# PROJECT SUMMARY (F/S)

ASE THA/S 307/80

Compiled Mar.1986
Revised Mar.1992

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Bangkok Urban Truck Terminals Construction Project

**3.SECTOR**
Transportation/Land Transportation

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
Department of Land Transport

**7.OBJECTIVES OF STUDY**
Traffic plan

**8.DATE OF S/W** Jan.1979

**9.CONSULTANT(S)**
Pacific Consultants International
Nittsu Research Center Inc.

**10.STUDY TEAM**

No.of Members 9
Period Aug.1979-Mar.1980(8 months)

| Total M/M | Japan | Field |
|---|---|---|
| 32.60 | 22.90 | 9.70 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 83,169 (¥'000) |
| Contracted | 79,340 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Bangkok metropolitan area

**2.PROJECT COST**
(US$1,000)
(US$1= 20 Bahts)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 42,033 | | |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

| Description | Scale |
|---|---|
| Truck terminal | Cargo handling: 12,000 t/day |
| Parking | |
| Public parking | |
| Maintenance facilities | |
| Warehouse district | |

Imp. Period:

**4.FEASIBILITY AND ITS ASSUMPTIONS**
Feasibility: No

EIRR1) 10.00 FIRR1)
EIRR2) FIRR2)
EIRR3) FIRR3)

**Conditions and Development Impacts:**
Condition: Target year 2000
Project road includes intra urban tollway, circumferencial road, outer ring road Development Impacts:
-Increase of profit to the owner by regular operation
-Decrease in accidents by supplying welfare facilities to drivers
-Increase in operation time by improving inspection and maintenance

**5.TECHNICAL TRANSFER**
Technical advice on demand forecasting, traffic survey, and economic analysis.

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ☐ Completed or in Progress
  - ○ Completed
  - ○ Implementing
  - ○ Processing
- ■ Promoting
- ☐ Delayed or Suspended
- ☐ Discontinued or Cancelled

(Description)

Detailed design was partially undertaken by local consultants. In June,1987 Ministry of Transport and Communication has approved the commencement of the construction.

Private investment have been promoted for the construction of truck terminals. So far, contracts have been signed on two of the four sites.

Due to rapid urbanization, some sites proposed for terminals have been already used for other purposes.

JICA is conducting a restudy of Bangkok urban truck terminals since Dec. 1991, in which suggestions will be made to expedite the project implementation.

(FY 1991 Overseas Survey)
Project scale was reduced from four terminals to three.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 首都圏トラックターミナル建設計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1990
Revised Mar.1992

ASE THA/A 303/80

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Mae Wang-Kew Lom Irrigated Agriculture Development Project

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
RID (Royal Irrigation Department), Ministry of Agriculture and Cooperatives

**7.OBJECTIVES OF STUDY**

**8.DATE OF S/W** Feb.1979

**9.CONSULTANT(S)**
Sanyu Consultants Inc.

**10.STUDY TEAM**

No.of Members 10
Period Jul.1979-Mar.1980(9 months)

| Total M/M | Japan | Field |
|---|---|---|
| 47.04 | 21.97 | 25.07 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 115,644 (¥'000) |
| Contracted | 107,095 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Lampang City, Lampang Province, northern part of Thailand area 22,700 ha

**2.PROJECT COST**
(US$1,000)
US$1=20B in 1979

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 34,880 | 19,506 | 15,374 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Irrigation area : 22,700ha
Main irrigation canal : 100.12 km
Tributary irrigation canal : 79.65 km Main drainage canal : 240.77 km
Field improvement : 15,400 ha

* Above costs are in 1979 prices.

Imp. Period: Oct.1980-Sep.1987

**4.FEASIBILITY AND ITS ASSUMPTIONS**
Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 27.10 | FIRR1) | |
| EIRR2) | 25.30 | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**

Conditions:
Considering the production of paddy crop is relatively high, promotion of production during dry season is planned by utilizing the water of Kiv Lom Dam. To do this field improvement should be implemented.

Development Impacts:
Large increase of benefit by double cropping through effective use of existing water resource is expected.

**5.TECHNICAL TRANSFER**
Training of and technical transfer to staffs of RID in Thailand and Japan.

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ☐ Completed or in Progress
  - ○ Completed
  - ○ Implementing
  - ○ Processing
- ☐ Promoting
- ■ Delayed or Suspended
- ☐ Discontinued or Cancelled

(Description)

At the time of the JICA study, the Thai Government enacted the Law of Agricultural Infrastructure Improvement, and was vigorously promoting the improvement of agricultural infrastructure to expand the area of double cropping.

However, the proposed project was not implemented, partly because it presupposed farmers' sharing of the development cost, which turned out to be much higher than expected, and partly because the external debts of the Thai Government increased.

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**

There are no plans to revive the project because of the reasons noted above.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 メワンかんがい農業開発計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (D/D)

Compiled Mar.1990
Revised Mar.1992

ASE THA/S 402/80

## I. OUTLINE OF STUDY

1.COUNTRY: Thailand

2.NAME OF STUDY: Bangkok Telephone Network Project: Local Cable Network

3.SECTOR: Communications & Broadcasting/Telecommunication

4.REFERENCE NO.:

5.TYPE OF STUDY: D/D

6.COUNTERPART AGENCY: Telephone Organization of Thailand

7.OBJECTIVES OF STUDY: Detailed designs for 8 telephone exchanges

8.DATE OF S/W: Jul.1978

9.CONSULTANT(S): Nippon Telecommunication Consulting Co., Ltd.

10.STUDY TEAM

No.of Members 12

Period Aug.1978-Jun.1979(22 months)
Oct.1979-Aug.1980

| Total M/M | Japan | Field |
|---|---|---|
| 107.79 | 49.63 | 59.16 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

| | |
|---|---|
| Total | 278,789 (¥'000) |
| Contracted | 277,097 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Bangkok Metropolitan Area

2.PROJECT COST (US$1,000)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | | | |
| 2) | | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

1) Detailed design of local cable network for five exchanges (Pronchit, Chinwatana, Packrett, Ramintra, and Onutt-I)
2) Additional detailed designs for three exchanges (Kurontoi, Labrana and Ekachai)

Imp. Period:

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

| | |
|---|---|
| EIRR1) | FIRR1) |
| EIRR2) | FIRR2) |
| EIRR3) | FIRR3) |

Conditions and Development Impacts:
Detailed designs are based on the program in the 4th National Economic Development Plan.
Five exchanges correspond to Package I of Phase 2 and three additional exchanges to Package II of Phase 1.

5.TECHNICAL TRANSFER: OJT for counterparts

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

- ■ Completed or in Progress
  - ● Completed
  - ○ Implementing
  - ○ Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)
The project was implemented with the OECF loan.

1978 Jul. OECF L/A completed for extending telecommunication network

2.MAJOR REASONS FOR PRESENT STATUS: Urgency of the problem

3.PRINCIPAL SOURCE OF INFORMATION: ①④

和名 バンコック市内線路網実施設計

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1990
Revised Mar.1992

ASE THA/A 304/81

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Kaeng Khoi-Ban Mo Pumping Irrigation Project

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
RID (Royal Irrigation Department), Ministry of Agriculture and Cooperatives

**7.OBJECTIVES OF STUDY**
Feasibility study on irrigated agricultural development project

**8.DATE OF S/W** .0

**9.CONSULTANT(S)**
Sanyu Consultants Inc.

**10.STUDY TEAM**

No.of Members 10
Period Jun.1981-Jan.1982(8 months)

| Total M/M | Japan | Field |
|---|---|---|
| 37.55 | 17.80 | 19.75 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 96,370 (¥'000) |
| Contracted | 90,677 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Right bank of PaSak River, SaraBuri Province

**2.PROJECT COST** (US$1,000)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 40,700 | 24,500 | 16,200 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Pumping field : Diameter 1,000mm X 560kw X 7 stations
(Q = 17.6 cu.m/s)
Irrigation canal: 147.58 km
Drainage canal A: 21.80km
Pilot field : 260 ha

Imp. Period: .1983-.1988

**4.FEASIBILITY AND ITS ASSUMPTIONS** Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 16.90 | FIRR1) | |
| EIRR2) | 14.30 | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
-Planting of 100% in rainy season and 20% in dry season will be done by completion of irrigation facilities to increase agricultural profit.
-Training related to improvement of terminal facilities, water management and culture technique will be done in demonstration farm.

