Post Evaluation for Eastern Seaboard Development Program

A Survey of Factories in
Laem Chabang Industrial Estate
and the Vicinity Area

Submitted to

Japan International Cooperation Agency (JICA)

by

Sectoral Economics Program
Thailand Development Research Institute (TDRI)

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List of Abbreviations

BKK	Bangkok
BOI	Board of Investment
CIE	Chon Buri Industrial Estate
EPZ	Export Processing Zone
ESB	Eastern Seaboard
ESDP	Eastern Seaboard Development Project
ESDP I	Phase I of Eastern Seaboard Development Project
ESDP II	Phase II of Eastern Seaboard Development Project
IE	Industrial Estate
IEAT	Industrial Estate Authority of Thailand
JICA	Japan International Cooperation Agency
LCIE	Laem Chabang Industrial Estate
MOPH	Ministry of Public Health
MOI	Ministry of Industry
MPIE	Map Ta Phut Industrial Estate
NESDB	Office of the National Economics and Social Development Board
OECF	The Overseas Economic Cooperation Fund
TDRI	Thailand Development Research Institute Foundation

Chapter 1

Introduction

Table 1.1 Detail of the Survey

Survey Period	November 3rd, 1998 - January 14th, 1999
Survey Method	Structured interview with questionnaire
Target Number of Factories	42
Number of Factories Surveyed	48
Number of Factories in LCIE Surveyed	29
Number of Factories in the LCIE Vicinity Area Surveyed	19
Researchers and Surveyors	1. Dr. Nipon Poapongsakorn 2. Dr. Somkiat Tangkitvanich 3. Ms. Suwanna Tulyawasinphong 4. Ms. Yaowarat Sriwaranun

Table 1.2 Surveyed Factories in LCIE

No.	Name of Company	Sector/Product
1	SIAM NEC CO., LTD.	ASSEMBLING TV. MONITOR
2	THAI D.N.T PAINT CO., LTD.	INDUSTRIAL PAINT, COMPOSITE THINNERS
3	KANAECB (THAILAND) CO., LTD.	AYDRAULIC PUMP CARS AND ROAD ROLLER
4	TECHNOLOGY PRINT AND SUPPLIES CO., LTD.	TRANSFORMED AND PRINTED PAPER AND OTHER SYNTHETIC MATERIALS
5	ETERNAL TECHNOLOGY INTERNATIONAL CO., LTD.	MONITOR, SOUND BIASTER CARD, MOUSE, KEYBOARD, MAINBOARD
6	INMEX INDUSTRY CO., LTD.	PLASTIC PARTS OF MONITOR
7	THAI PRECISION MANUFACTURING CO., LTD.	ALUMINIUM DIECAST PARTS FOR COMPUTER
8	BANGKOK MAGNET CORPORATION CO., LTD.	MAGNET FOR ELECTRICAL APPLIANCES, ELECTRONICS
9	ESLEN THAI CO., LTD.	FOAM FOR PACKAGING
10	MULTIBAX CO., LTD.	PLASTIC BAG
11	LAEM CHABANG INDUSTRY CO., LTD.	PICTURE FRAME, ORNAMENTS AND JEWELRY
12	ASAHI SOMBOON METALS CO., LTD.	STEEL SHEET
13	EASTERN P.U.FOAM INDUSTRY CO., LTD.	SEAT ASSEMBLY TRIMMING PARTS
14	A.J. PLAST PUBLIC CO., LTD.	B.P.P.P.FILM
15	PQ CHEMICALS (THAILAND) CO., LTD.	ZEOLITE
16	MEYER INDUSTRY CO., LTD.	ROLLED ALUMINIVM, KITCHEN WARES, APPLIANCES
17	S.T.B TEXTILE INDUSTRIES CO., LTD.	SEAT COVER
18	CEREBOS (THAILAND) CO., LTD.	SOAP CEREAL
19	THAI TYRE MOULD CO., LTD.	MOTOR TYRE MOULDING
20	SUMMIT AUTO SEATS LAEM CHABANG MANUFACTURING CO., LTD.	SEAT ASSIMBLY, DOOR TRIM
21	SUMMIT LAEM CHABANG AUTO BODY WORD CO., LTD.	PART ASSIMBLY, REAR BODY ASSEMBLY
22	HI-TECH NITTSU (THAILAND)	DISTRIBUTION AND LOGISTIC SERVICE
23	T.P.S WOODEN PRODUCTS CO.,LTD.	WOOD PRODUCTS

No.	Name of Company	Sector/Product
24	SIAM MICHELIN CO.,LTD.	MOTOR TYRE
25	PADAENG POONGSAN METALS CO.,LTD.	MATAL
26	THAI BATTERY TECHNOLOGY LTD.	MOBILE BATTERY
27	THAI CRT LTD.	CRT TUBE
28	STRONG THAI PACK LTD.	PACKAGING PAPER AND FILM
29	THAI NIPPON RUBBER INDUSTRY LTD.	CONDOM

Table 1.3 Surveyed Factories in the LCIE Vicinity Area

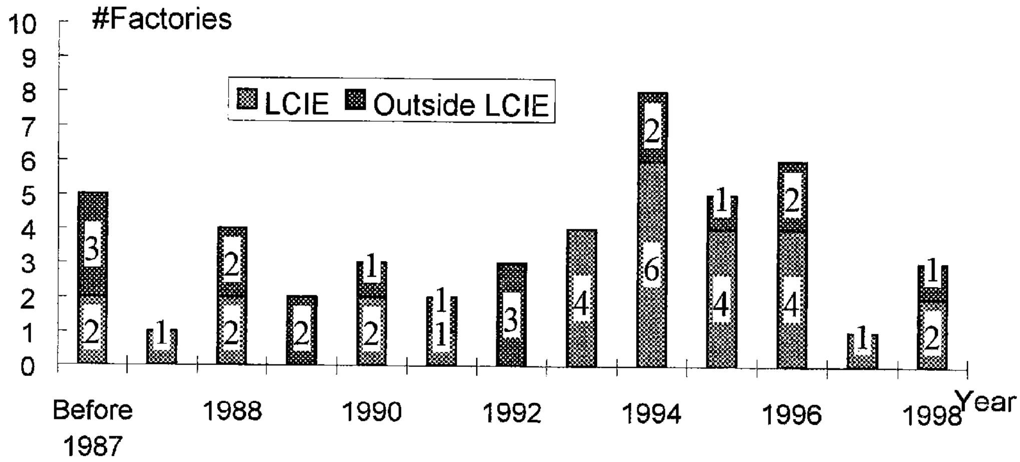
No.	Name of Company	Sector/Product
	Chon Buri IE	
1	SHINWA KOGYO CO., LTD.	FRAME STEEL
2	BONCAFE (THAILAND) CO., LTD.	COFFEE
3	DAIFUKU (THAILAND) CO., LTD.	CHAIN CONVEYOR SYSTEM
4	DUSCHOLUX (SIAM) CO., LTD.	SHOWER DOORS, SHOWER ENCLOSURES
5	SIAM NISSAN CASTING CO., LTD.	AUTO BODY PARTS
6	TOEI DENSHI (THAILAND) CO.,LTD.	ELECTRIC CIRCUIT
	Sahapat IE	
1	THAI SHIKIBO CO., LTD.	YARN PRODUCTS
2	THAI JANOME CO., LTD.	SEWING MACHINE, MONITOR
3	THAIKOBASHI CO., LTD.	CARD BOX
4	BANGKOK TOKYO SOCK CO., LTD.	SOCK PRODUCTS
5	S R W GARMANT LTD.	CLOTHING
	Factories Outside IEs	
1	WINWOOD CO., LTD.	WOOD PRODUCTS
2	UNIVERSAL LATEX PRODUCTS CO., LTD.	RUBBER GLOVE
3	EXTRA CONCRETE CO., LTD.	CONCRETE PILLAR
4	SEICO (THAILAND) CO., LTD.	WATER-SPORT EQUITMENT
5	SUVAREE CO., LTD.	CONCRETE PRODUCTS
6	ADVANCE LUGGAGE THAI CO., LTD.	BAGGAGE
7	ALPHA CAR LTD.	STANLESS PUMP
8	THAI THA SUNG LTD.	CLOTH, TOYS AND DOLLS

Table 1.4 Number of Factories in the Survey Classified by Sectors

Sector	LCIE		CIE		Others		Total	
	Sample	Population	Sample	Population	Sample	Population	Sample	Population
Plastics	3	9	0	2	0	63	3	74
Electronics & IT	4	9	1	3	0	8	5	20
Electrical appliances	1	13	0	3	1	53	2	69
Auto parts & assembly	6	13	2	2	0	58	8	73
Food processing	1	3	1	1	0	406	2	410
Metal	2	2	0	2	1	144	3	148
Steel	3	5	0	5	0	15	3	25
Non-metal	1	2	1	1	0	92	2	95
Chemical & paint	2	2	0	0	0	14	2	16
Jewery, furniture, printing, construction & glass	2	7	1	1	3	178	6	186
Package	1	1	0	3	2	3	3	7
Rubber	1	3	0	0	1	17	2	20
Textile	0	0	0	0	3	75	3	75
Services (factory maintenance and logistics)	2	2	0	2	0	12	2	16
Others	0	2	0	2	2	101	2	105
Total	29	73	6	27	13	1,239	48	1,339

Many factories in the survey started their operation around 1994, 3 years after the completion of ESDP I.

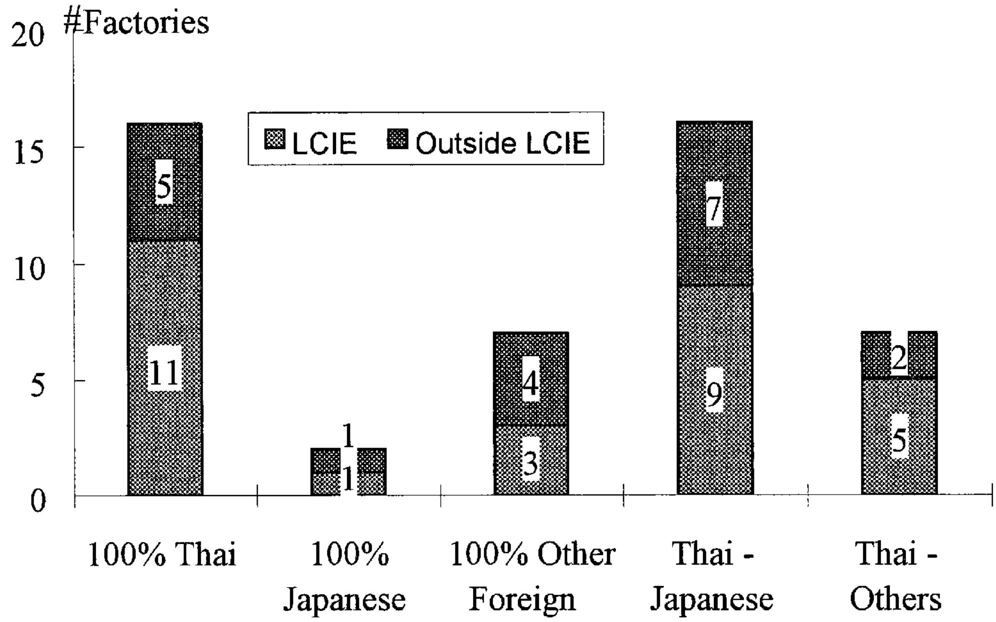
Exhibit 1.1 Years that Factories Starting Their Operation in ESB



Source: TDRI Survey

Nearly one-third of the companies in the survey are wholly-owned Thai companies. Wholly-owned Japanese companies are rare in the sample, although Thai-Japanese joint ventures are very common, representing about one-third of the companies.

