishing facilities (such as large fishing vessels or radar) in the last decades through the fishermen's cooperative association in the village, the catch of fish has grown. According to the representatives of the village committee, the villagers feel that their life is well-off. The representatives also pointed out that the catches had not been reduced after the construction of the port, since their fishing spots are out at sea from Laem Chabang.

PAT has prepared a resettlement area for those moving from the village (with an area of about 20 rai, 75 lots) across Laem Chabang Port, in the PAT's land of Bang Lamung district. The works of shore protection to anchor ships were conducted by PAT on the canal which is adjacent to the resettlement area, so far there is no settler from Bang Laem Chabang. According to the representatives of the village committee the reason why the people in Bang Laem Chabang are not willing to resettle is that the villagers worry that their life after resettlement would be worse than in Bang Laem Chabang, because of the following three reasons; the villagers are satisfied with their life in Bang Laem Chabang; the resettlement area in Bang Lamung district is smaller than Bang Laem Chabang; the Bang Lamung mooring facility is too small to anchor the villager-owned fishing boats.

From the representatives of the village committee, some concerns arise that both PAT and the Thai government should have given more sufficient explanation and taken a more cooperative stance to the villagers at the initial stage of planing the project. At present, the villagers of Bang Laem Chabang request PAT and the Thai government to accept their residence in Bang Laem Chabang.

(3) Bang Nong Khra

Along with the construction of Laem Chabang Port, PAT and the Thai government (Si Racha District, Chon Buri Province) developed a place for resettlement (approximately 70 rai, 262 bts) about 7 km inland from the port. This resettlement is called Bang Nong Khra. The land of the village was leveled by PAT and the Thai government to construct the roads and to install a power distribution network and water supply facilities (wells). 180 households reside in Bang Nong Khra: their

resettlement had been finished by around 1991, when Laem Chabang Port was opened.

According to the representatives of Bang Nong Khra, many of the residents are working in firms which have moved into Saha Group Industrial Park adjacent to the resettlement. Many of the resettlers were originally employees of firms of this kind before their resettlement. Consequently, they could find jobs in the industrial complex which is in the vicinity of the resettlement village and earn larger income than before resettlement. Therefore, they are satisfied with this place, according to the representatives. They also mentioned that the Laem Chabang villagers, because they were well-off on fishery, had had some difference in income with the settlers in Bang Nong Khra. It is likely that there is considerable difference in interests due to resettlement between the settlers in Nong Khra village and those in Bang Laem Chabang. Probably from this reason, no particular complaint about the measures taken by PAT and the Thai government arises from the representatives of Bang Nong Khra committee.

(4) Measures Taken by PAT for Bang Laem Chabang

The official policy of PAT for Bang Laem Chabang as of 1998 was to continue the negotiation over the relocation. The Bang Laem Chabang, although causing virtually no hindrance to operation of Laem Chabang Port, is located in the premises of Laem Chabang port, and PAT plans to utilize the said zone as the land for port facilities. As of the time of the interview with PAT officials in 1998, however, PAT had no idea of implementing compulsory relocation.

PAT has adduced two reasons to relocate Laem Chabang villagers; there is some concern that Laem Chaban fishing boats might collide with vessels entering Laem Chabang Port and that the community existing in the premises of the port may end up a slum of dock workers before long. As of 1998, 8 years after the opening of Laem Chabang Port, neither of these concerns came to reality. Concerning the collision accidents in the port, the Laem Chabang fishermen were not concerned about safety, and the current situation of Bang Laem Chabang as of 1998 was far from a slum-like state.

Considering that the existence of Bang Laem Chabang has caused no problem with the operation of the port and the villagers thereof do not want to move, the current situation, in which the presence of the village has been virtually accepted, seems to be a realistic option, while the official negotiation over the relocation is continued. In the future, there may be several options in determining policies toward Bang Laem Chabang; maintaining the status quo accepting the presence of the village, while the relocation negotiation is continued officially; the presence of the village is officially accepted by the government; and obtaining the relocation agreement in some way. PAT and the Thai government are responsible for what kinds of policies should be taken, but in any case, it is desirable that adequate measures and policies should be continued by giving due consideration to Laem Chabang villagers.