*EIRR calculated (14.3%) includes on-farm.

**5.TECHNICAL TRANSFER**
Transfer to staffs of RID in Thailand and Japan was done.

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
- ○ Completed
- ○ Implementing
- ● Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)

The detailed design was undertaken by Sanyu Consultants Inc.and Chuo Kaihatsu Corporation during the period from July 1984 to June 1985, with the E/S loan from OECF. However, the project implementation was delayed, because the adjustment of water rights (with beneficiaries of the waterway between Chainat and PaSak) was not settled.

July 1982 OECF loan agreement signed (E/S, 190 million yen)

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**

Although RID and farmers in the project area want to implement the project, the problem on water rights delayed the implementation.

**3.PRINCIPAL SOURCE OF INFORMATION**

①②④

和名 ケンコイ・バンモーポンプかんがい計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1986
Revised Mar.1992

ASE THA/S 202A/82

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Bangkok Sewerage System Project

**3.SECTOR**
Public Utilities/Sewerage

**4.REFERENCE NO.**

**5.TYPE OF STUDY** M/P+(F/S)

**6.COUNTERPART AGENCY**
Department of Drainage and Sewerage, BMA

**7.OBJECTIVES OF STUDY**
Planning on the countermeasure of pollution and flood

**8.DATE OF S/W** Mar.1979

**9.CONSULTANT(S)**
Nihon Suido Consultants Co., Ltd.

**10.STUDY TEAM**

| No.of Members | 10 | |
|---|---|---|
| Period | Aug.1979-Feb.1980(27 months) | |
| | Jul.1980-Jul.1982 | |
| Total M/M | Japan | Field |
| 186.30 | 114.30 | 72.00 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Topographic Survey

**12.EXPENDITURE**

| | |
|---|---|
| Total | 397,120 (¥'000) |
| Contracted | 377,556 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Bangkok City and Thonburi area located at the other side of Chao Phaya river.

**2.PROJECT COST**

| | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| (US$1,000) | 1) | 116,160 | 69,100 | 47,060 |
| (US$1=27.3B) | 2) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Bangkok City has some problems such as flooding in rainy season and water pollution of river in dry season.Several studies on those problems have been carried out.
This study was to review the previous study reports and to make new master plan in order to obtain the practical plan.
Scope of the study is limited for sewerage system planning.

**4.CONDITIONS AND DEVELOPMENT IMPACTS**
Study area is 37,000 ha, same as previous CDM plan,which was divided into 10 sewerage districts. Separate systems have been fundamentally adopted for the system.
In central area of the city, however,a combined system has been temporarily adopted.
Treatment plant is located at the vacant lot of the Tabacco Public Corporation.
Treatment method is modified aeration system.

**5.TECHNICAL TRANSFER**
(1) Individual short time training program executed for two persons. (2) Preparation of reports with trainees during the training period.
(3) Employment of local consultants for land surveying.

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**
- ■ In Progress or In Use
- ☐ Delayed
- ☐ Discontinued

(Description)
A feasibility study was subsequently implemented and Japanese experts went to Thailand for technical assistance.

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**
1. Priority is high as part of the Metropolitan Development Plan.
2. The sewerage problem is deeply related to flooding and river pollution.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 バンコック市下水道整備計画

{M/P,M/P+(F/S),Basic Study,Other}

# PROJECT SUMMARY (M/P+F/S)

ASE THA/S 202B/82

Compiled Mar.1986
Revised Mar.1992

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Bangkok Sewerage System Project

**3.SECTOR**
Public Utilities/Sewerage

**4.REFERENCE NO.**

**5.TYPE OF STUDY** (M/P)+F/S

**6.COUNTERPART AGENCY**
Department of Drainage and Sewerage, BMA

**7.OBJECTIVES OF STUDY**
F/S on first phase program, as recommended in M/S

**8.DATE OF S/W** Mar.1979

**9.CONSULTANT(S)**
Nihon Suido Consultants Co., Ltd.

**10.STUDY TEAM**

| | Total M/M | Japan | Field |
|---|---|---|---|
| No.of Members 10 | | | |
| Period Aug.1979-Feb.1980 (29 months) | | | |
| Jul.1980-Jul.1982 | 186.30 | 114.30 | 72.00 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Topographic survey

**12.EXPENDITURE**

| | |
|---|---|
| Total | 397,120 (¥'000) |
| Contracted | 377,556 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Bangkok City

**2.PROJECT COST** (US$1,000) (US$1=27.3B)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 32,300 | 23,200 | |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

Project area : 970 ha
Intercepting sewer : d 3,000-2,400mm for L=7,100m
Combined sewer : d 8,500-2,000mm for L=1,300m
Intermediate Pumping Station: 3 stations,Q=13-24cu.m/min
Plant : Q=135,000 cu.m/day
Inf.BOD= 160 mg/l
Eff.BOD= 60 mg/l
(Modified aeration process: grit chamber, aeration tank, final sedimentationbasin, basin, chlorination chamber, digester,etc.)

Imp. Period: .1984-.1988

**4.FEASIBILITY AND ITS ASSUMPTIONS** Feasibility: Yes

| | |
|---|---|
| EIRR1) | FIRR1) |
| EIRR2) | FIRR2) |
| EIRR3) | FIRR3) |

**Conditions and Development Impacts:**
In 1982, the celebration of the 200th anniversary of Bangkok as Capital of Thailand, sewerage project was focussed to cope with the water quality problem of canal in the city.
Sewerage project and Water Disposal Plan were made as a pair.
F/S was conducted for the area selected by the investment efficiency as recommended in M/P.
Development impacts are expected with pollution prevention of canal and decrease of inundation problem, which area, however, can not be scaled quantitatively.

**5.TECHNICAL TRANSFER**
(1) Carried out training program for two persons
(2) Employment of the local consultant for land survey
(3) Equipment granted and instructed for water quality tests

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ☐ Completed or in Progress
  - ○ Completed
  - ○ Implementing
  - ○ Processing
- ■ Promoting
- ☐ Delayed or Suspended
- ☐ Discontinued or Cancelled

(Description)

After the completion of the study, the implementation was delayed, owing to the policy which gave higher priority to drainage and inundation control projects in Bangkok.

Bangkok Metropolitan Administration(BMA) undertook D/D on two sewage treatment plants (the capacity: 30,000 cu.m/day and 25,000 cu.m/day). In late 1990, BMA was preparing a request to Japanese assistance on another treatment plant with a capacity of 60,000 cu.m/day.

In 1991, it is reported that the Thai Government will implement the project.

(FY 1991 Overseas Survey)

The Department of Drainage and Sewerage has modified the study, by rearranging the Bangkok Sewerage Area into 6 areas. Detailed design is under implementation for each area and the implementation will begin before long.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 バンコック市下水道整備計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1986
Revised Mar.1992

ASE THA/S 203A/82

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Bangkok Solid Waste Management

**3.SECTOR**
Public Utilities/Urban Sanitation

**4.REFERENCE NO.**

**5.TYPE OF STUDY** M/P+(F/S)

**6.COUNTERPART AGENCY**
Public Cleansing Department Bangkok Metropolitan Administration

**7.OBJECTIVES OF STUDY**

**8.DATE OF S/W** Mar.1979

**9.CONSULTANT(S)**
Tokyo Metropolis Environmental Service Corporatio

**10.STUDY TEAM**

No.of Members 55
Period Aug.1979-Feb.1980(36 months)
May.1980-Sep.1982

| Total M/M | Japan | Field |
|---|---|---|
| 278.08 | 124.54 | 153.54 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 491,070 (¥'000) |
| Contracted | 447,098 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
City of Bangkok

**2.PROJECT COST**

| (US$1,000) | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 17,248 | 8,667 | |
| 2) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

The master plan to improve waste disposal system by the year of 2000 and 67 immediate action programmes.
(1) The master plan includes construction and introduction of:
5 composting plants, 2 incineration plants,
3 final disposal sites,1,190 collection vehicles,
88 road sweepers, 5 river cleaning boats,
110 barges, 25 dump trucks, 18 bulldozers
(2) The immediate action programmes in which 3 levels of priority is shown include improvements in :
1] discharge and collection system
2] transport and transferring system
3] composting plants
4] final disposal system
5] administrative system
6] countermeasures to floods
The total cost above pertains to the short-term improvement plan.

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

Development Impacts: Public health and living environment for citizens are remarkably improved by modernization of waste disposal systems.