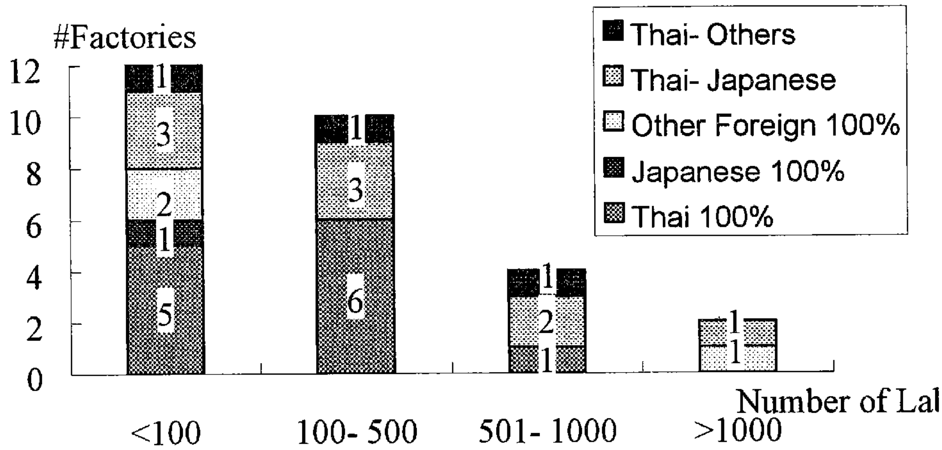
Exhibit 1.2 Factories Classified by Nationality



Source: TDRI Survey

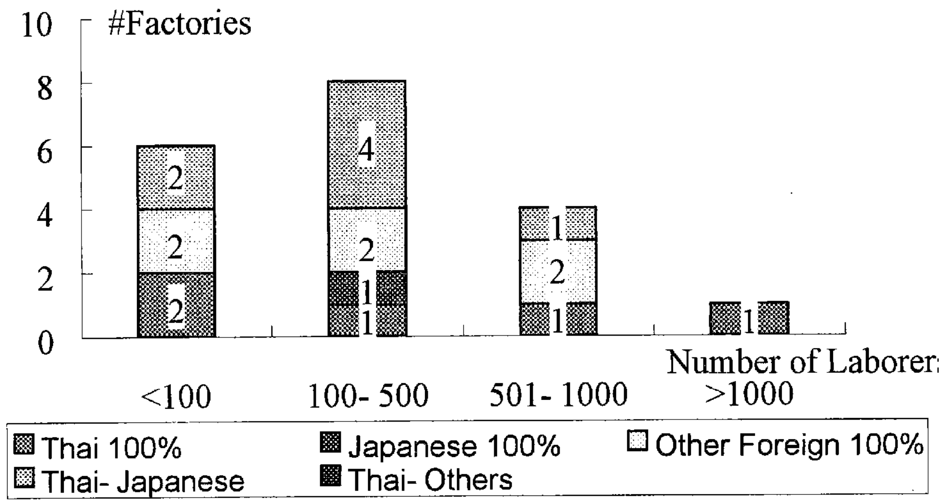
Most factories in the survey are SMEs with less than 500 workers. The majority of large factories are joint-ventures between Thai and foreign companies or wholly-owned non-Japanese foreign companies.

Exhibit 1.3 Factories Classified by Size (LCIE)



Source: TDRI Survey

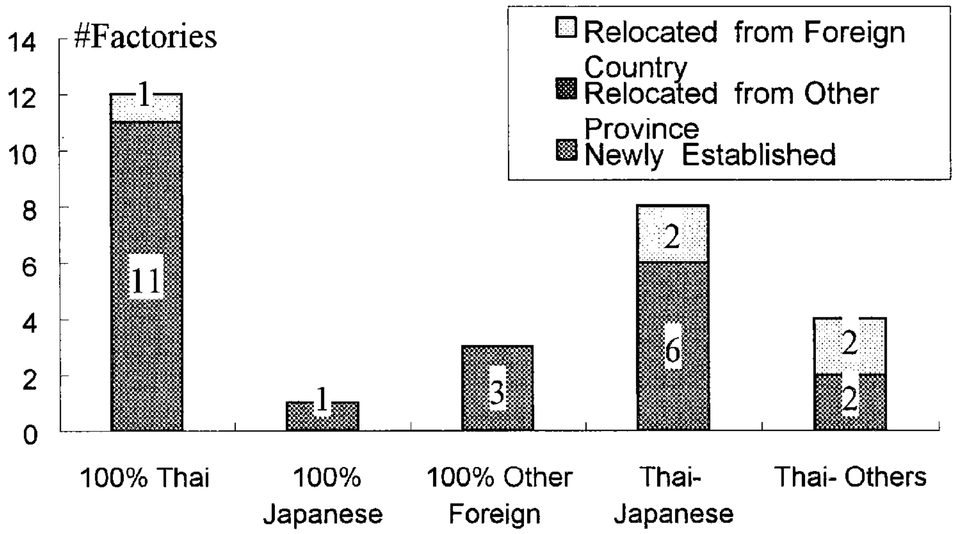
Exhibit 1.4 Factories Classified by Size (Non-LCIE)



Source: TDRI Survey

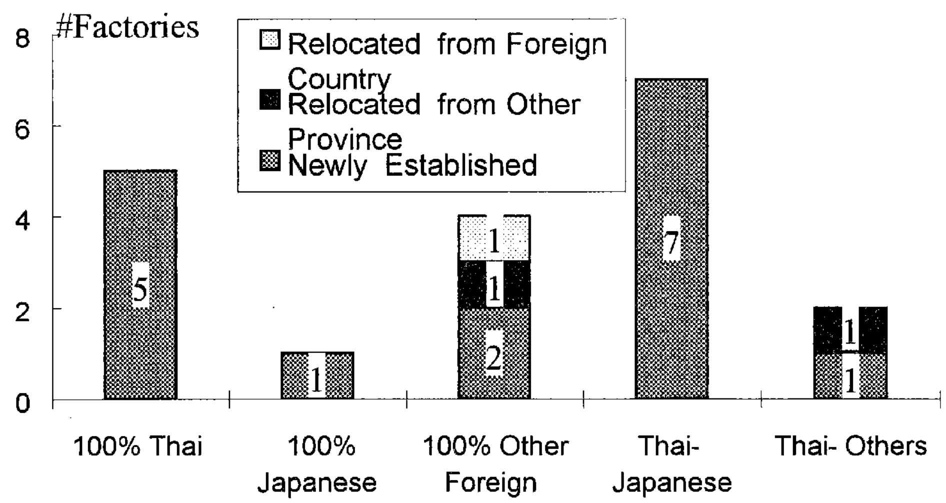
More than three quarters of the surveyed factories in LCIE and the vicinity area are newly established. The rest are factories relocated from foreign countries or other provinces in Thailand.

Exhibit 1.5 Factories Classified by New Establishment or Relocation (LCIE)



Source: TDRI Survey

Exhibit 1.6 Factories Classified by New Establishment or Relocation (Non-LCIE)

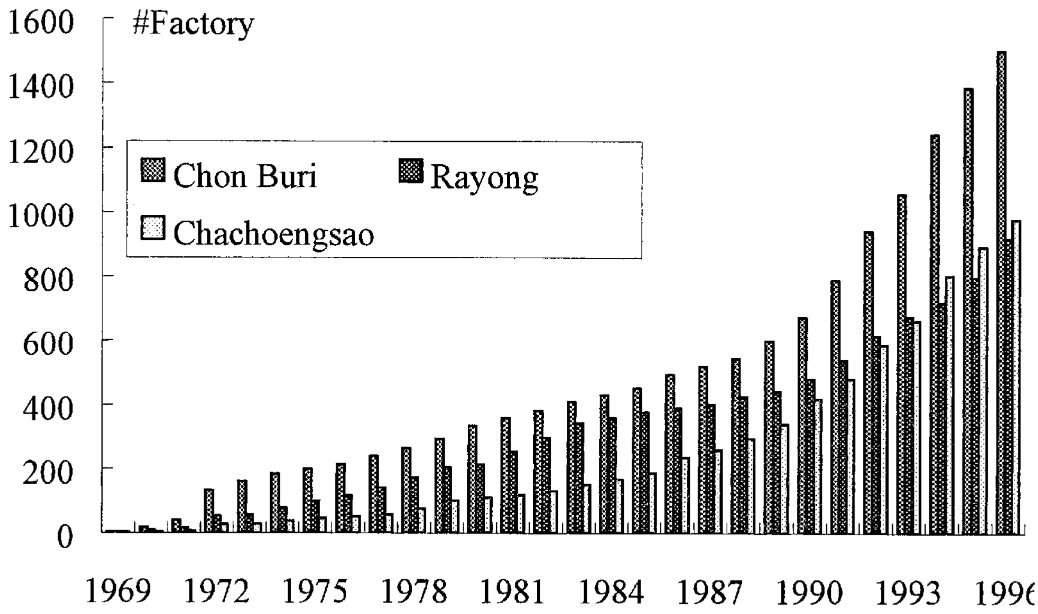


Source: TDRI Survey

Chapter 2
Current Achievement of Industrialization in ESB

The number of factories in the three ESB provinces has been increasing rapidly since 1990, the year before the completion of ESDP I. Among these provinces, Chon Buri is most industrialized in terms of number of factories, followed by Chachoengsao and Rayong.

