

# Eastern Seaboard Development Plan Impact Evaluation

Report Date: September 1999  
Field Survey: November 1998

## 1 Project Summary and Japan's ODA Loan

### (1) Background

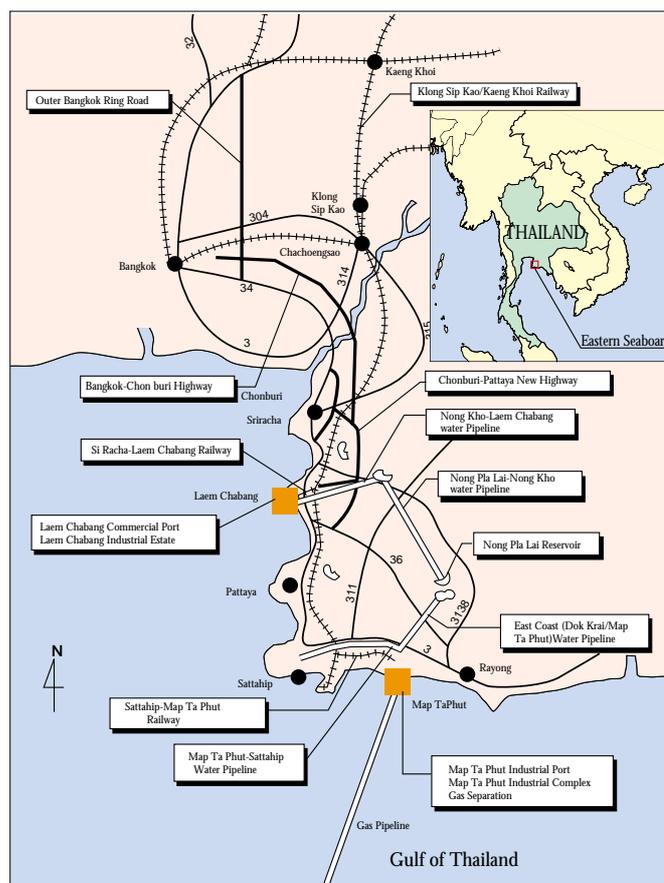
Eastern Seaboard Development Plan (ESDP) aims to create a new industrial cluster in three provinces (Chachoengsao, Chonburi and Rayong), collectively called Eastern Seaboard (ESB), located about 80 - 200 km southeast from Bangkok. ESDP, implemented during the 1980s to early 1990s, is composed of two major areas: Map Ta Phut area, a heavy-chemical industry base which utilizes natural gas from the Gulf of Thailand; and Laem Chabang area, an export-oriented light-industry base which is simultaneously a location for a new international commercial port.

### (2) Objectives

To create a new industrial cluster to alleviate over-concentration of economic activities in Bangkok metropolitan area.

### (3) Project Scope

JBIC financed 27 ODA loans through the following 16 projects, which account for around 10% of its total cumulative loan commitments to Thailand (¥ 1,630,096 million).



Map Ta Phut area Development	1. Mat Ta Phut Industrial / Urban Complex Project 2. Map Ta Phut Port Project 3. Gas Plant Project
Laem Chabang area Development	4. Laem Chabang Port Project 5. Laem Chabang Industrial Estate Project
Water Resource Development/ Water Pipeline Project	6. Nong Pla Lai Project 7. East Coast (Dok Krai - Map Ta Phut) Water Pipeline System Project 8. Map Ta Phut - Sattahip Water Pipeline Project 9. Nong Kho-Laem Chabang Water Pipeline Project 10. Nong Pla Lai - Nong Kho Water Pipeline Project
Railway Project	11. Si Racha - Laem Chabang Railway Project 12. Sattahip - Map Ta Phut Railway project 13. Klong Sip Kao - Kaeng Khoi Railway Project
Road Project	14. Chonburi - Pattaya Construction Highway Project 15. Bangkok - Chonburi Highway Construction Project 16. Outer Bangkok Ring Road (East Portion) Construction Project
Loan Amount	¥178,768 million
Loan Disbursed Amount	¥133,799 million <sup>1)</sup>
Date of Exchange of Notes	June 1982 to September 1993
Date of Loan Agreement	July 1982 to September 1993
Final Disbursement Date	July 1985 - January 2000 (Expected)

Note: 1) As of July 1999

## 2 Impact on Industrial Development in Eastern Seaboard

### (1) Development in Eastern Seaboard

#### (i) Eastern Seaboard

Regional economy in Eastern Seaboard grew significantly during the course of implementation of EDSP from the 1980's to the early 1990's. As a result, the region established its status as the second largest industrial cluster in Thailand next to Bangkok metropolitan area.