**5.TECHNICAL TRANSFER**

(1) logical way of thinking of public cleansing works
(2) reception of trainees
(3) effective application of local consultants

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**

- ■ In Progress or In Use
- ☐ Delayed
- ☐ Discontinued

(Description)
A feasibility study was subsequently undertaken on the short-term plan.

(FY 1991 Overseas Survey)
This master plan was revised in the phase II study which was under taken from 1989 to 1991.

**2.MAJOR REASONS FOR PRESENT STATUS**

(FY 1991 Overseas Survey)
1.The solid waste volume has increased for beyond estimate made by the study.
2.Construction ocst of incineration plants exceeded BMA's capacity and loan introduction was not BMA's policy.
3.Land acquisition was not successful due to high-pitched hike in land prices.

**3.PRINCIPAL SOURCE OF INFORMATION**

①②

和名 バンコク市都市廃棄物整備計画

{M/P,M/P+(F/S),Basic Study,Other}

# PROJECT SUMMARY (M/P+F/S)

ASE THA/S 203B/82

Compiled Mar.1986
Revised Mar.1992

## I. OUTLINE OF STUDY

1.COUNTRY: Thailand

2.NAME OF STUDY: Bangkok Solid Waste Management

3.SECTOR: Public Utilities/Urban Sanitation

4.REFERENCE NO.:

5.TYPE OF STUDY: (M/P)+F/S

6.COUNTERPART AGENCY: Public Cleansing Dept., BMA

7.OBJECTIVES OF STUDY:

8.DATE OF S/W: Mar.1979

9.CONSULTANT(S): Tokyo Metropolis Environmental Service Corporatio

10.STUDY TEAM

No.of Members 55

Period Aug.1979-Feb.1980(36 months)
May.1980-Sep.1982

| Total M/M | Japan | Field |
|---|---|---|
| 278.08 | 124.54 | 153.54 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

| | |
|---|---|
| Total | 491,070 (¥'000) |
| Contracted | 447,098 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: City of Bangkok

2.PROJECT COST (US$1,000) (US$1=26.25B)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 578,712 | 352,590 | |
| 2) | | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

Construction of final disposal site 3 1,500t/d
Construction of refuse incineration plant 2 1,500t/d X2
Construction of rapid type composting plant 2 800t/d

Imp. Period: .1985-.2000

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

| | |
|---|---|
| EIRR1) | FIRR1) |
| EIRR2) | FIRR2) |
| EIRR3) | FIRR3) |

Conditions and Development Impacts:

To properly dispose of whole waste targetting the completion in the year 2000 and considering local economic situations.
As the development impacts, public health and living environment for citizens are remarkably improved by modernization of waste disposal systems.

5.TECHNICAL TRANSFER

(1) training to the local staff through OJT.
(2) reception of trainees ,6 local staff
(3) effective application of local consultants.

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

- ☐ Completed or in Progress
  - ○ Completed
  - ○ Implementing
  - ○ Processing
- ■ Promoting
- ☐ Delayed or Suspended
- ☐ Discontinued or Cancelled

(Description)

A Japanese expert was sent to BMA in 1983 - 1989, and the short-term measures proposed by the study were implemented during the period.

The Phase II study was underteken during FY1989 - FY1992 bu the JICA team. Another Japanese expert was posted to BMA.

(FY 1991 Overseas Survey)

Most of the short-term improvement plan recommended in the original master plan was already been brought into practice, such as introduction of compact trucks, collection by boats, uniform supply for collection workers, etc. This study was revised in the phase II study completed in 1991.

2.MAJOR REASONS FOR PRESENT STATUS

(1) Waste disposal systems shall be updated according to economical development as waste are continuously generated.
(2) High priority: One of 5 major projects in Bangkok metropolis 5 year plan.
(3) Implementation: recommendations will be wisely implemented by National Ministry of Thailand and Bangkok Metropolitan Administration .

3.PRINCIPAL SOURCE OF INFORMATION

①②

和名 バンコク市都市廃棄物整備計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (M/P+F/S)

ASE THA/S 201A/82

Compiled Mar.1986
Revised Mar.1992

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Road Development in the Northern Region

**3.SECTOR**
Transportation/Road

**4.REFERENCE NO.**

**5.TYPE OF STUDY** M/P+(F/S)

**6.COUNTERPART AGENCY**
Dept. of Highways (DOH), Ministry of Communications

**7.OBJECTIVES OF STUDY**
Formulation of a master plan for highway development and feasibility analysis of priority road sections (new construction and improvement)

**8.DATE OF S/W** Dec.1979

**9.CONSULTANT(S)**
Nihon Koei Co., Ltd.
Katahira & Engineers International

**10.STUDY TEAM**

No.of Members 12
Period Jun.1980-Mar.1982(22 months)

| Total M/M | Japan | Field |
|---|---|---|
| 140.33 | 16.03 | 124.30 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Traffic survey, road inventory survey

**12.EXPENDITURE**

| | |
|---|---|
| Total | 385,805 (¥'000) |
| Contracted | 381,842 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
17 changwats of the Norther Regions (170,000 sq.km)

**2.PROJECT COST**

| | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| (US$1,000) | 1) | 36,500 | | |
| (US$1=23Bahts) | 2) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

The study for the road development in the Northern Region of Thailand has been carried out dividing it into two phases: Phase 1 (Planning) and Phase 2 (Feasibility Study). Subsequent to the Phase 1 which was completed in June 1981, the Phase 2 has commenced to conduct feasibility studies of the selected routes recommended in the Phase 1.

The Phase 1 Study recommended 16 routes of 409.3 km in total for further feasibility studies. Prior to the start of the Phase 2, however, a partial replacement of the routes was made to delete Study Route No.9,16,21 and 22 from the original list and add Route No.6 and 19.

The study selected priority road sections by taking into account development potentials by area. 44 links (total length 1,200km) were selected for improvement or for new construction. A pre-feasibility study was undertaken on 31 links (860km) which were considered for short- and medium term implementation and narrowed down to 16 links (410km) for the subsequent feasibility study.

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

Development impacts:
1) The project will stimulate the regional stagnation caused by the shortage of land and low income by providing better transport infrastructure.
2) The project will contribute to the productivity improvement and diversification of agricultural production.
3) The road density of the Northern Region is lower than elsewhere, and the project will promote better communication.

**5.TECHNICAL TRANSFER**

1) OJT for the counterparts on the method of selecting priority road sections
2) Participation of 1 counterparts in the JICA training program
3) Report writing

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**

- ■ In Progress or In Use
- □ Delayed
- □ Discontinued

(Description)
The feasibility study was conducted on 14 routes selected from 16 short-term priority links.

(FY 1991 Overseas Survey)
No additinal information.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 北部地方道路網整備計画

{M/P,M/P+(F/S),Basic Study,Other}

# PROJECT SUMMARY (M/P+F/S)

ASE THA/S 201B/82

Compiled Mar.1986
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Road Development in the Northern Region

**3.SECTOR**
Transportation/Road

**4.REFERENCE NO.**

**5.TYPE OF STUDY** (M/P)+F/S

**6.COUNTERPART AGENCY**

**7.OBJECTIVES OF STUDY**

**8.DATE OF S/W** Dec.1979

**9.CONSULTANT(S)**
Nihon Koei Co., Ltd.
Katahira & Engineers International

**10.STUDY TEAM**

No.of Members 12

Period Jun.1980-Mar.1982(0 months)

| Total M/M | Japan | Field |
|---|---|---|
| 140.33 | 16.03 | 124.30 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Agricultural data collection

**12.EXPENDITURE**

| | |
|---|---|
| Total | 385,805 (¥'000) |
| Contracted | 381,842 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
17 changwats of the Norther Regions (170,000 sq.km)

**2.PROJECT COST**
(US$1,000)
(US$1=23Bahts)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 58,913 | 44,822 | 14,091 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

The feasibility study was undertaken on 14 links(417.2km) requested by DOH. The analysis indicated the following 12 links (393.8km) as feasible.
11 links(F4 standard) Total 378.1km:
1)Khanu Woralaksa Buri ~ Kao Lieo ~ Rt. 117 46.0km; 2)B.Wang Chik ~ Rt.117(B. Pa Daeng) 13.0km; 3)B. Wang Tham ~ B. Tha Makham 8.3km; 4)B. Kiu Phrao ~ B. Kaen Tai 55.0km; 5)Rt. 115(B. Thung Maha Chai) ~ B. Nong Takhian 53.5km; 6)B. Thung Ngiu ~ B. Chomphu 47.8km; 7)A. Wang Chin ~ Thoen 54.0km; 8)B. Nong Khanak ~ B. Wang Pong 21.0km; 9)B. Rong Sua Ten ~ B. Huai Khom 13.2km; 10)A Phrom Phiram ~ Rt. 11(B.Nong Makhang) 14.4km; 11)Rt. 12(Huang Kao, Sukhothai) ~ Si Satchanarai 51.9km

1 link (F5 standard):A. Wat Bot ~ B. Nakham 15.7km.