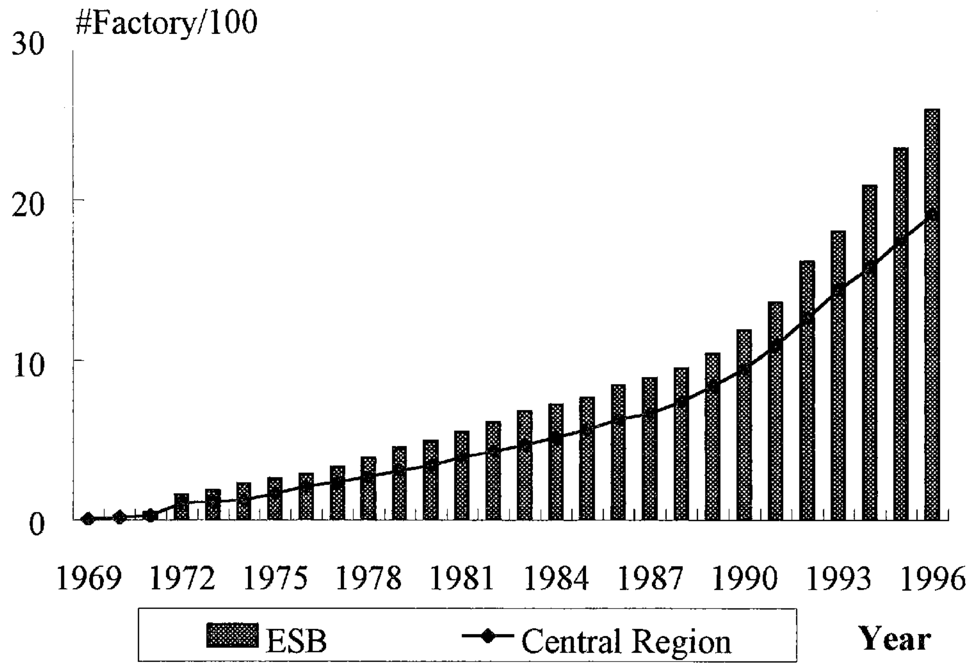
Exhibit 2.1 Industrialization in ESB Provinces



Source: TDRI (compiled from MOI data)

Factories are more concentrated in ESB than in some provinces in the Central Region of Thailand. The two regions are comparable in term of distance from Bangkok (114 and 117 km, respectively)

Exhibit 2.2 Factory Concentration In ESB and Central Thailand

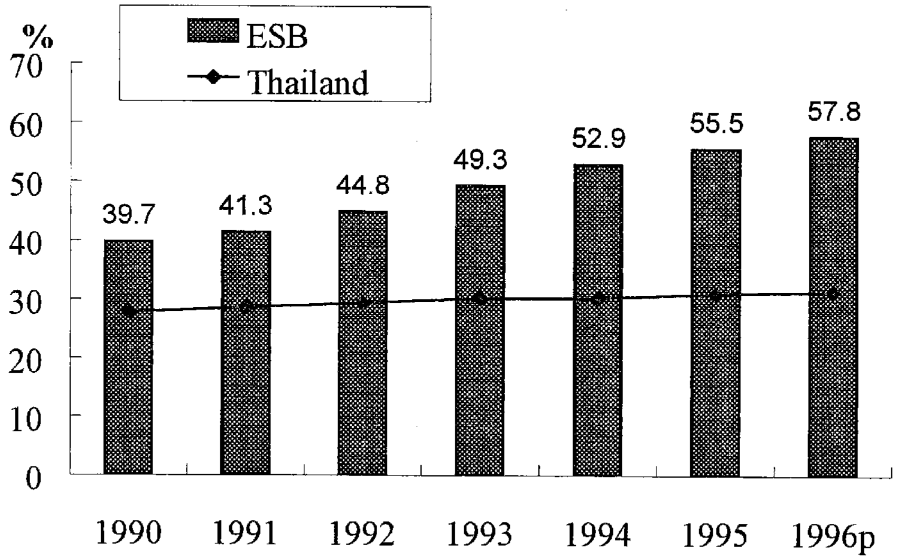


Source: TDRI (compiled from MOI data)

Note: Selected provinces in Central Thailand are Ayutthaya, Lop Buri, Sara Buri, Sing Buri and Ang Thong

Share of manufacturing to total output in ESB is higher than that of the whole Kingdom and the gap is widening steadily.

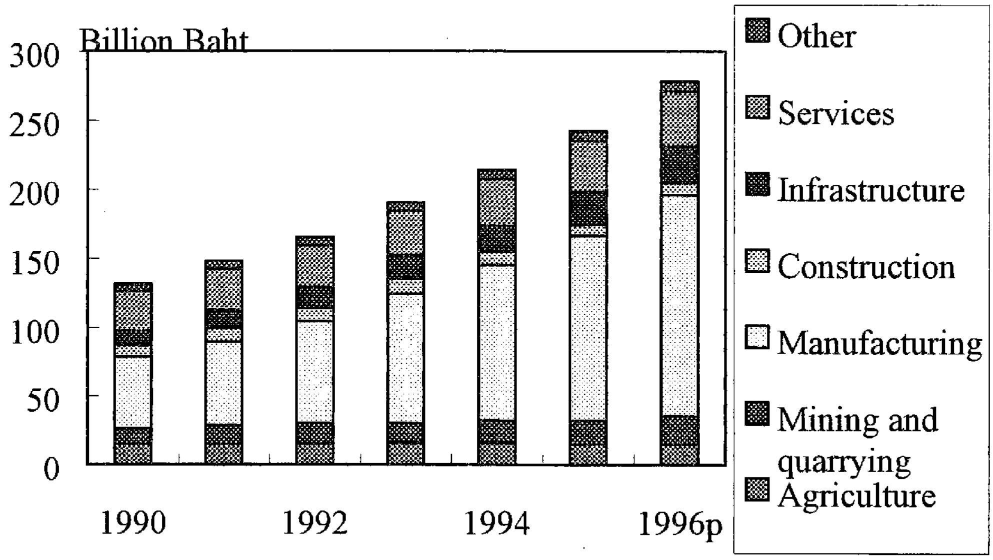
Exhibit 2.3 Share of Manufacturing to Total Output in ESB and Thailand



Source: TDRI (compiled from MOI data)

Manufacturing is the largest and fastest growing sector in ESB. Its share to the total output is now nearly 60%.

Exhibit 2.4 Output Composition of ESB

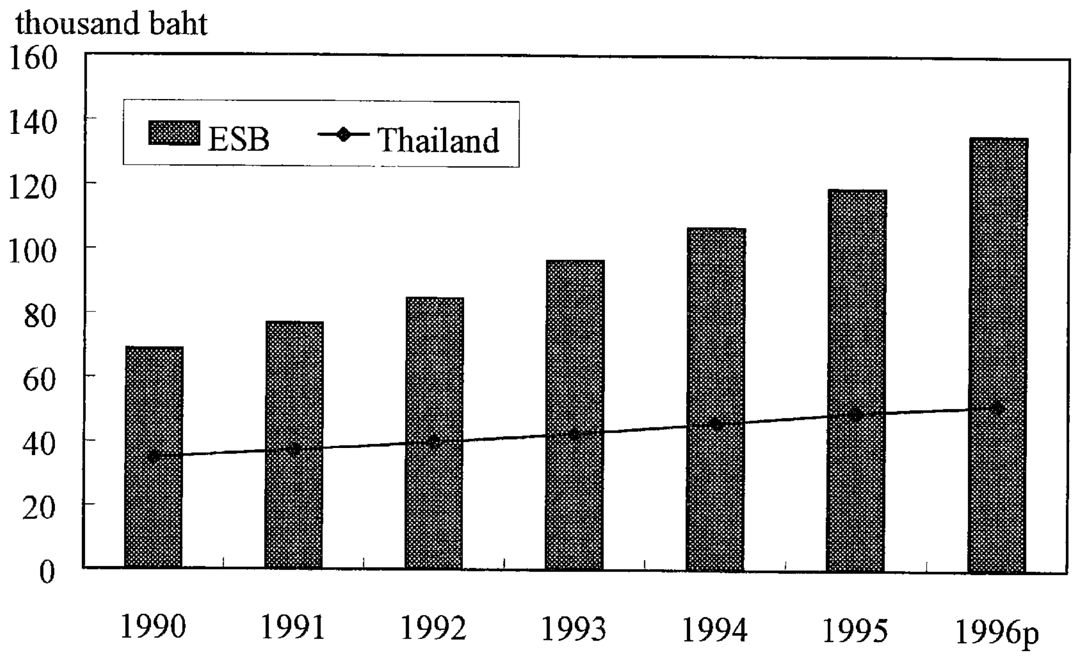


Source: TDRI (compiled from MOI data)

Note: Services include wholesale & retail trade, banking, insurance, real estate and other services. Infrastructure includes electricity, water supply, transportation and communication. Other sector includes public administration, defence and ownership of dwelling.

Thanks to industrialization, income per capita in ESB provinces is 2.5 times the average income of the whole Kingdom. The differential is also increasing rapidly.

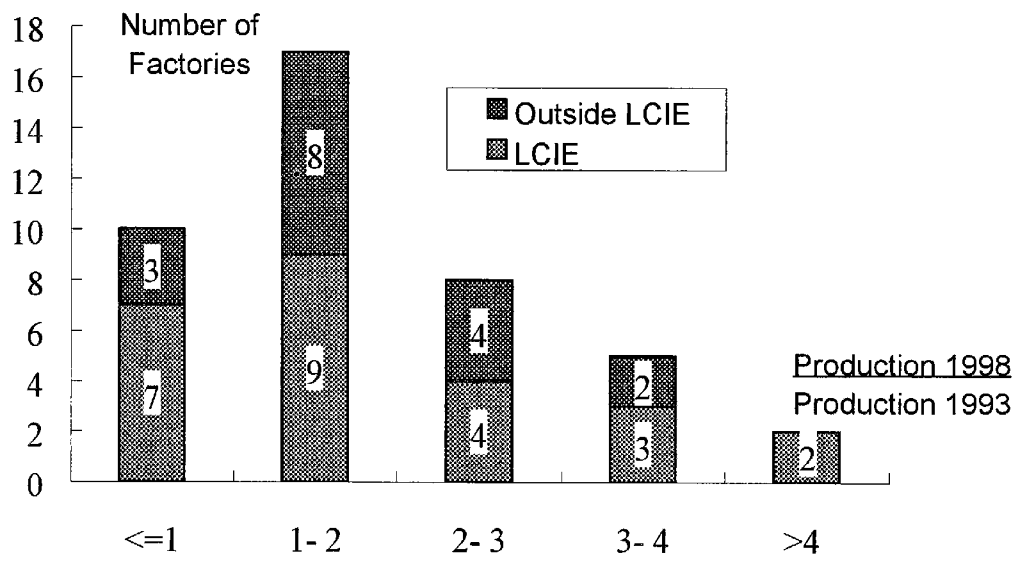
Exhibit 2.5 Income Per Capita in ESB and the Whole Country



Source: TDRI (compiled from MOI data)

During the past five years (1993-1998), production in LCIE and the vicinity area has increased significantly. Approximately, one-third of the factories surveyed have seen production more than doubled the 1993 levels. Due to the recent economic crisis, however, some factories had to cut back their production.