	Nationwide	Bangkok & Vicinities	Eastern (ESB)	Centra	Western	Northeastern	Northern	Southern
GDP per capita								
1981	20,278	63,198	26,212 (35,564)	17,845	18,610	7,860	12,402	15,740
1995	49,514	149,592	80,232 (121,376)	48,558	37,295	16,631	23,681	31,735
GDP per capita growth rate								
(Annual average)	3.4%	2.2%	5.8% (7.6%)	2.5%	3.5%	3.7%	3.5%	3.0%
1981-86	9.3%	11.0%	8.4% (8.5%)	9.5%	5.5%	6.2%	5.3%	7.2%
1986-91	7.3%	6.0%	11.5% (12.1%)	11.2%	6.6%	7.0%	5.5%	5.2%
1991-95								
Manufacturing Value Added (Ratio to Whole Kingdom)								
1981	100%	72.2%	11.2% (10.6%)	3.3%	3.1%	3.9%	3.5%	2.7%
1995	100%	63.2%	15.8% (14.9%)	6.5%	3.6%	5.0%	3.8%	2.1%

Note : Valued at 1988 price level, "ESB" stands for Eastern Seaboard.

#### (ii) Map Ta Phut Area

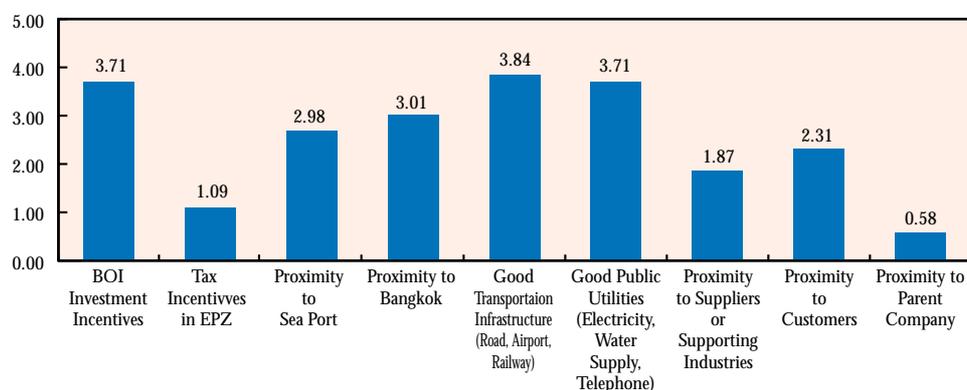
Petrochemical industry in Thailand has clustered mostly in Rayong province, especially in Map Ta Phut area, endowed with natural gas from the Gulf of Thailand. The area has become the country's largest base of petrochemical production.

#### (iii) Laem Chabang Area and Its Inner Vicinity

Other industries, such as automobiles and electronics, have clustered in Laem Chabang area in the west coast of Chonburi province and its inner vicinity mostly along the route 331 connecting Chonburi and Rayong provinces, thanks to this area's geographical advantage of being close to the Laem Chabang commercial port.

### (2) Impact of Eastern Seaboard Development Plan (Triggering effect for private investment)

The increase in private investments (factory establishment) including those from abroad brought about the industrialization of Eastern Seaboard. To know the impact of government investments made under ESDP on private companies' decision of factory establishment in ESB, interview surveys of 113 factories in the area (83 factories from 5 industrial estates and 30 outside the estates) were conducted in this ex-postevaluation. According to these interviews, there are three major factors affecting the decision of factory establishment in the ESB: Investment incentives granted by Board of Investment (BOI); good transportation infrastructure; and good public utilities (See below). Good transportation infrastructure and public utilities are the results of the public investments made through ESDP, and these factors clearly differentiate ESB from other regions which are also granted the same investment incentives from BOI. This result supports the argument that the government investments made under ESDP have had triggering effect for private investment.



5=Most important, 1=Least important, 0=Irrelevant Figures are the average from interviewed companies.

### (3) Factors for the Successful Industrial Development in Eastern Seaboard

#### (i) Heavy-chemical Industry Development in Map Ta Phut Area

There were originally four heavy-chemical industries, planned as national projects of the Thai government, which utilize natural gas from the Gulf of Thailand. These include petrochemical, fertilizer, soda ash, and steel industries. After the cautious review of the plan, the national projects of heavy-chemical industry were reduced to petrochemical project only. In implementing this petrochemical project, an upstream production was arranged to be implemented by joint venture between the Thai government and four private companies, while the downstream production was implemented by these four private companies respectively. This active involvement of private sector is considered to have contributed to preventing uneconomical project decision and to leading to its commercial success. Other factors contributed, too. For example, there was no competition in petrochemical industry since entry into the industry was regulated and the project was the first of this kind in Thailand. Moreover, demand for petrochemical products expanded rapidly when the project started operation in 1989 thanks to high economic growth of Thai economy at that time.