Imp. Period:

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | |
|---|---|
| EIRR1) | FIRR1) |
| EIRR2) | FIRR2) |
| EIRR3) | FIRR3) |

**Conditions and Development Impacts:**
1) The Northern Region has limited availability of arable land because of difficult topography and has been underdeveloped. The proposed project will provide transport infrastructure and stimulate productive activities; 2) In order to establish a framework of balanced regional growth through better inter-regional communication, the study formulated a optimum plan to strengthen the road network, and proposed priority short- and medium-term routes.
Development impacts: 1) The project will stimulate the regional stagnation caused by the shortage of productive land and low income by providing better transport infrastructure; 2) The project will contribute to the productivity improvement and diversification of agricultural production.; 3) The road density of the Northern Region is lower than elsewhere, and the project will promote better communication. Five sections with higher EIRRs are a)28.5,b)22.5,c)20.6,d)20.3,e)20.2(%)

**5.TECHNICAL TRANSFER**

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
  - ● Completed
  - ○ Implementing
  - ○ Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)
1983 - 1986 D/D completed by DOH
Sep. 1983 OECF loan agreement (5,770 million yen)
Jan. 1986 Construction started
Aug. 1988 Construction completed

(FY 1991 Overseas Survey)
The construction was financed by OECF, IBRD and Thai Government.

(FY 1992 Overseas Survey)
The construction was completed in December 1991. 3,241 million yen was appropriated for the project from the OECF loan.
For the project, OECF loan (491.33 million bahts), World Bank loan (40 million baths) and DOH budget (89.20 million bahts) were appropriated.

**2.MAJOR REASONS FOR PRESENT STATUS**

1) Large impact: substantial contribution to the alleviation of regional disparities which was one of the major objectives of the 4th and 5th development plans.
2) Linkage with other projects: the proposed priority links were consistent with other priority road development projects.
3) Consistency with government policy: the Government of Thailand has been emphasizing public investments in the operation and maintenance of the existing roads, and the projects proposed by the study were consistent with this policy.
4) High priority : the Government has been emphasizing improvement

**3.PRINCIPAL SOURCE OF INFORMATION**

①②③④

和名 北部地方道路網整備計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1990
Revised Mar.1992

ASE THA/A 201A/82

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Agricultural Cooperative Promotion

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

**5.TYPE OF STUDY** M/P+(F/S)

**6.COUNTERPART AGENCY**
Cooperative Promotion Department MOAC

**7.OBJECTIVES OF STUDY**
To raise the agricultural production of cooperative member farms and to improve their socio-economic well-being.

**8.DATE OF S/W** Apr.1980

**9.CONSULTANT(S)**
The Institute for the Development of Agricultural

**10.STUDY TEAM**

No.of Members 6

Period May.1980-Feb.1982(23 months)

| Total M/M | Japan | Field |
|---|---|---|
| 37.21 | 27.36 | 9.85 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 127,935 (¥'000) |
| Contracted | 107,192 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
2 places in each part of north, central, northeast, south, totaling 8 places.

**2.PROJECT COST**

| (US$1,000) | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | | | |
| 2) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

We pointed realities and problems of organization, operations and management of agricultural cooperative of Thailand, and proposed basic idea for their improvement, based on case studies in each area.

1.Basic idea to strengthen the function of agricultural cooperative four strategic targets, streng thening of member's organization base, promotion of regional agriculture by conducting guidance of agriculture management, expansion of sales and purchase abiding by fair rule, realization of comprehensive agricultural financial sytsem, are shown, and "total system" to facilitate all of them in a comprehensive way was proposed.

2.Establishment of Agricultural Cooperative

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

1.We proposed that establishment of model Agricultural Cooperative should be chosen taking into consideration the difference of regional character and basic condition of each area.

2.Development effect of promoting agricultural cooperative is expected by planning of agricultural cooperative promotion, guidance to implement the plan, and dissemination of the fruits of model agricultural cooperative to neighboring cooperatives.

**5.TECHNICAL TRANSFER**

1.Transfer of development study method during the period of M/P in July and Aug.1980.: and 2.Discussion and cooperative operation in writing a report, and observation of Japanese case through acceptance of two trainees.

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**

- ■ In Progress or In Use
- ☐ Delayed
- ☐ Discontinued

(Description)

A Feasibility study was subsequently undertaken.

1. Thai Government requested Japanese Government for cooperation on the establishment of model agricultural cooperatives based on the final master plan report of Feb.1981

2. An S/W mission was sent to Thailand on an F/S in July 1981. After the S/W was concluded and the study was conducted from July to Sept.

3. The final report of F/S was submitted in Mar.1982, and Japanese experts were assigned for one year and a half from Dec. 1982. The project-type technical cooperation (5 years) began in July 1984.

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**

Thai Government requested the feasibility study to clarify the means for agricultural cooperative promotion.

**3.PRINCIPAL SOURCE OF INFORMATION**

①②

和名 農業協同組合組織育成計画

{M/P,M/P+(F/S),Basic Study,Other}

# PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1990
Revised Mar.1992

ASE THA/A 201B/82

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Agricultural Cooperative Promotion

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

**5.TYPE OF STUDY** (M/P)+F/S

**6.COUNTERPART AGENCY**
Cooperatives Promotion Department MOAC

**7.OBJECTIVES OF STUDY**
To raise the agricultural production of cooperative member farms and to improve their socio-economic well-being.

**8.DATE OF S/W** Jul.1981

**9.CONSULTANT(S)**
The Institute for the Development of Agricultural

**10.STUDY TEAM**

No.of Members 6
Period May.1980-Feb.1982(23 months)

| Total M/M | Japan | Field |
|---|---|---|
| 37.21 | 27.36 | 9.85 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 127,935 (¥'000) |
| Contracted | 107,192 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
In the districts of north, central, northeast, south, where four proposed cooperatives as model agricultural cooperative are located

**2.PROJECT COST**

(US$1,000)
(US$1=23Bahts)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 45,508 | 6,478 | 39,030 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
1.Projects to nurture agricultural cooperative
2.Establishment of consultant units and traveling guidance
3.Strengthening of training by agricultural cooperative training centers
4.Improvement of facilities of agricultural cooperative
5.Comprehensive financial measures

Imp. Period:

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | |
|---|---|
| EIRR1) | FIRR1) |
| EIRR2) | FIRR2) |
| EIRR3) | FIRR3) |

**Conditions and Development Impacts:**

Conditions:
1.Establishment of promoting system in CPD.
2.Guidance of agricultural management and strengthening of sales activities.
3.Financial back up by the government
4.Cooperation with ACFT and CLT

Development Impacts:
1.Improvement of management by agricultural cooperatives
2.Increase of employment opportunities, Increase of income, Decreasing the difference of income.

**5.TECHNICAL TRANSFER**
- Transfer of research method during the period of F/S.
- Discussion and cooperative operation in writing a report accepting two trainees.

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

■ Completed or in Progress
● Completed
○ Implementing
○ Processing
□ Promoting
□ Delayed or Suspended
□ Discontinued or Cancelled

(Description)

The proposals of the study was implemented with the Japanese techinical cooperation and grant aid.