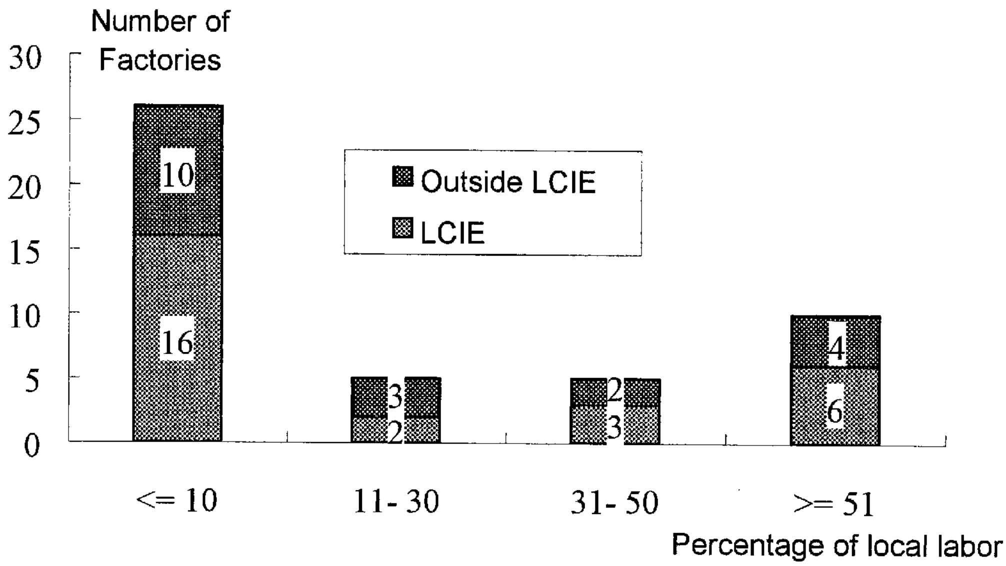
Exhibit 2.6 Increase in Output of Factories in LCIE and the Vicinity Area



Source: TDRI Survey

Industrialization in LCIE and the vicinity area has attracted labor forces from other regions of the country. In-depth interview reveals that many of the laborers are from the North-eastern region. A majority of the factories employs less than 10% of its laborers locally from the Eastern region. Few factories employ more than 50% of their laborers from the region.

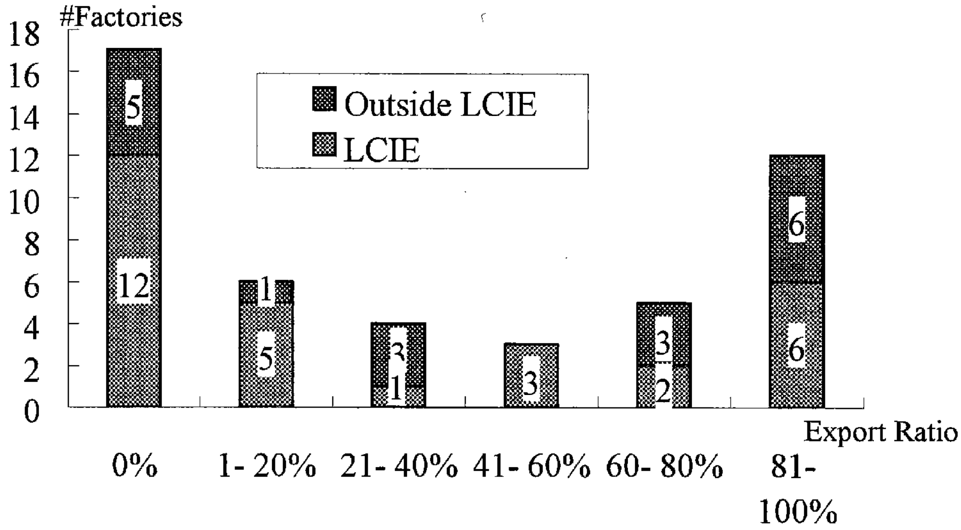
Exhibit 2.7 Labor Sources of Factories in LCIE and the Vicinity Area



Source: TDRI Survey

More than half of the factories in LCIE and the vicinity area are exporters. Among the exporters, more than one-third of the firms export more than 60% of their output.

Exhibit 2.8 Export Ratio of Factories in LCIE and the Vicinity Area



Source: TDRI Survey

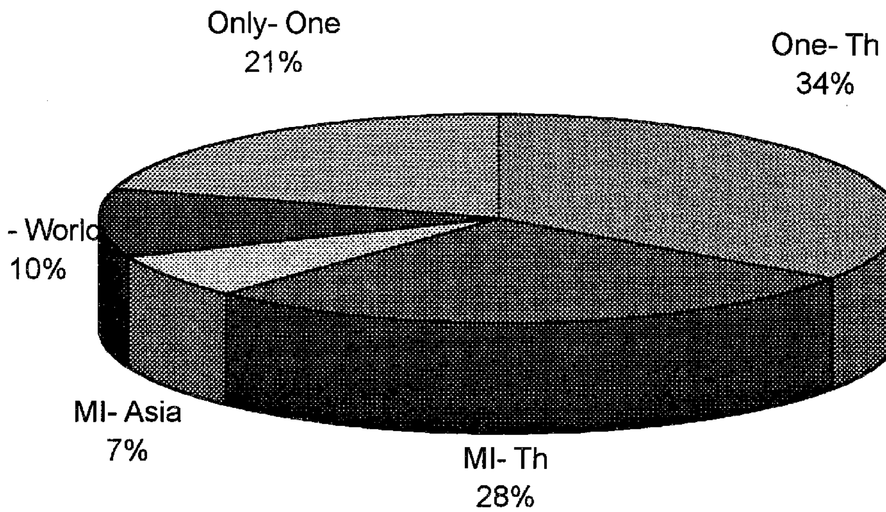
About one-fifth of factories in LCIE and nearly half of the factories outside LCIE are the only production bases of the companies. For about one-sixth of the companies, the LCIE factories represent their most important production bases in Asia or in the world. Examples of regional-base factories are those in auto-parts industries while the global-base factories are in Cookware and Processed Food industries. For about one-sixth of the companies outside LCIE, Chon Buri factories are their "regional" (Asia) and "sub-regional" (South East Asia) production bases.

Note to Exhibit 2.9

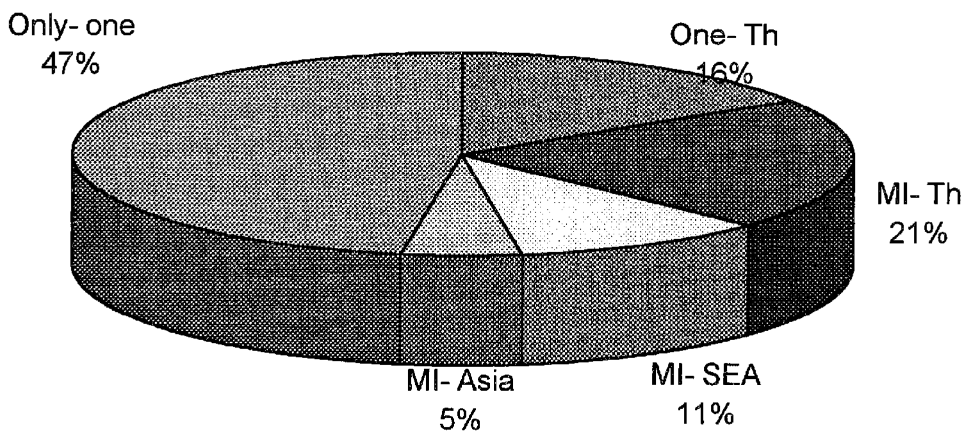
Legend	*Meaning*
Only-One	*The factory is the only production base of the company.*
One-Th	*The factory is just one among many production bases in Thailand for the group surveyed*
MI-Th	*The factory is the group's most important production base in Thailand (not including One-Th factories)*
MI-SEA	*The factory is the group's most important production base in South East Asia (not including MI-Th factories)*
MI-Asia	*The factory is the group's most important production base in Asia (not including MI-SEA factories)*
MI-World	*The factory is the group's most important production base in the world (not including MI-Asia factories)*

Exhibit 2.9 Factories in LCIE and the Vicinity area as Production Bases

(a) Factories in LCIE



(b) Factories Outside LCIE

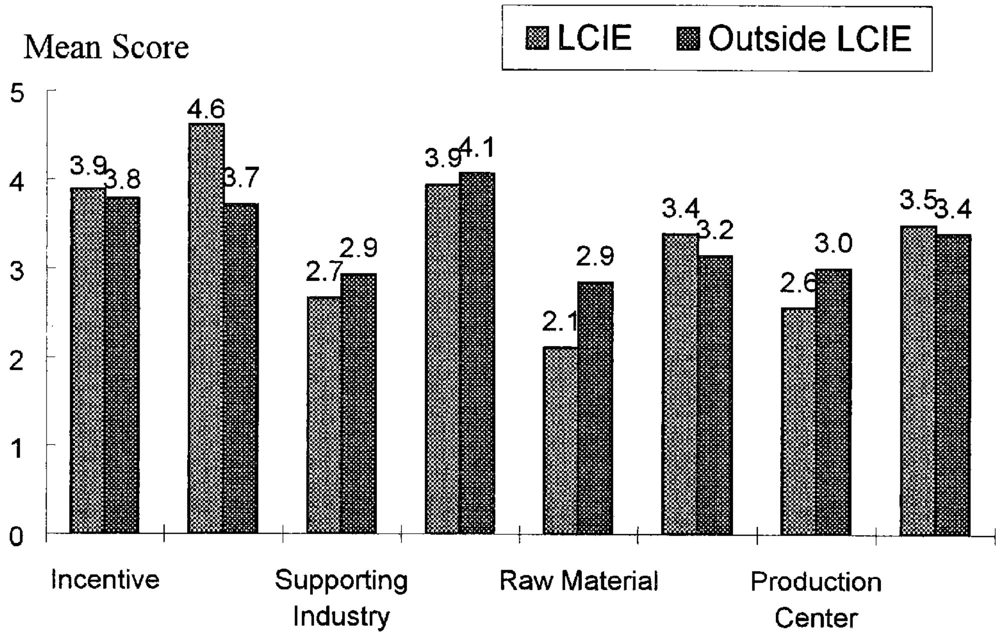


Source: TDRI Survey

Chapter 3
Historical Development and Decision to Invest in ESB

Factors that influenced the decision of foreign companies in ESB to set up a wholly-owned or joint-venture factory in Thailand include high-quality infrastructure, low wages, investment incentive, political stability and local market potential.