#### (ii) Industrial Development in Laem Chabang Area and Its Inner Vicinity

Industrial development in Laem Chabang area and its inner vicinity can be regarded as an extension of industrial cluster in the Bangkok metropolitan area, which is made possible by development of industrial infrastructure, such as Laem Chabang port and land transportation networks, in the area not far (more or less 100km) from Bangkok. The successful development of Laem Chaban area and its inner vicinity can be attributed to the timely investment in new industrial infrastructure, when the Thai economy plunged into high growth era after it experienced macroeconomic stabilization with Structural Adjustment Lending (SAL) in the early 1980's and appreciation of yen since the Praza accord in 1985, and when over concentration of economic activities in Bangkok metropolitan area hampered further factory establishment in the metropolis.

#### (iii) Disputes among Donor Agencies and Royal Thai Government

In implementing ESDP, there were disputes between the Thai government and World Bank about appropriate scale and timing of public investment because of difference in judgment of macroeconomic situation and development potential of Eastern Seaboard. As a result of the disputes, ESDP was reviewed thoroughly, including temporary suspension due to review of overseas borrowing plan, and it was finally implemented according to the Thai government's independent decision. In ESDP, disputes between donor agencies and the Thai government resulted in careful review of the plan by the Thai government, and its final judgment is considered to be generally appropriate.

## 3 Impact on Local Communities

### (1) Influx of Population into ESB and Increase in Demand for Public Service

From the latter half of the 1980's to the first-half of the 1990's, when industrialization has proceeded in ESB, a large population migrated from the other regions to ESB (growth rate of population in ESB surpasses national average and that of other regions). As a result, demand for public services, such as urban infrastructure, education, and medical care, increased in the urban areas.

	Nationwide	Bangkok	Eastern (ESB)	Central	Western	Northeastern	Northern	Southern
Population Growth Rate (annual average)								
1981-86	1.9%	2.9%	2.2%(1.5%)	1.1%	1.6%	1.7%	1.4%	2.5%
1986-91	1.5%	2.6%	2.1%(2.5%)	1.3%	0.8%	1.3%	1.1%	3.6%
1991-96	1.4%	0.6%	2.3%(1.9%)	0.7%	1.9%	1.4%	2.0%	1.0%

### (2) Influx of Population into ESB and Increase in Demand for Public Service

To know the impact of ESDP on local communities in urban areas in ESB, interviews were conducted with officers of the Laem Chabang city government and city residents as part of this post-evaluation field survey (November 1998).

#### (i) Employment Generation

Both officers of the Laem Chabang city government and local residents appreciated that ESDP activated economic activities in the city and created large amount of new employment (Laem Chabang industrial estate alone creates jobs for thirty thousand employees).

#### (ii) Increase in Population

Population of the Laem Chabang city increased in accordance with industrial development. Registered population of the city increased at 5.1% annually from 1993 to 1998 and reached approximately forty thousand. In addition, unregistered population, most of whom are migrants from other regions, is also estimated to be forty thousand.

#### (iii) Increasing Demand for Public Services

The city government of Laem Chabang strives to upgrade its public services responding to rapid industrialization; for example, it made efforts to improve road network and maintenance of road conditions, which was necessitated by increased road traffic concerning port and industrial estate. The city government also endeavors to ameliorate social services, such as primary school and primary health care, responding to rapid increase in the population. Its efforts are appreciated by the residents to certain degree. Due to some difficulties, such as budget constraints, however, the city government could not afford to respond all the increased demands for public services.

### **(3) Issues to be Addressed**

In urban areas in ESB generally, like the Laem Chabang city, local governments strive to upgrade their public services to cope with the increased demand caused by industrialization and increase in population; however, these local governments cannot afford to respond all the increased demands for public services due to certain difficulties, such as budget constraints and limited institutional capacities. In Thailand today, emphasis is placed on the role of local governments and decentralization reform is about to be proceeded with. It is desirable, hereinafter, that increased demands for local public services in urban areas brought about by industrialization of ESB are coped with, through appropriate delegation of authorities to, expansion of revenue base of, and strengthening of institutional capacities of local governments.

## **4 Lessons Learned**

**(1)** In a large-scale industrial development plan or regional development plan, it is important to review the scale and timing of public investments carefully and repeatedly in various stages of implementation. If necessary, it is desirable to modify the plan in any stage, including reduction of the scale of the plan. In reviewing such large-scale public investments, it is effective for various donor agencies and the government of particular developing country to thoroughly discuss the scale and timing of the investments.

**(2)** A large scale industrialization brings about an influx of a number of population into the region industrialized from other regions and increased demands for public services in urban areas. Local governments in these areas play major roles in coping with these increased demands for public services. To upgrade public services provided by these local governments, it is necessary to secure their revenue base and to strengthen their institutional capacities. Therefore, it is recommended for the (central) governments of developing countries and JBIC to provide assistance to the strengthening of local governments.