1. Thai Government requested Japanese Government for a project-type technical cooperation and grant aid in June 1983.
2. R/D for technical cooperation was concluded in July 1984, and the five-year project began. The project was completed in July 1989, but extended for two years for the follow-up cooperation
3. In 1985, the Agricultural Cooperative Training Center of Northeast Thailand was established by the Japanese grant (598 million yen)

(FY 1991 Overseas Survey)
The project was implemented only in the northeast region.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 農業協同組合組織育成計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1986
Revised Mar.1993

ASE THA/S 308/82

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Rama VI Bridge Construction Project

**3.SECTOR**
Transportation/Road

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
Public Works Dept.(PWD), Ministry of Interior

**7.OBJECTIVES OF STUDY**
Alleviation of traffic congestion in Bangkok, with the bridge serving to complete the middle ring road

**8.DATE OF S/W** Mar.1981

**9.CONSULTANT(S)**
Chiyoda Engineering Consultants Co.,Ltd.
Japan Overseas Consultants Co., Ltd.

**10.STUDY TEAM**

No.of Members 12
Period Jun.1981-Mar.1982(10 months)

| Total M/M | Japan | Field |
|---|---|---|
| 38.05 | 3.55 | 34.50 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Traffic survey, topographic survey and geological survey

**12.EXPENDITURE**

| | |
|---|---|
| Total | 124,023 (¥'000) |
| Contracted | 116,682 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Northern area of Bangkok

**2.PROJECT COST**
(US$1,000)
(US$1=230Yen)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 34,000 | 19,100 | 14,900 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
1)New Highway Bridge
Main Bridge: total length 290m, width 29.1m (6 Lanes+pedestrian), 85m+120m+85m=290m long(3 spans) (Freyssinet cantilever erection method)
Approach Bridge: width 23.3m (6 Lanes), total length 650m
2)New Railway Bridge
width 12.5m total length 71.9m(dual track)
(3 span continuous prestressed concrete girder)
3)New Roads
width 9.4m ~ 5.7m, total length 3,900m
4)Other structures
Riverfront, side ditch, drainage network, pump station, utilities, electricity, water and telecom (Total 5,700m), parking spaces, park, landscaping, pedestrian bridges, signal, etc.

**Imp. Period:** Oct.1983-Mar.1986

**4.FEASIBILITY AND ITS ASSUMPTIONS**
Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 20.30 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Conditions:
1) Traffic volume projections for 1985, 1990 and 2000
2) Standard running speed of cars at 50km/hour
3) Traffic volumes of passengers and goods are projected on the basis of the O/D survey.
Development impacts:
1) Alleviation of traffic congestions in Bangkok and its adjacent areas
2) Industrial and residential development of the area along the Middle Ring Road because of an expansion of the traffic capacity of the road

**5.TECHNICAL TRANSFER**
1) OJT
2) Participation of counterparts in the JICA program.
3) Employment of local consultants

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
  - ● Completed
  - ○ Implementing
  - ○ Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)
Sep. 1983 OECF (10th) E/S loan agreement (170 million yen)
Aug. 1986 D/D on New Rama IV Bridge completed
Sep. 1987 OECF (13th) loan agreement on the new bridge (5,599 million yen)
Dec. 1988 PQ for construction completed
Jun. 1989 Tender for construction closed
Nov. 1989 Construction contract completed
Jan. 1990 Notice to proceed received by the contractor
Sep. 1992 Construction to be completed

Up to now 70 percent of the work completed. Construction and construction supervision are in progress satisfactorily and smoothly.

(FY 1992 Overseas Survey)
The project is included in the 5th and 6th National Social and Economic Development Plan.

**2.MAJOR REASONS FOR PRESENT STATUS**
1) Large impact: stimulation of the regional economy by the alleviation of congestion and the reduction of travel time
2) High priority: the completion of the Middle Ring Road ensures the balanced growth of the metropolitan area of Bangkok.
3) Administrative expertise: PWD has experiences in bridge construction (already constructed 5 bridges across Chao Phraya River)

**3.PRINCIPAL SOURCE OF INFORMATION**
①②③④

和名 チャオピア河架橋計画（ラマ六世橋建設計画）

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1986
Revised Mar.1992

ASE THA/S 309/82

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
East Coast Water Resources Development Project

**3.SECTOR**
Social Infrastructures/Water Resource Development

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
Royal Irrigation Department

**7.OBJECTIVES OF STUDY**
Water Resources Development covering Rayong, Nong Pla Lai, Chon Buri Changwats

**8.DATE OF S/W** Dec.1980

**9.CONSULTANT(S)**
CTI Engineering Co., Ltd.
Sanyu Consultants Inc.
Nomura Research Institute

**10.STUDY TEAM**

No.of Members 11
Period Feb.1981-Mar.1982(13 months)

| Total M/M | Japan | Field |
|---|---|---|
| 61.79 | 26.54 | 35.25 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Geological survey

**12.EXPENDITURE**

| | |
|---|---|
| Total | 165,176 (¥'000) |
| Contracted | 149,826 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
East Coast Region (Changwats Rayong and Chon Buri)

**2.PROJECT COST**
(US$1,000)
(US$1=230Yen=23B)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 242,000 | 103,870 | 137,700 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
1. Nong Pla Lai Sub-project
a. Reservoir and dam:
Catchement Area 426 sq.m, Gross reservoir storage 200,700,000 sq.m; Dam type-Earth fill type with cut-off trench, Crest elevation EL. 49.0 m, Max. dam height 31.0 m, Crest length 4,000m
b. Water transmission system:
Supply to Mab Ta Pud: Design discharge 3.63 cu.m/s, Total length 27.6 km
Supply to Sattahip from Mab TA Pud: Design dicharge 1.09 cu.m/s, Total length 21.9 km
Supply to Laem Chabang: Design discharge 1.01 cu.m/s, Total length 53.0 km
c. Irrigation and drainage system
Irrigation area 3,650 ha, Irrigation canal: Main length 46.2 km, Lateral length 20 km
Drainage area: Insige the project area 21.3 sq.m, Outside the project area 14.9 sq.m; Drainage length 6.5 km
2. Ban Bung Sub-project
Reservoir and dam: Catchment area 53 sq.m, Gross reservoir storage 21,900,000 cu.m; Dam type-Earth fill type with cut-off trench, Crest elevation EL. 86.3 m, Max. dam height 21.5 m, Crest length 2,800 m

**Imp. Period:** Jan.1983-Nov.1986

**4.FEASIBILITY AND ITS ASSUMPTIONS**
Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 10.50 | FIRR1) | 4.90 |
| EIRR2) | 8.20 | FIRR2) | 1.80 |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Conditions: The proposed industrial development project in the east coast region be progressed as originally scheduled.

Development Impacts:
1. Direct impacts a. Municipal and industrial water consumption; b. Production of paddy and groundnuts; and c. Flood control
2. Indirect impacts
a. Promotion of industrial development (gas separation & petrochemical plant, soda ash plant, chemical fertilizer plant, sponge iron plant, industrial estate, deep sea port, etc.); b. Improvement of living standard and c. Land enhancement by flood control

Notes: Above EIRRs and FIRR are for 1) Nong Pla Lai Sub-project and 2) Ban Bung Sub-project.
The respective EIRRs of the sectors are:
1. Nong Pla Lai Sub-project: Industrial and municipal water-10.4%, Irrigation-12.1%, and Flood control-3.5%; 2. Ban Bung Sub-project: Industrial and municipal water-8.3%, and Flood control-2.9%.

**5.TECHNICAL TRANSFER**
Acceptance of Trainees: for about three months, four trainees despatched from the Government of Thailand pursued the study and training mainly field survey of water supply systems. In the long view, it is considered profitable to the trainees.

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
- ○ Completed
- ● Implementing
- ○ Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)

| | |
|---|---|
| Jul.1982 | OECF loan agreement on the pipeline (6,570 million yen) |
| Jul.1982 | OECF loan agreement on E/S of Nong Pla Lai Dam (320 million yen) |
| Sep.1982 | D/D completed |
| Jun.1984 | Construction completed |
| Sep.1988 | OECF loan agreement on the dam(4,357 million yen) |
| Sep.1989 | OECF loan agreement on construction of Mab Ta Phud - Sattahip Pipeline (1,750 million yen) |
| Dec.1990 | Construction of the pipeline (Mab Ta Phud - Sattahip) is under implementation |

(FY 1991 Overseas Survey)
The construction is under implementation from 1989 to 1993 .