Exhibit 3.1 Reasons to Invest in Thailand



Source: TDRI Survey

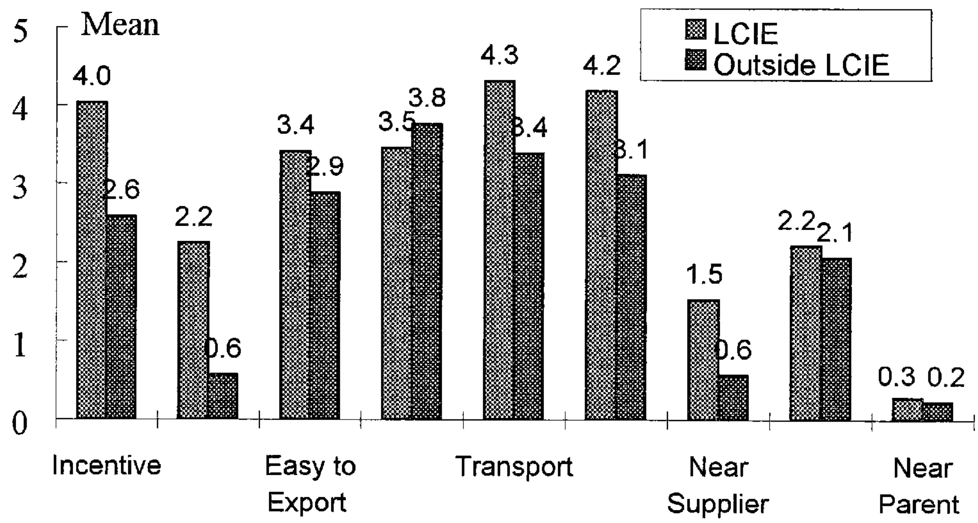
Note: Scores are in importance scale (0-5) and are averaged over companies in the survey.

Scale	Meaning
5	**Most Important**
4	**Very Important**
3	**Moderately Important**
2	**Not So Important**
1	**Least Important**
0	**Irrelevant**

High-ranking factors that influenced both Thai and foreign companies to invest in ESB, rather than in other regions of Thailand, differ significantly between those in and outside LCIE. The LCIE companies appear to be strongly attracted by investment incentive, high-quality transportation and public utilities, proximity to Bangkok and location that facilitates export, all of which are unique to LCIE. The companies outside LCIE, however, are moderately attracted by proximity to Bangkok, high-quality transportation and public utilities.

Interestingly, being in the close proximity with customers, suppliers, or parent companies does not seem to be a major reason to be in ESB for most companies. This may suggest weak linkages among factories in ESB.

Exhibit 3.2 Reasons to Invest in ESB



Source: TDRI Survey

Note: Scores are in importance scale (0-5) and are averaged over companies in the survey.

Being asked a hypothetical question "where would you have invested if the Thai government did not initiated the ESDP?",

- *39.6% of the interviewees said they would still have invested in the eastern region of Thailand*
- *31.3% said they would have invested in Bangkok or the vicinity area*
- *4.2.% said they would have invested in other regions of Thailand*
- *8.3% said they would not have invested in Thailand*
- *16.7% were undecided.*

About half of the wholly-owned Thai companies replied that they would still have invested in the eastern region of Thailand (Exhibit 3.3) while about one-third of the companies with foreign ownership said so (Exhibit 3.4). The most popular alternative investment location for both groups is Bangkok and the vicinity area.

For companies in LCIE (Exhibit 3.5), 10% said they would not have invested in Thailand without the ESDP. For those outside LCIE (Exhibit 3.6), about 5% said so.

Thus, it appears that some companies, especially those with foreign ownership investing in LCIE, highly value the government-provided infrastructure in ESB.

Note to Exhibit 3.3-3.6

Legend	Meaning
East	invest in eastern region of Thailand
Bkk	invest in Bangkok or the vicinity area
Thai	invest in other regions of Thailand
Foreign	invest in foreign country
Quit	cancel the investment project
?	undecided

Exhibit 3.3 Alternative Location without ESDP

(100% Thai companies)

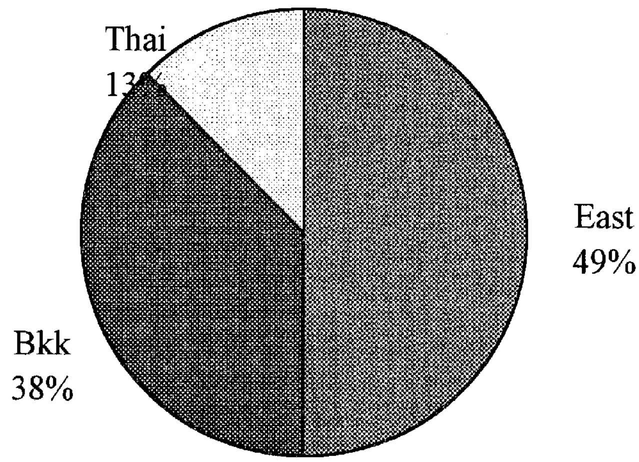
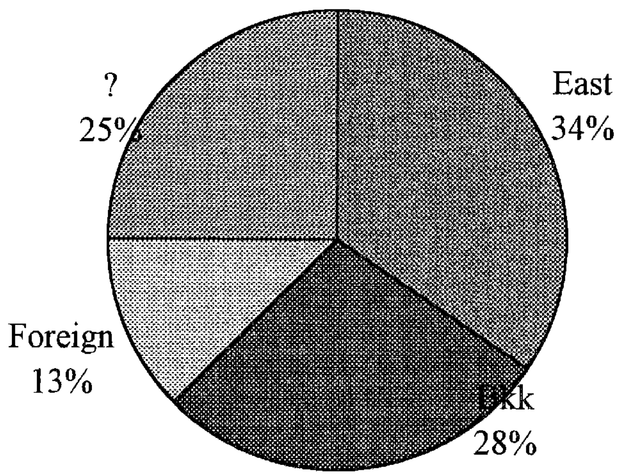


Exhibit 3.4 Alternative Location without the ESDP

(Foreign Companies or Joint-ventures)



Source: TDRI Survey

Exhibit 3.5 Alternative Location without the ESDP (Factories in LCIE)

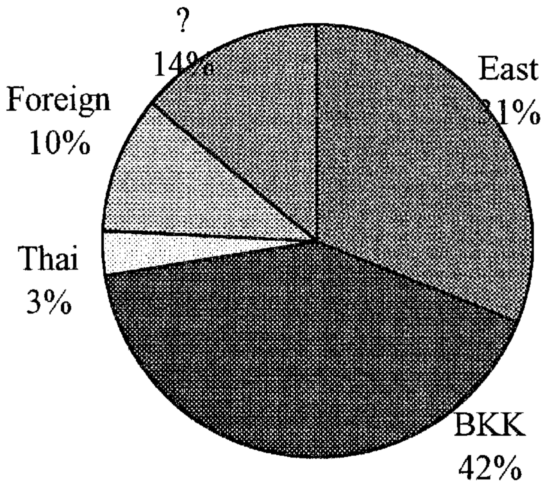
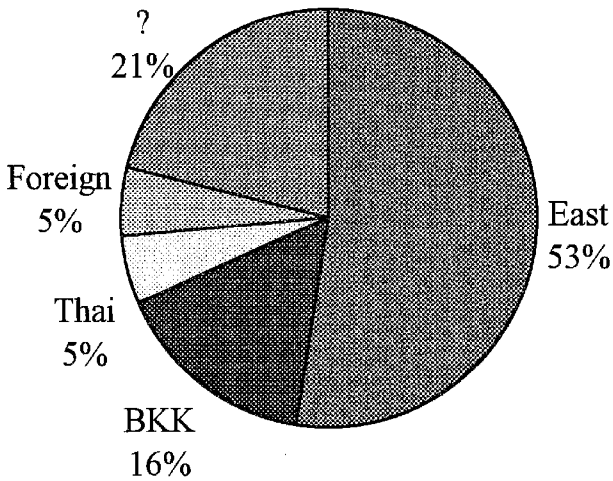


Exhibit 3.6 Alternative Location without the ESDP (Factories outside LCIE)



Source: TDRI Survey

Many companies made the decision to invest in ESB in the same year or only a few years before they began production. Some Thai companies did not even make any formal feasibility study since they were certain of market demand. Asked about the industry situation at that time, most factories mentioned growing market as a key factor which influenced their decisions to invest in ESB.

Table 3.1 Industry Situation during the Years Factories Decided to Invest in ESB

Situation	*Frequency mentioned*
Rapid market growth and the expanding Thai economy	*24*
Expectation of future market demand	*3*
Limitation of previous location due to high labor cost, limited land space, pollution or high country risk	*5*
Relocation or establishment of clients' factories in ESB	*3*
Government promotion of ESDP	*1*

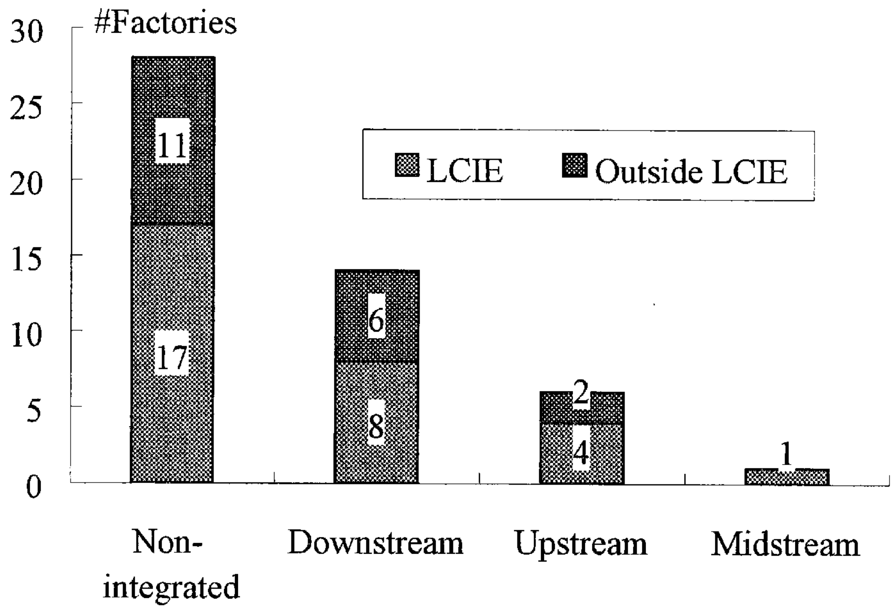
Source: TDRI Survey

Chapter 4

Industrial Linkages in ESB

Among the 48 factories in the survey, 21 belong to conglomerates that have vertically-integrated production, i.e., those having subsidiaries supplying parts to or procuring parts from the interviewed factories, while the rest belong to non-integrated companies. For most of the vertically-integrated ones, the ESB factories served as either upstream plants (supplying parts to other factories) or downstream ones (procuring parts from other factories). Only one factory is a "mid-stream" plant that procures parts from some factories and sells thier products to the others .