(5) Evaluation

The Laem Chabang Port project began over 20 years ago, and the details are unknown about what degree and how the project was explained by PAT and the Thai government to the villagers therein, in planing the construction of Laem Chabang Port. According to PAT, there were some explanations to the villagers; however, from the representative of Laem Chabang village, complaints arose that prior explanation or cooperation were not sufficient. On the side of the Thai government, some OESB officers regret that there might have been some room for creating more solid cooperation with the villagers in the stage of the project planning of the port.

The lesson learned through the experience of this project is that, as seen in the case of villager resettlements in other projects in the past, it is important to establish a cooperative and solid relationship with the villagers living in the zone of a project, at the initial stage of the development. Since there are conflicts of interests between the executing agency and the villagers asked to move, some difficulty is expected to arise with communication and coordination of the interests between the two parties. According to the representatives of Bang Laem Chabang, the villagers felt distrust of PAT's reactions which they had encountered in the course of the relocation negotiation. This suggests that it is important to provide sufficient consideration to facilitating the communication or coordination of interests between the executing agency and the villagers. In the event there is some conflict of interests between the residents, as seen in the case of the Laem Chabang villagers and Nong Khra villagers, it is also important to give due consideration to the conflict of interests between the residents.

Since the negotiation between PAT and Laem Chabang villagers being prolonged, JBIC has consistently requested PAT and the Thai government to take sufficient care of the villagers. This action itself can be evaluated as appropriate. Although at the time this project began, as a general trend in the world, less emphasis was placed on the resettlement issues compared to the present, it is more desirable if sufficient care could have been taken of to the villagers living in the project zone in an earlier stage.

Recently, being aware of the importance of the consideration to settlers, there has been some JBIC-financed projects which include the infrastructure development of the resettlement area and which target the improvement of livelihood of resettlers with participation of local NGOs. In projects entailing relocation of residents in general, it is necessary for JBIC to encourage the executing agency to make efforts in creating good communication with the residents to be relocated and in establishing more effective coordination of conflicting interests among residents. If appropriate and necessary, it is important for JBIC to consider to include the support for resettlement in its projects.

Management Performance of Port Authority of Thailand (PAT)

The management performance of PAT is satisfactory. The profit has been declined since fiscal 1995 because the income has been decreasing since the operating expenses have been gradually increasing due to the restriction imposed on the quantity of cargo handled in Bangkok Port. As the terminal of Bangkok Port is managed directly by PAT and the management of the terminal of Laem Chabang Port is commissioned to a private contractor, the income from Bangkok accounts for 80% of the total income of PTA. In fiscal 1995 onward, the quantity of cargo handled in Bangkok Port has decreased while the operating expenses of the port have not been decreased. As a result, the profit has shrunk.

Financial Statement of PAT (in million baht)

	1991	1992	1993	1994	1995	1996	1997
Current assets	3,387	3,589	4,268	6,161	7,398	8,052	8,122
Cash/deposit	2,823	2,980	3,471	5,470	6,730	7,425	7,473
Fixed assets	8,078	8,570	9,241	8,799	8,955	9,184	9,756
Land/building/equipment	3,311	7,615	8,090	8,182	7,951	8,090	7,779
Construction in progress	4,591	805	870	311	468	501	1,091
Current liabilities	199	244	304	411	354	557	581
Fixed liability	2,822	3,293	3,730	3,905	3,877	3,666	4,798
Capital	8,433	8,622	9,476	10,644	12,122	13,013	12,498
Operating revenue	4,947	4,948	5,738	6,157	6,712	6,158	5,740
Bangkok Port	4,871	4,770	5,298	5,611	6,035	5,407	4,733
Laem Chabang Port	76	178	441	546	677	752	1,007
Operating expenses	2,214	2,661	3,050	3,186	3,546	3,826	3,972
Bangkok Port	2,162	2,284	2,634	2,749	3,092	3,337	3,526
Laem Chabang Port	52	377	416	437	454	489	446
Operating income	2,733	2,287	2,688	2,971	3,166	2,332	1,768
Bangkok Port	2,709	2,486	2,663	2,862	2,943	2,069	1,207
Laem Chabang Port	24	(199)	25	108	222	263	561
Recurring income	3,027	2,425	2,796	3,154	3,590	2,935	2,281
Bangkok Port	3,000	2,743	2,908	3,179	3,475	2,719	1,836
Laem Chabang Port	27	(319)	(111)	(26)	115	216	449

Source: PAT annual reports of the corresponding years

Note: The figures given above are those at the end of September of the year (the end of the fiscal year of Thailand)