**2.MAJOR REASONS FOR PRESENT STATUS**
(1) High degree of priority: The industrialization of the east coast region was the No.1 priority project of the Government of Thailand.
(2) RID was directly commissioned by the Prime Minister to push forward the project.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②④

和名 東部水資源開発計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1990
Revised Mar.1992

ASE THA/A 305/82

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Phetchaburi-Kaeng Krachan Irrigated Agriculture Development Project

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
RID (Royal Irrigation Department), Ministry of Agriculture and Cooperatives

**7.OBJECTIVES OF STUDY**
Feasibility study for irrigation and drainage system improvement and prmotion of land consolidation

**8.DATE OF S/W** .0

**9.CONSULTANT(S)**
Sanyu Consultants Inc.

**10.STUDY TEAM**
No.of Members 11
Period Nov.1980-Mar.1982(17 months)

| Total M/M | Japan | Field |
|---|---|---|
| 50.73 | 18.36 | 32.37 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 201,291 (¥'000) |
| Contracted | 167,094 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Phetchaburi River Basin, area : 52,600 ha, population: 192,000

**2.PROJECT COST**
(US$1,000)
US$1=23B=230Yen

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 233,865 | 163,396 | 70,469 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Development of irrigation agriculture centering on improvement of irrigation canal for Phetchaburi irrigated area of 45,000ha and new development of 7,100ha, and terminal facilities.

Imp. Period: .1987-.1998

**4.FEASIBILITY AND ITS ASSUMPTIONS**
Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 26.00 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
-The increase of paddy proudction by 98,000t annualy
-Introduction of improved seeds to 48,700ha paddy
-Expansion of cultivation in dry season

**5.TECHNICAL TRANSFER**
Training to engineers

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ☐ Completed or in Progress
  - ○ Completed
  - ○ Implementing
  - ○ Processing
- ☐ Promoting
- ■ Delayed or Suspended
- ☐ Discontinued or Cancelled

(Description)
The proposed project has been suspended because of the change in Thai Government policy on farmland consolidation.

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**
The high investment cost of the project undermined its priority.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 ペチャブリかんがい農業開発計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1990
Revised Mar.1993

ASE THA/A 306/82

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Mae Kuang Irrigated Agriculture Development Project

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
RID (Royal Irrigation Department), Ministry of Agriculture and Cooperatives

**7.OBJECTIVES OF STUDY**

**8.DATE OF S/W** Dec.1980

**9.CONSULTANT(S)**
Sanyu Consultants Inc.
Taiyo Consultants Co., Ltd.

**10.STUDY TEAM**

No.of Members 14
Period Feb.1981-Feb.1982 (13 months)

| Total M/M | Japan | Field |
|---|---|---|
| 57.09 | 21.57 | 35.32 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 193,441 (¥'000) |
| Contracted | 165,175 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Chieng Mai and Lampoon Provinces

**2.PROJECT COST** (US$1,000)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 204,400 | 126,600 | 77,800 |
| 2) | 223,600 | 138,700 | 84,900 |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

1. The dimension of dam

| | Crest elevation (m) | Embankment volume (MCM) | Dam height (m) | Dam length (m) |
|---|---|---|---|---|
| 1) Left saddle dam | 395.0 | 2.26 | 52.0 | 650 |
| 2) Main dam | 395.0 | 5.58 | 77.0 | 645 |
| 3) Right saddle dam | 395.0 | 1.44 | 41.0 | 655 |

2. Main irrigation canal: 87.4km
3. Lateral irrigation canal: 146.6km
4. The capacity of hydropower generation
1) Optimum installed capacity: 3.7MW
2) Annual energy: 16.3GWH
5. New cropping patterns
Rice-Rice, Rice-Groundnut, Rice-Soybean, Rice-Sweet corn, Rice-Tobacco, Rice-Garlic, Rice-Vegetables, Soybean-Tobacco, Soybean-Groundnut and Longan

**Imp. Period:** Jan.1976-Sep.1988

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 17.70 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**

Conditions:
1. Economic cost: Baht 2,521.4 million (1980 price)
2. Maintenance cost: Baht 17.4 million/year (after 1991)

Development impacts
1. The increase of agricultural productivity
2. The increase in employment opportunities for some 14,300 farm families.
3. Flood control: annual average flood damage reduced by 38%
4. The increase in farmer's income: can reserve about Baht 13,700 as net profit.

**5.TECHNICAL TRANSFER**
1.Acceptance of one trainee
2.Several seminars held in RID during the period of the survey

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
- ○ Completed
- ● Implementing
- ○ Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)

The project is under implementation in three stages with the OECF loans.

Detailed Design:
Jul. 1982 OECF loan agreement signed for E/S (940 million yen), of which 190 million used for the project. D/D undertaken by Sanyu Consultants, Inc.

First Stage Construction:
Sep. 1984 OECF loan agreement signed (2,300 million yen)
Left saddle dam constructed. Construction was under direct management of RID and supervised by Sanyu Consultants, Inc.

Second Stage Construction:
Oct. 1985 OECF loan agreement signed (9,197 million yen)
Main and Right saddle dam constructed. Construction undertaken by a Chinese company, supervised by Nippon Koei Co. Inc.

Third Stage Construction:

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②④

和名 メイクワンかんがい農業開発計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

ASE THA/A 307/82

Compiled Mar.1990
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Upper Pasak Medium Scale Irrigation Project

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
Royal Irrigation Department, Ministry of Agriculture and Cooperatives

**7.OBJECTIVES OF STUDY**
Feasibility Study
-to identify the order of priority
-to formulate an irrigated agricultural development project and identify the feasibility of the project

**8.DATE OF S/W** Apr.1981

**9.CONSULTANT(S)**
Nihon Koei Co., Ltd.
Chuo Kaihatsu International Corp.

**10.STUDY TEAM**
No.of Members 34
Period Aug.1981-Mar.1983(20 months)

| Total M/M | Japan | Field |
|---|---|---|
| 72.48 | 21.06 | 51.42 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**
Total 188,810 (¥'000)
Contracted 175,942

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Upper Pasak river basin under PHETCHABUN Province (about 330km north from Bangkok)

**2.PROJECT COST**

| (US$1,000) US$1=23B | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 195,000 | 107,000 | 88,000 |
| | 2) | | | |
| | 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

| Sub-Project | Huai Saduang Yai | Huai Khon Kaen | Huai Yai | K.Chaliang Lab |
|---|---|---|---|---|
| 1.Irrigation Area(ha) | 5,400 | 5,100 | 1,800 | 1,200 |
| 2.Dam 1)Type | Earthfil | Earthfil | Earthfil | Earthfil |
| 2)Height(m) | 38 | 57 | 38 | 35.3 |
| 3)Crest Length(m) | 467 | 950 | 816 | 1,259 |
| 3.Irrigation Canal(km) | - | 105.2 | 26.6 | 21.2 |
| 4.Drainage Canal | - | 72.3 | 36.7 | 20.0 |

* Below implementation period is 10 years.

Imp. Period:

**4.FEASIBILITY AND ITS ASSUMPTIONS** Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 13.90 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Condition:
Agricultural benefit is estimated as a difference of both benefits accrued under with and without conditions.
In addition, irrigation water supply to lower basin and drinking water supply to the Lom Sak municipality are assessed as a direct benefit from the project.

Development Impacts:
1) Increase of agricultural production
2) Rasing of the living standard of the regional inhabitants
3) Supplemental water supply to urban area

**5.TECHNICAL TRANSFER**
To undertake on-the-job training of the government's officials in the course of the survey and study.

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
  - ○ Completed
  - ● Implementing
  - ○ Processing
- ☐ Promoting
- ☐ Delayed or Suspended
- ☐ Discontinued or Cancelled

(Description)
The Royal Irrigation Development has been implementing the project with its own funds based on the results of the JICA Study.

(FY 1991 Overseas Survey)

D/D Period : 1986-1992
Consultant's country : Thai
Source of finance : Thai

Construction Period : 1988-1996
Country of main contractors: Thai

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 パサック河上流中規模灌漑計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (D/D)

Compiled Mar.1988
Revised Mar.1992

ASE THA/S 403/82

## I. OUTLINE OF STUDY

1.COUNTRY: Thailand

2.NAME OF STUDY: Rama VI Bridge Rehabilitation Project

3.SECTOR: Transportation/Railway

4.REFERENCE NO.:

5.TYPE OF STUDY: D/D

6.COUNTERPART AGENCY: State Railway of Thailand

7.OBJECTIVES OF STUDY:
D/D and cost estimation, etc., for preparing bidding documents on the rehabilitaion of the Rama VI bridge,which was in danger of collapse

8.DATE OF S/W: Mar.1981

9.CONSULTANT(S):
Japan Railway Technical Service

10.STUDY TEAM

No.of Members 18

Period Jan.1982-Dec.1982(11 months)

| Total M/M | Japan | Field |
|---|---|---|
| 46.54 | 35.50 | 11.04 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
-Survey by divers
-Vibration survey
-Excavation survey on bridge piers

12.EXPENDITURE

| | |
|---|---|
| Total | 87,560 (¥'000) |
| Contracted | 81,093 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
The Rama VI bridge and neighboring areas, northern Bangkok

2.PROJECT COST

| (US$1,000) (US$1=26 Baht) | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 1,353 | 1,353 | |
| | 2) | 142 | | |
| | 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)
(1) Survey to confirm present status riverbed scouring; Geological survey; Vibration survey
(2) Analysis of causes of deformation
(3) Study on repair policies ; (4) Basic design
(5) Study on construction methods
(6) Approximate calculation of costs
(7) Detailed design
(8) Preparation of calculation sheets for work execution
(9) Cost estimation
(10) Preparation of specifications
* cost 1) above is for bridge piers and cost 2) for shoe resetting
** Implementation periods below are 1) for 10 months and 2) for 3 months.