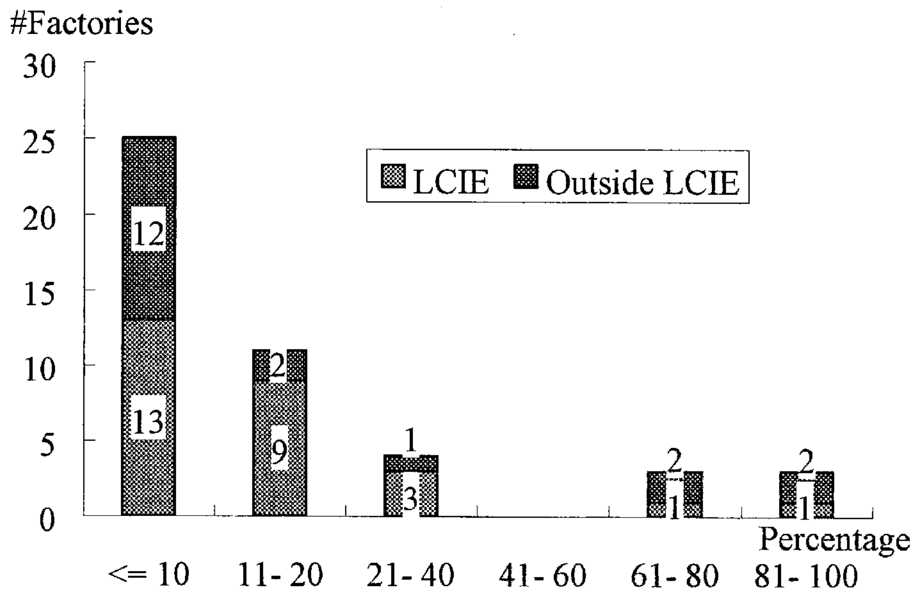
Exhibit 4.1 Vertical Integration of Factories in LCIE and the Vicinity Area



Source: TDRI Survey

Most factories in LCIE and the vicinity area procure only a tiny portion of their parts and raw materials from other ESB factories. This may indicate that there are still limited number of upstream or supporting industries in ESB.

Exhibit 4.2 Share of Parts and Raw Material Procured in ESB

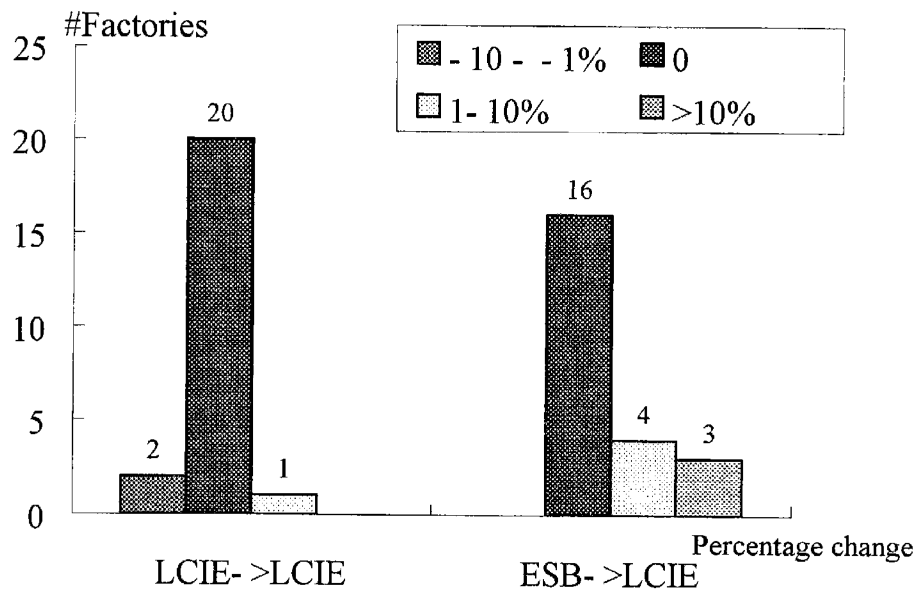


Source: TDRI Survey

The linkages among LCIE factories in 1998 have not become much stronger than in 1993; only 1 out of 23 factories have experienced an increase in procurement ratio from LCIE while the rest have seen the ratios unchanged or even experienced an decrease during the past five years. The ratios for procurement from the whole region of ESB, however, have increased relatively more; 7 out of 23 factories have experienced a rise in the procurement ratio from ESB.

** procurement ratio of a factory from an area is defined as cost of parts and raw materials procured by the factory from that area divided by total procurement cost*

Exhibit 4.3 Increase in Linkages of LCIE Factories with Suppliers in ESB



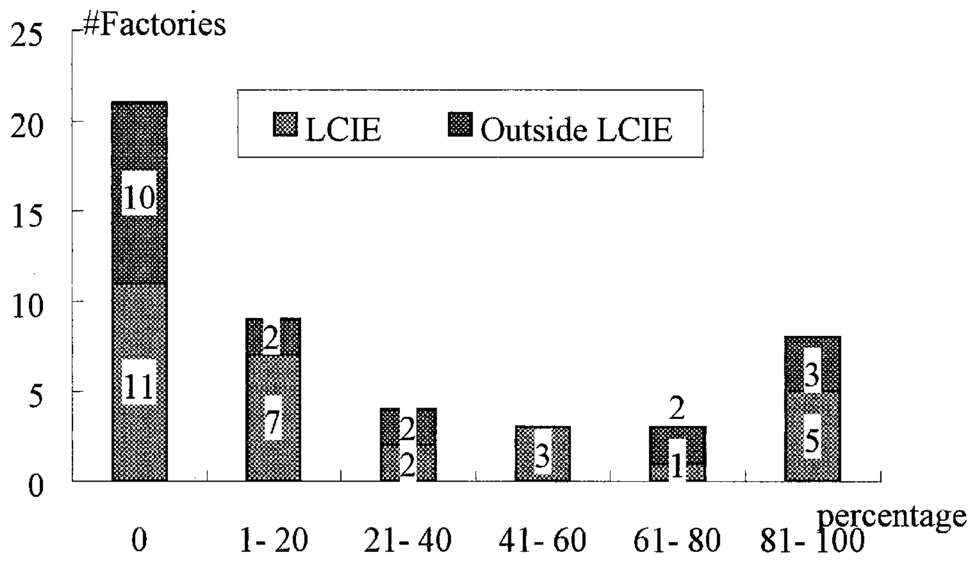
Source: TDRI Survey

Note: 1. LCIE → LCIE and ESB → LCIE refer to procurement from LCIE and ESB factories to LCIE factories, respectively.

2. The Exhibit represents only 23 factories since only those set up before 1993 are included in the sample.

Exhibit 4.4 confirms that linkages among factories in LCIE and the vicinity area are rather weak; more than two-fifths of the factories do not supply any of their products to factories in ESB. Only one-third of the factories supply more than 20% of their products to other factories in ESB. However, exceptions exist among wholly-owned or joint-venture Japanese companies that supply electronics or automobile parts to major customers in ESB.

Exhibit 4.4 Share of Products Supplied to Customers in ESB

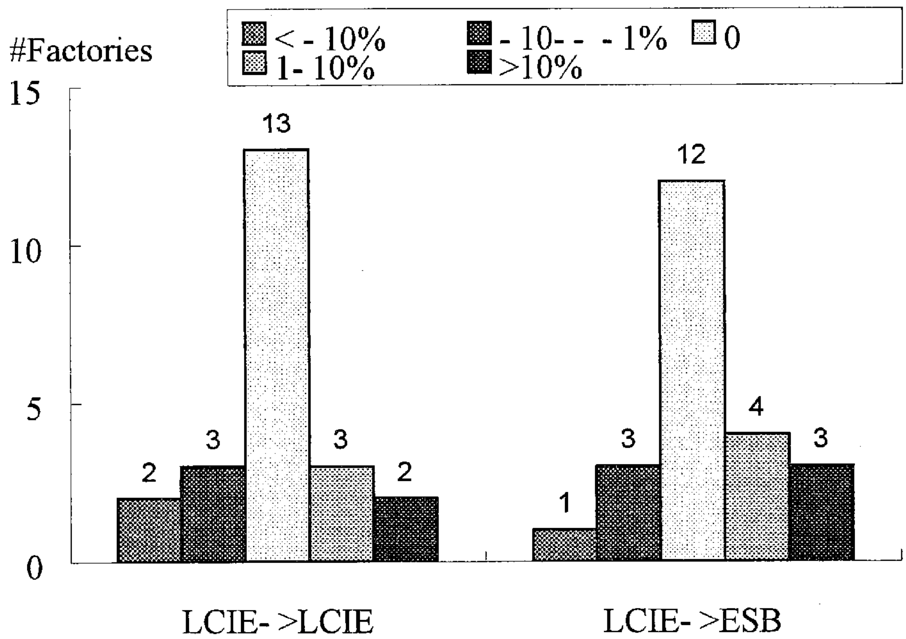


Source: TDRI Survey

Simlar to Exhibit 4.3, Exhibit 4.5 shows that the linkages among LCIE factories in 1998 have not become much stronger than in 1993; only 5 out of 23 factories have experienced an increase in sales ratio to LCIE factories while the rest have seen the ratios unchanged or even experienced an decrease during the past five years. The ratios to the whole region of ESB, however, have increased relatively more; 7 out of 23 factories have experienced a rise in the sales ratio to ESB. On the other hand, the sales ratios to LCIE and ESB of some factories have decreased due to growing export ratios.

** sales ratio of a factory to an area is defined as sales of the factory to that area divided by total sales.*

Exhibit 4.5 Increase in Linkages of LCIE Factories with Customers in ESB



Source: TDRI Survey

Note: 1. LCIE → LCIE and LCIE → ESB refer to supplying from LCIE factories to customers in LCIE and ESB, respectively.

