

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

Report Date: September 1999  
Field Survey: November 1998

## 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 (export and import) of the industrial estates built in the Eastern Seaboard was indispensable as a key element in the Eastern Seaboard Development Plan.

### (2) Objectives

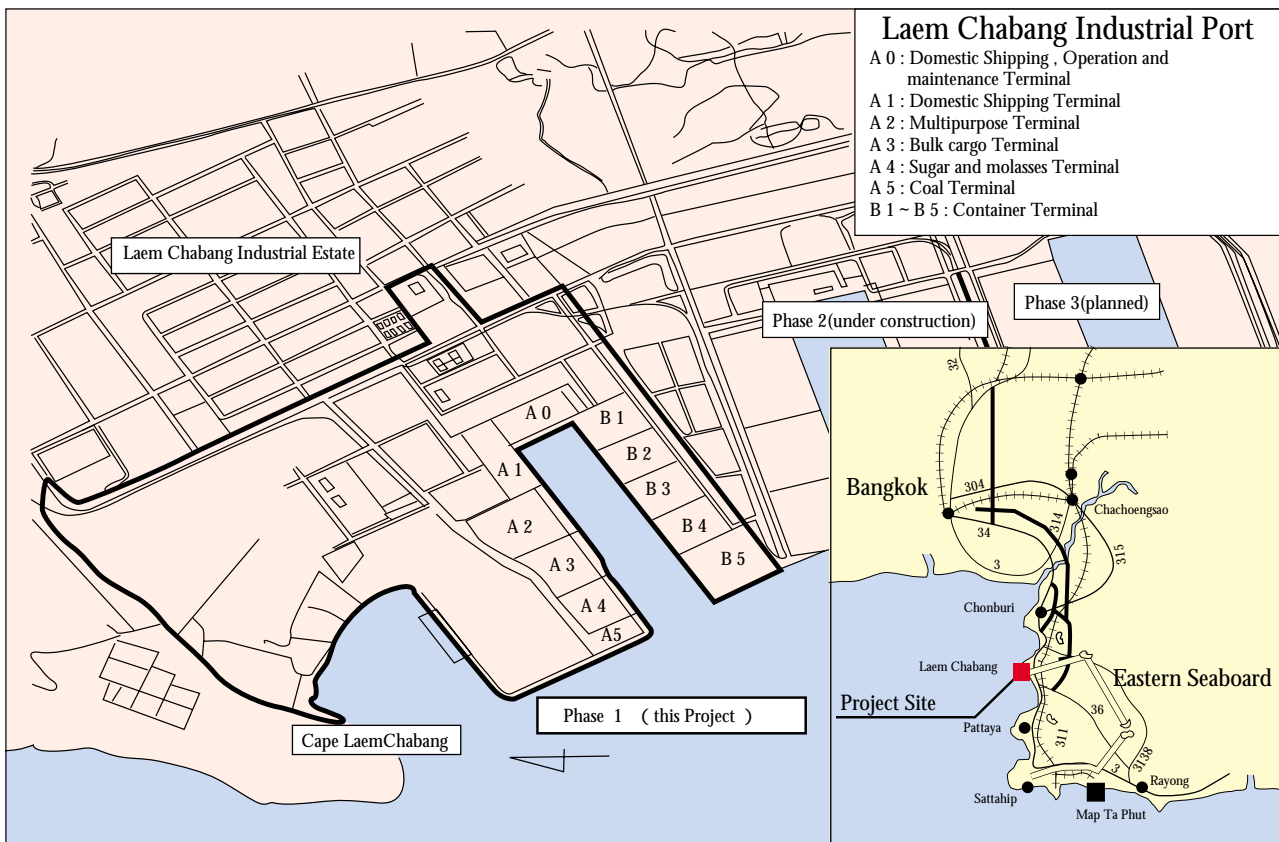
To supplement and substitute for Bangkok Port to cope with entry of larger container carriers

### (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) (Loan guarantee by the Government of Thailand)



## (5) Outline of 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 Laem Chabang Commercial 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	July 1984	September 1985	February 1990
Date of Loan Agreement	September 1984	November 1986	February 1990
Loan Conditions			
Interest Rate	3.5%	3.5%	2.7%
Repayment Period (Grace Period)	30 years (10 years)	30 years (10 years)	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
<b>1. Project Scope</b>		
Construction works		
Dredging, landfill	8.3 million m <sup>3</sup>	8.3 million m <sup>3</sup>
Breakwater/ Shore Protection	1,700 m / 2,900 m	1,300 m / 2,900 m
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
Operation and maintenance	100 m × 1	-
Other Facilities	Roads, buildings, etc.	Roads, buildings, etc.
Equipment procurement		
Container crane	6 units	6 units

Vessels (tugboat, etc.)	11	11
Navigation aids	1 set	1 set
Consulting Services	550 M/M	681 M/M
<b>2. Implementation Schedule</b>		
(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
<b>3. Project Cost</b>		
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 (Unit :tons)	681	1,207	485	420	913	1,573	2,211	1,197
Container (Unit :thousand tons)	15	85	1,582	3,423	5,030	7,030	10,076	12,693
(Unit :thousand TEU)	(1)	(9)	(169)	(333)	(504)	(729)	(1,036)	(1,425)

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

#### (7) Management Performance of PAT

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

To construct Laem Chabang Port, PAT acquired the land of 6,341 rai (about 10 km<sup>2</sup>), 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 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 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).

(d) Economic Internal Rate of Return (EIRR)

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.