Imp. Period:

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

| | |
|---|---|
| EIRR1) | FIRR1) |
| EIRR2) | FIRR2) |
| EIRR3) | FIRR3) |

Conditions and Development Impacts:
In the short term, the current restrictions on large rolling stock and train speed are to be continued.
In the long term, such measures as the repairing of bridge piers and shoe resetting are to be implemented.

5.TECHNICAL TRANSFER
1) OJT and JICA training program for counterparts
2) Employment of local consultants

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

■ Completed or in Progress
- ● Completed
- ○ Implementing
- ○ Processing

□ Promoting
□ Delayed or Suspended
□ Discontinued or Cancelled

(Description)
Short-term plan
* Completed with domestic funds --- the purpose of the project was tentatively attained.
* Repair work on bridge piers and shoe resetting were implemented and the restriction on train speed lifted.

Long-term plan
* Double-tracking has not yet started due to its relation with a new road bridge.
However, it seems that the State Railway of Thailand has started to make budgetary arrangements to repair the Rama VI Bridge and double-track it, in order to implement the double-tracking after construction of the New Rama Bridge that is now under way.

(FY 1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 ラマ６世橋梁修復計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (D/D)

Compiled Mar.1990
Revised Mar.1992

ASE THA/S 404/82

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Dok Krai - Mad Ta Pud Water Pipe Line Project in the East Coast Area

**3.SECTOR**
Social Infrastructures/Water Resource Development

**4.REFERENCE NO.**

**5.TYPE OF STUDY** D/D

**6.COUNTERPART AGENCY**
Royal Irrigation Department (RID)

**7.OBJECTIVES OF STUDY**
Executive design for construction of pipeline between Dok Krai reservoir and Mab Ta Pud

**8.DATE OF S/W** Oct.1980

**9.CONSULTANT(S)**
CTI Engineering Co., Ltd.
Sanyu Consultants Inc.
Nihon Suido Consultants Co., Ltd.

**10.STUDY TEAM**

No.of Members 22
Period Nov.1981-Aug.1982(10 months)

| Total M/M | Japan | Field |
|---|---|---|
| 87.00 | 39.00 | 48.00 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Survey Geological Survey

**12.EXPENDITURE**

| | |
|---|---|
| Total | 223,594 (¥'000) |
| Contracted | 206,221 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Eastern Coastal Zone of Thailand between Dok Krai and Mab Ta Pud

**2.PROJECT COST**

| (US$1,000) (US$1=230Yen=23B) | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 39,214 | 13,026 | 26,188 |
| | 2) | | | |
| | 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

| | |
|---|---|
| Nong Pla Lai Dam: | 200MCM |
| Pipeline: | 27.6 km |
| Irrigation Water Drainage System: | 3,650 ha |

Imp. Period: Mar.1983-Aug.1984

**4.FEASIBILITY AND ITS ASSUMPTIONS**
Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 11.20 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
After deducting tax, insurance subsidy and indemnity from the construction cost reckoned on the preliminary design as the basis.

Regional development of the eastern coastal zone is anticipated by the supply of municipal, industrial and irrigation water.

**5.TECHNICAL TRANSFER**
OJT and JICA training program for counterparts

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
  - ● Completed
  - ○ Implementing
  - ○ Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)
The project was completed with the OECF loan.

Jul.1982 OECF loan agreement signed (6,570 million yen)
Sep.1982 Detailed design completed
Jun.1984 Construction completed
Sep.1983 Service commenced

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**
(1) High degree of priority: The industrialization of the east coast region was the No.1 priority project of the Government of Thailand
(2) RID was directly commissioned by the Prime Minister to pushing forward of the project.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②④

和名 東部海岸パイプライン建設実施設計

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (Basic Study)

Compiled Mar.1990
Revised Mar.1992

ASE THA/S 501/82

## I. OUTLINE OF STUDY

1.COUNTRY: Thailand

2.NAME OF STUDY:
Water Supply Project to Laotian Displaced Persons:Nakhon Phanom Camp and Pak Chom Camp

3.SECTOR:
Social Infrastructures/Water Resource Development

4.REFERENCE NO.:

5.TYPE OF STUDY: Basic Study

6.COUNTERPART AGENCY:
Ministry of Interior

7.OBJECTIVES OF STUDY:
Survey of underground water resources

8.DATE OF S/W: .0

9.CONSULTANT(S):
Japan Engineering Consultants Co., Ltd.

10.STUDY TEAM

No.of Members 8

Period Feb.1982-Nov.1982(10 months)

| Total M/M | Japan | Field |
|---|---|---|
| 36.66 | 2.96 | 33.70 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

| | |
|---|---|
| Total | 100,465 (¥'000) |
| Contracted | 98,916 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA:
Two camps for Laotian refugees in the northeastern part of Thailand

2.PROJECT COST

(US$1,000) Total Cost Local Cost Foreign Cost
1)
2)

3.CONTENTS OF MAJOR PROJECT(S)

1st phase study:
Underground water survey at Nakhon Phanom Camp (test boring at 4 sites and identification of 2 sites for tube wells)
2nd phase study:
Underground water survey at Pak Chom Camp (test boring at 4 sites and identification of 2 sites for tube wells)

4.CONDITIONS AND DEVELOPMENT IMPACTS

The project will supply potable water for Laotian refuqees (20,000 persons at Nakhon Phanom and 50,000 persons at Pak Chom).

5.TECHNICAL TRANSFER:

## III. PRESENT STATUS OF STUDY RESULTS

1.PRESENT STATUS
- ■ In Progress or In Use
- □ Delayed
- □ Discontinued

(Description)
After the completion of the study, the proposed tube wells were constructed by the Japanese grant aid.

2.MAJOR REASONS FOR PRESENT STATUS:

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 ラオス難民生活用水供給計画

{M/P,M/P+(F/S),Basic Study,Other}

# PROJECT SUMMARY (M/P)

Compiled Mar.1990
Revised Mar.1992

ASE THA/S 102/83

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Road Development in the Northeastern Region

**3.SECTOR**
Transportation/Road

**4.REFERENCE NO.**

**5.TYPE OF STUDY** M/P

**6.COUNTERPART AGENCY**
Dept. of Highways, Ministry of Communications

**7.OBJECTIVES OF STUDY**
Formulation of a master plan for road development in the Northeastern Region

**8.DATE OF S/W** Nov.1981

**9.CONSULTANT(S)**
Nihon Koei Co., Ltd.
Katahira & Engineers International

**10.STUDY TEAM**

No.of Members 11
Period Mar.1982-Mar.1983(12 months)

| Total M/M | Japan | Field |
|---|---|---|
| 79.20 | 14.60 | 64.60 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 224,974 (¥'000) |
| Contracted | 216,437 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
16 changwats of the Northeastern Region (169,000 sq.km)

**2.PROJECT COST**

| (US$1,000) | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 55,200 | | |
| (US$1=23B) | 2) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

The study proposed the following priority projects.
- New construction and improvement 18 routes (666.9km)
- Rehabilitation 25 routes (468.0km)

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

Development impacts:
1) Narrowing of regional disparities
2) Stimulation of agricultural production
3) Development in poorer areas

Social impacts:
1) Alleviation of social and political isolation
2) Improvement of health services
3) Improvement of education
4) Reduction of income disparities

**5.TECHNICAL TRANSFER**
1) OJT of the methods for selecting priority roads and for measuring social impacts
2) Participation of 2 counterparts in the JICA training program

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**
- ■ In Progress or In Use
- ☐ Delayed
- ☐ Discontinued

(Description)
Based on the recommendations of the study, a feasibility study was subsequently undertaken on 15 routes for new construction and improvement (502.1km) and 8 routes for rehabilitation (90km).