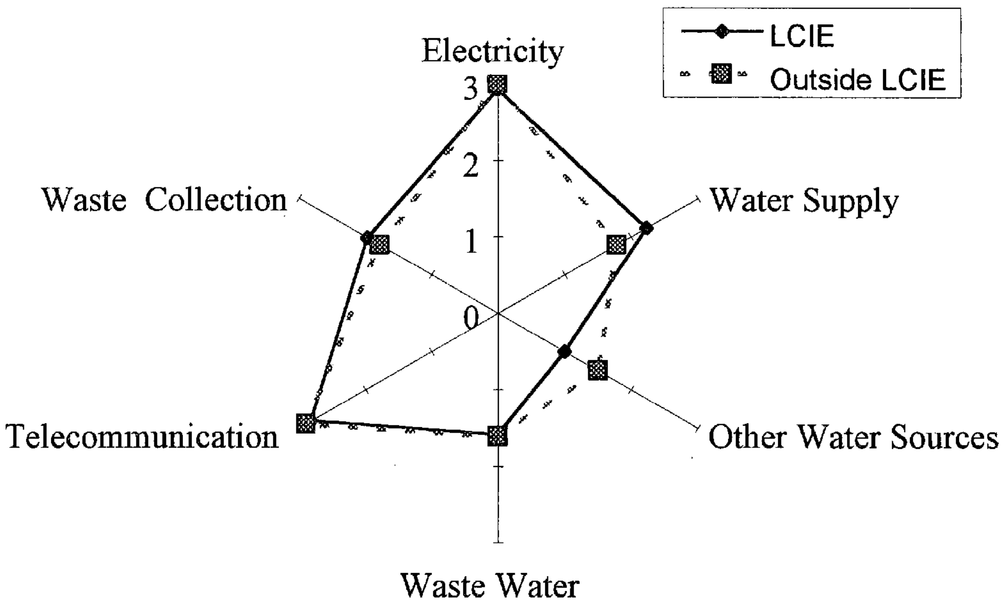
2. The Exhibit represents only 23 factories since only those set up before 1993 are included in the sample.

Chapter 5
Roles of Infrastructure in Industrialization

Being asked to rate the importance of public infrastructures for production, most factories said that electricity is the most important infrastructure, followed by telecommunication, water supply and industrial waste collection. Water from sources other than water supply, i.e., underground water, rain water or water from natural reservoirs, is important only to factories outside LCIE.

Exhibit 5.1 Relative Importance of Infrastructure to Production

(1)



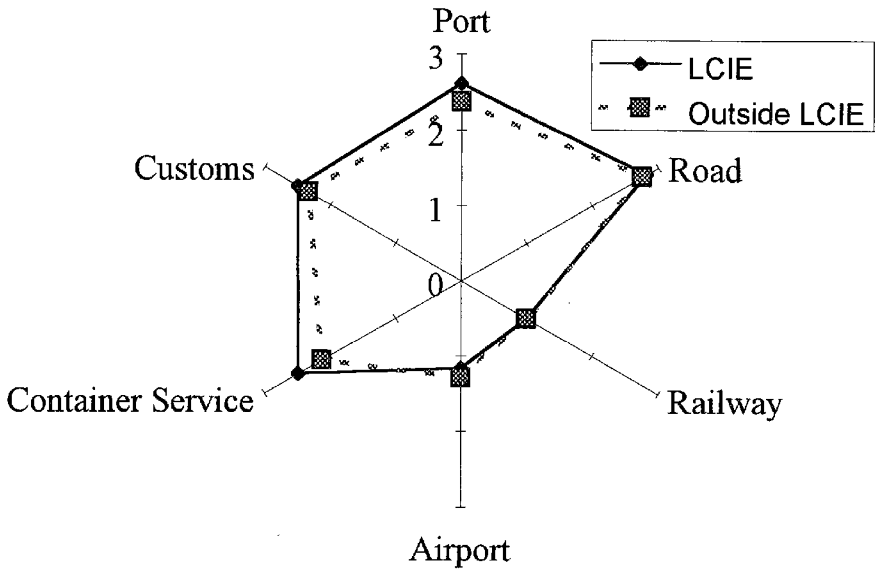
Source: TDRI Survey

Note: Scores are in importance scale (0-3) and are averaged over companies in the survey.

Scale	Meaning
3	Very Important
2	Moderately Important
1	Not So Important
0	Irrelevant

Transportation and logistic infrastructures, i.e., road, port, customs and container services are considered important by companies inside and outside LCIE, while railway and U-Tapao airport are of little importance since they are rarely used. Little usage of railway for companies in LCIE and the vicinity area is due to their proximity to Bangkok, the light weight of products, the widespread of trucks and the inconvenience of intermodal change for railway usage.

Exhibit 5.2 Relative Importance of Infrastructure to Production (2)



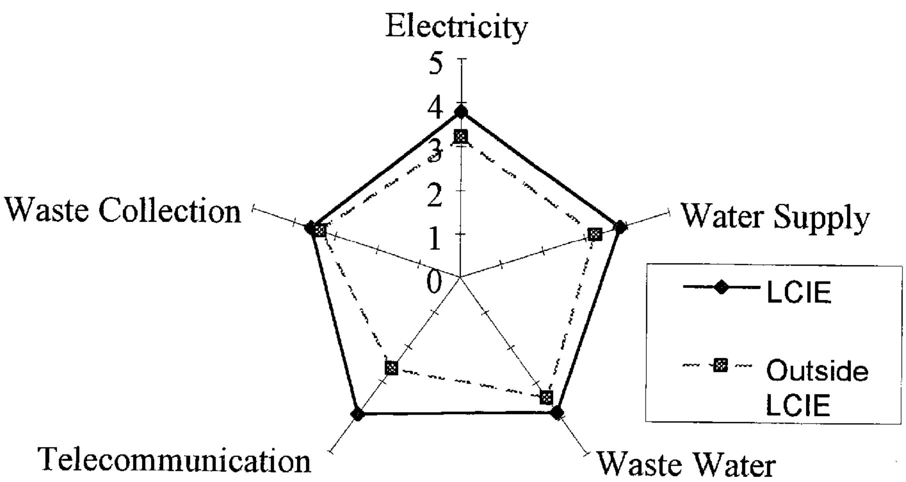
Source: TDRI Survey

Note: Scores are in importance scale (0-3) and are averaged over companies in the survey.

Scale	Meaning
3	Very Important
2	Moderately Important
1	Not So Important
0	Irrelevant

Being asked to rate their level of satisfaction of public utilities, most companies rank all the infrastructures above the acceptable level. For all public utilities, factories in LCIE seem to be much more satisfied than those outside LCIE. This reflect differences in the availability and the quality of public utilities between the two groups.

Exhibit 5.3 Satisfaction of Infrastructures (1)



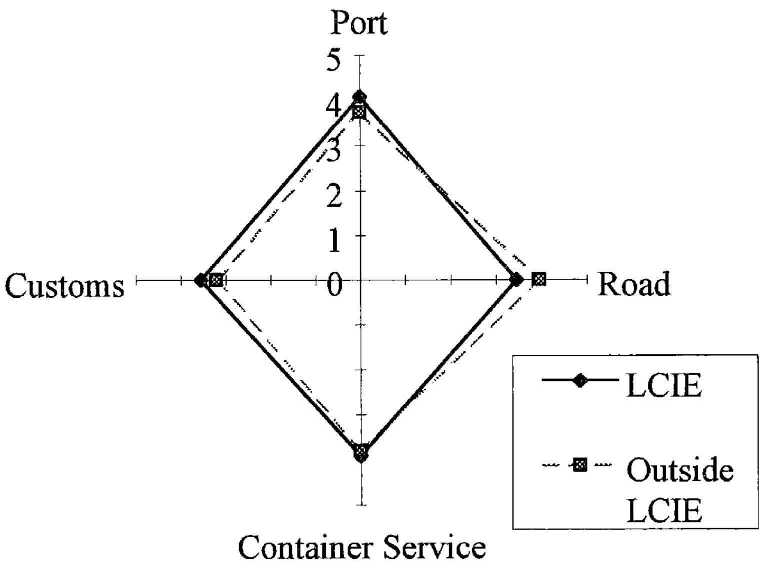
Source: TDRI Survey

Note: Scores are in rating scale (0-5) and are averaged over companies in the survey.

Scale	Meaning
5	**Most Satisfied**
4	**Very Satisfied**
3	**Moderately Satisfied**
2	**Not So Satisfied**
1	**Least Satisfied**
0	**Completely Unacceptable**

All logistic infrastructures are also rated above the acceptable level. Concerning roads, factories in LCIE seem to be less satisfied than those outside. Poor maintenance of roads and frequent road accidents in LCIE contributed to the low rating. Opinions concerning satisfaction of railway and airport are not solicited since the infrastructures are rarely used by the companies interviewed.

Exhibit 5.4 Satisfaction of Infrastructures (2)



Source: TDRI Survey

Note: Scores are in rating scale (0-5) and are averaged over companies in the survey.

Frequent blackout/brownout remains the most important problem for factories in LCIE and the vicinity area. Some factories in LCIE complained about 12-15 days of long blackout per year. Low quality of road in LCIE and surrounding areas due to insufficient maintenance poses another major problem. Many factories also mentioned costly public utility usage charge and unavailability of some utilities.

Table 5.1 Problems of Infrastructures

Infrastructure	*Location*	*Problems*
Electricity	*LCIE*	• *Frequent Blackout or Brownout (9)*
	Others	• *Frequent Blackout or Brownout (8)*
Water Supply	*LCIE*	• *Too Expensive (6)* • *Low Quality (5)* • *Frequent Pipe Leakage (2)*
	Others	• *Too Expensive (2)* • *No Water Supply Service (2)*
Telecommunication	*LCIE*	• *Frequent Breakdown (2)* • *Low Voice Quality (2)* • *Too Expensive (Long Distance Call) (2)*
	Others	• *Frequent Breakdown (5)* • *Low Voice Quality (3)* • *No Telephone Service (1)* • *Too Expensive (Long Distance Call) (1)*
Industrial Waste Collection	*LCIE*	• *Too Expensive (2)* • *Unreliable Collection (2)*
	Others	• *Too Expensive (2)* • *Unreliable Collection (1)*
Road	*LCIE*	• *Insufficient Maintenence (12)* • *Frequent Digging (2)*
	Others	• *Insufficient Maintenence (2)* • *Frequent Digging (2)*
Customs	*LCIE*	• *Too Much Paper Work and Red Tape (4)* • *Corruption (3)* • *Incorrect Classification (2)*
	Others	• *Too Much Paper Work and Red Tape (2)* • *Corruption (2)*
Port and Container Services	*LCIE*	• *Not Enough Ship due to Import Slump (6)* • *Too Expensive (2)*
	Others	• *Too Expensive (2)* • *Not Enough Ship due to Import Slump (1)*

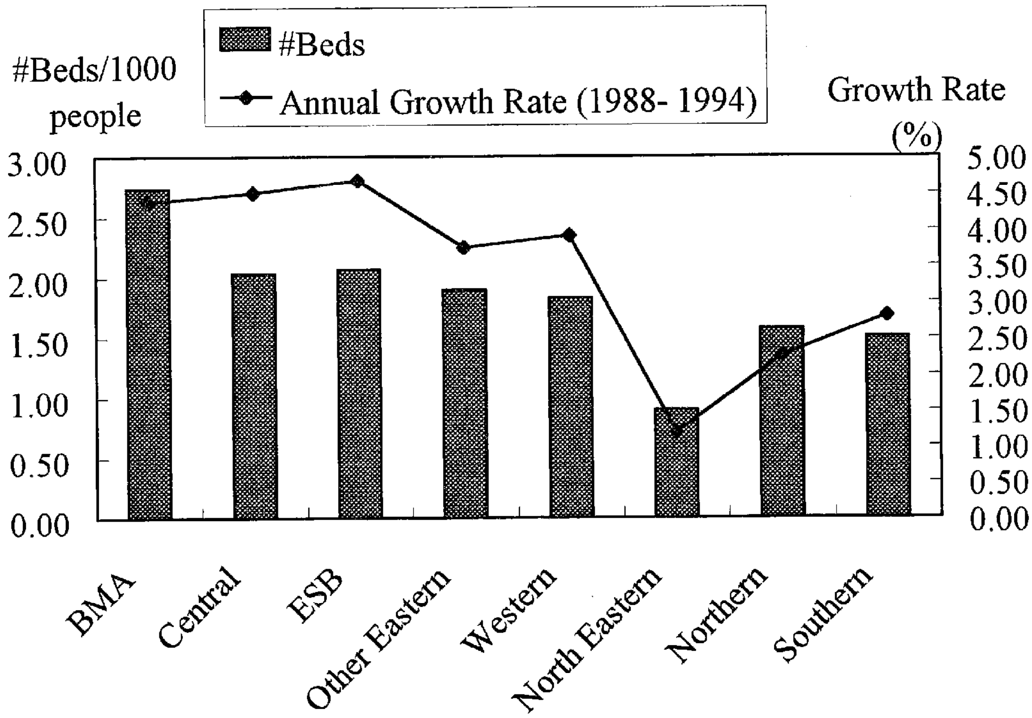
Note: Numbers in parentheses are numbers of factories complaining

Chapter 6

Urbanization and Remaining Issues for Urban Development

ESB is second only to Bangkok in terms of number of hospital beds per capita. It also has the highest growing rate of number of hospital beds, one indicator of urbanization.

Exhibit 6.1 Number of hospital beds in ESB and Other Regions



Source: TDRI (compiled from MOHdata)

Concerning social facilities, few companies complained. Most complaints are related to the fact that the facilities are insufficient in terms of number and choices and are too far away from the factories. Concerning hospital, while the previous Exhibit shows that ESB is second only to Bangkok in terms of number of hospital beds per capita, our survey reveals that the hospitals may not be evenly distributed. As a result, LCIE workers have to go to Sri Racha hospitals for medical treatment.

Table 6.1 Problems of Social Facilities

Infrastructure	*Location*	*Problems*
Housing	*LCIE*	• *Too Far Away (3)* • *Not Sufficient (2)*
	Others	• *Too Far Away (1)*
Hospital	*LCIE*	• *Too Far Away (4)* • *Too Expensive (1)*
	Others	• *Too Far Away (1)* • *Too Expensive (1)*
School	*LCIE*	• *Too Far Away (2)* • *Not Sufficient (1)*
	Others	• *Too Far Away (1)* • *Not Sufficient (1)*
Park	*LCIE*	• *Too Far Away (3)* • *Not Sufficient (3)*
	Others	• *Too Far Away (1)*
Sport Facility	*LCIE*	• *Too Far Away (4)* • *Not Sufficient (2)*
	Others	• *Too Far Away (2)*
Restaurant	*LCIE*	• *Too Far Away (1)* • *Not Enough Choice (1)*
	Others	• *Too Far Away (1)* • *Not Enough Choice (1)*

Note: Numbers in parentheses are numbers of factories complaining

Appendix

Questionnaire

No. of questionnaire................

Name of interviewer...Date..........................

Thailand Development Research Institute (TDRI)
Questionnaire
Post Evaluation for Eastern Seaboard Development Program

1. General Information

1.1 Name of interviewee...Position..

1.2 Company name....................................Sector...

1.3 Head quarter address..

1.4 Factory address or IE name........................Tel. no. ....Fax no..................

1.5 Years of establishment in ESB....................................

1.6 Major shareholders

No.	Name	Nationality	Percentage of share
1			
2			
3			

1.7 Number of employees (person)

Present (1998)	5 years ago (1993)

1.8 Percentage of local workers (Chon Buri, Rayong or Chachoengsao native) ....%

2. Production

2.1 What are your most important products?

Product name	First Production Year	Current Production Volume (Unit : ....)	Production Volume (5 year ago) (Unit : ....)
1.			
2.			
3.			
Total			

2.2 The factory is ....

☐ newly established

☐ relocated from (province of Thailand)..

☐ relocated from (country)..

2.3 Does your company belong to a conglomerate with subsidiaries producing the same products as yours?

☐ No (Go to 2.5)

☐ Yes, there are .... other companies producing the same products

(Please identify some most important ones)

Location	Relative production capacity comparing with your factory	Relative product quality comparing with your factory
1.	☐ more capacity ☐ same capacity ☐ less capacity	☐ higher quality ☐ same quality ☐ lower quality
2.	☐ more capacity ☐ same capacity ☐ less capacity	☐ higher quality ☐ same quality ☐ lower quality
3.	☐ more capacity ☐ same capacity ☐ less capacity	☐ higher quality ☐ same quality ☐ lower quality

2.4 Your factory is..

☐ one among many production bases in Thailand for the conglomerate.
☐ the conglomerate's most important production base in Thailand.
☐ the conglomerate's most important production base in South East Asia.
☐ the conglomerate's most important production base in Asia.
☐ the conglomerate's most important production base in the world.

2.5 Does your company belong to a conglomerate with subsidiaries supplying parts to or procuring parts from your company?

☐ No
☐ Yes (Please identify up to three such companies)

Location	Products	Relation with your company
1.		☐ supplying parts to your company ☐ procuring parts from your company
2.		☐ supplying parts to your company ☐ procuring parts from your company
3.		☐ supplying parts to your company ☐ procuring parts from your company

3. Investment Decision

3.1 What were the industry situations during the years you decided to invest in ESB?

Activity	Year	Industry Situation
Establish company in Thailand		
Conduct feasibility study to invest in ESB		
Set up a factory in ESB		
Change in production		

3.2 How important were the following factors in your company's decision to invest in Thailand? (exclusively for joint ventures or wholly-owned foreign companies)

(Weight 5 = most important, 1 = least important and 0 = irrelevant)

Factors	Weight					
	5	4	3	2	1	0
BOI investment incentives						
Good infrastructures						
Strong supporting industries						
Cheap labor cost						
Abundance of raw material						
Big domestic market						
Thailand being the production hub of the industry						
Political stability and low country risk						
Other (please specify ....)						

3.3 How important were the following factors in your company's decision to invest in ESB?

(Weight 5 = most important, 1 = least important and 0 = irrelevant)

Factors	Weight					
	5	4	3	2	1	0
BOI investment incentives						
Tax incentives in Export Processing Zone (EPZ)						
Proximity to sea port						
Proximity to Bangkok						
Good transportation infrastructures (road, airport and railway)						
Good public utilities (electricity, water supply and telephone)						
Proximity to suppliers or supporting industries						
Proximity to customers						
Proximity to parent company						
Other (please specify ....)						

3.4 Where would you have invested if the Thai government did not initiate the ESDP?

- ☐ in the eastern region of Thailand
- ☐ in Bangkok or the vicinity area
- ☐ in other regions of Thailand
- ☐ in a foreign country
- ☐ cancel the investment project
- ☐ undecided

4. Industrial Linkages

4.1 What are the percentage shares of the three most valuable parts/raw materials used in your production to the total raw material cost?

Name of parts/ raw materials	1..........................	2..........................	3..........................
Share in total raw material cost (%)			

4.2 What is the share of parts/raw materials procured from ESB?

☐ none at all

☐ ....% of total raw material cost

4.3 What is the share of parts/raw materials procured from ESB and elsewhere in 1998 and 1993?

Location of suppliers	first part/ raw material		second part/ raw material		third part/ raw material	
	1998 (%)	1993 (%)	1998 (%)	1993 (%)	1998 (%)	1993 (%)
Same IE						
Different IE in ESB						
Other areas in ESB						
Other provinces in Thailand						
Foreign countries						

4.4 What are the percentage shares of the three most valuable products to the total sales?

Name of products	1..........................	2..........................	3..........................
Share in total sales (%)			

4.5 What is the share of products sold to customers in ESB?

□ none at all

□ ....% of total sales

4.6 What is the share of products sold to customers in ESB and elsewhere in 1998 and 1993?

Location of customers	first product		second product		third product	
	1998 (%)	1993 (%)	1998 (%)	1993 (%)	1998 (%)	1993 (%)
Same IE						
Different IE in ESB						
Other areas in ESB						
Other provinces in Thailand						
Foreign countries						

5. Infrastructures

5.1 How important are the following infrastructures to the production and related activities of your factory? How satisfied are you with them?

Infrastructures	Importance*				Satisfaction**						
	3	2	1	0	5	4	3	2	1	0	
Electricity											
Water supply											
Other water sources											
Telecommunication											
Sea port											
Road											
Railway											
Airport (U Tapao)											
Container service											
Customs service											
Industrial waste collection											
Waste water treatment											
Other (please specify.......)											

* 3 = very important, 2 = moderately important, 1 = not so important and 0 = irrelevant

** 5 = most satisfied, 4 = very satisfied, 3 = moderately satisfied, 2 = not so satisfied, 1 = least satisfied and 0 = unacceptable

5.2 Please state problems in social infrastructures, if any.

Infrastructure	Problems
Housing	
Hospital	
School	
Entertainment	
Sports	
Food	
Fire Prevention	
Security	
Other (please specify.........)	