(FY 1992 Overseas Survey)
Waiting for the answer.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 東北部道路網整備建設計画

{M/P,M/P+(F/S),Basic Study,Other}

# PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1986
Revised Mar.1992

ASE THA/S 204A/83

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Development Project of the Industrial Port on the Eastern Seaboard

**3.SECTOR**
Transportation/Port

**4.REFERENCE NO.**

**5.TYPE OF STUDY** M/P+(F/S)

**6.COUNTERPART AGENCY**
Industrial Estate Authority of Thailand, Port Authority of Thailand

**7.OBJECTIVES OF STUDY**
Development of Eastern Seabord utilizing natural gas

**8.DATE OF S/W** May.1982

**9.CONSULTANT(S)**
Overseas Coastal Area Development Institute of Ja
Kokusai Kougyo Co., Ltd.

**10.STUDY TEAM**

| No.of Members | 9 | |
|---|---|---|
| Period | Jul.1982-Nov.1983(17 months) | |
| Total M/M | Japan | Field |
| 65.31 | 36.60 | 28.71 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Geological survey

**12.EXPENDITURE**

| | |
|---|---|
| Total | 412,019 (¥'000) |
| Contracted | 411,680 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Coastal area, Layon Province

**2.PROJECT COST**

| | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| (US$1,000) | 1) | 888,220 | 570,800 | 56,560 |
| (US$1=240Yen) | 2) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Development of Layon Province, Composed of Industrial Base, Port, Residential Area. The target year of the M/P is 2000.
1) Industrial Development: Gas separation plant, Soda ash plant, Petro chemical complex, Fertilizer complex, Iron & steel complex, Supporting industries, Down stream industries, Other industries.
2) Port development: Amount of cargo handled 23 million tons annually. 45 berths, total length 5,750m.
3) Urban Plan: New town 575ha, Population 71,500 Number of household 17,340
4) Infrastructure: Road, Water supply, Sewerage, Waste treatment, Railway(branch of the Chachoengsao - Sattaship line. length 25km, annual traffic volume transported 3.7 million tons) Electricity(total demand 1,354MW) Telephone(number of lines 10,000) Telex/Telegram, terminals and other services 44

**4.CONDITIONS AND DEVELOPMENT IMPACTS**
Development Impacts:
1) Promotion of the Heavy industry at Eastern Seaboard Development.
2) Establishment of industries utilizing natural gas resources.
3) Acceleration of the region's urban - industrial development.
4) Increase in the economic growth of the nation and employment.

**5.TECHNICAL TRANSFER**
Giving lecture on methods for Planning Ports and Industrial estates.

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**
- ■ In Progress or In Use
- ☐ Delayed
- ☐ Discontinued

(Description)
A feasibility study was subsequently undertaken.

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 東部工業港開発計画

{M/P,M/P+(F/S),Basic Study,Other}

# PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1986
Revised Mar.1992

ASE THA/S 204B/83

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Development Project of the Industrial Port on the Eastern Seaboard

**3.SECTOR**
Transportation/Port

**4.REFERENCE NO.**

**5.TYPE OF STUDY** (M/P)+F/S

**6.COUNTERPART AGENCY**
Industrial Estate Authority of Thailand, Port Authority of Thailand

**7.OBJECTIVES OF STUDY**
Establishing the Master Plan for Maptaput Port as an Industrial Port.

**8.DATE OF S/W** May.1982

**9.CONSULTANT(S)**
Overseas Coastal Area Development Institute of Ja
Kokusai Kougyo Co., Ltd.

**10.STUDY TEAM**

No.of Members 9
Period Jul.1982-Nov.1983(17 months)

| Total M/M | Japan | Field |
|---|---|---|
| 65.31 | 36.60 | 28.71 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 412,019 (¥'000) |
| Contracted | 411,680 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Coastal Area, Layon Province

**2.PROJECT COST**

(US$1,000)
(US$1=239.2Yen)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 1,808,940 | 668,491 | 1,140,449 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
1)Industrial Development:
petorochemical, fertilizer, soda ash, various supporting industries, industrial estate Area 410ha, Quay wall 820m
2)Port Development: Quay-wall 850m, wharf 280m, breakwater 3,000m
total length of berths 1,750m
amount of cargo handled 4 million tons annually
3)Urban Development: Area 131ha, population 18,300
Number of Household 4,360
4)Infrastructure:
Road, Water Supply, Sewerage, Waste treatment, Railway(Extension 24km, annual traffic volume transported 2 million tons), Electricity(total demand 133.5MW), Telephone(number of lines 3,000)
Telex/Telegram terminals and other services(23)

**Imp. Period:** Jan.1984-Dec.1987

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 15.70 | FIRR1) | 19.80 |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Conditions of Cargo Forecast: 1986 GDP=4,350 A Bahts 2000
2000 GDP=11,200 A Bahts
Conditions of Industrial Development:
GNP Growth (1981 - 1986) 6.6% per annum
Manufacturing sector growth 7.6% per annum
Export oriented Industry 15.0% per annum
Conditions: The value added which will be generated by the productive activity of the planned factories will be counted as the total benefit of this project. THe benefits are caluculated as the difference between the With-project and the Without-project conditions.
Development Impacts:
1)Acceleration of regional development.(especially Map Ta Phut area)
2)Development of coastal shipping and port-related industries.
3)Improvement of foreign currency balance.

**5.TECHNICAL TRANSFER**
Giving lecture on methods for Planning Ports and Industrial Estates

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
  - ○ Completed
  - ● Implementing
  - ○ Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)
The project is under implementation with the OECF financing.

Sep.1983 OECF E/S loan (1,720 million yen)
Sep.1984 OECF loan on Map Ta Phut Industrial Port (5,610 million yen)
Oct.1985 OECF loan on Map Ta Phut Industrial Port (16,050 million yen) and Industrial Estate (3,207 million yen)
Oct.1985 D/D on Map Ta Phut Port completed
Jan.1986 D/D on Industrial Estate completed
Dec.1987 Construction of the Industrial Estate commenced
Nov.1988 OECF loan on Satahip-Map Ta Phut Railway (3,002 million yen)

(FY1991 Overseas Survey)
1989 Construction of the Port commenced (-1992)
1990 Construction of the Industrial Estate First Stage completed
1991 Construction of the Industrial Estate Second Stage commenced
Scheduled to be completed in 1992

**2.MAJOR REASONS FOR PRESENT STATUS**
(1) To formulate the core of development
(2) High priority in Thailand National Plan

**3.PRINCIPAL SOURCE OF INFORMATION**
①②④

和名 東部工業港開発計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1986
Revised Mar.1992

ASE THA/S 311/83

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Nong Kho - Leam Chabang Water Pipeline Project

**3.SECTOR**
Public Utilities/Water Supply

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
Public Works Dept., Ministry of Interior

**7.OBJECTIVES OF STUDY**
To formulate a plan for the pipeline system from the Nong Kho dam to the Laem Chabang and to verify the feasibility of the project.

**8.DATE OF S/W** Jul.1983

**9.CONSULTANT(S)**
Nihon Koei Co., Ltd.
Nikken Consultants., Inc.

**10.STUDY TEAM**

No.of Members 7
Period Aug.1983-Mar.1984(7 months)

| Total M/M | Japan | Field |
|---|---|---|
| 31.00 | 13.33 | 17.67 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 75,218 (¥'000) |
| Contracted | 78,467 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Chonburi

**2.PROJECT COST** (US$1,000) (US$1=230Yen=23B)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 16,300 | 7,100 | 9,200 |
| 2) | 13,100 | 5,300 | 7,800 |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

| | First Stage Nong Kho-Turnout | First Stage Turnout-Receiving Well | Second Stage Nong Kho-Turnout | Second Stage Turnout-Receiving Well |
|---|---|---|---|---|
| 1.Raw Water Pipeline | | | | |
| Diameter of pipe | 1,000mm | 900mm | 1,000mm | 900mm |
| Length of pipe | 10.95km | 3.49km | 10.95km | 3.49km |
| Expected completion year | 1988 | 1988 | 1994 | 1994 |
| 2.Turnout | | | | |
| Delivery pipe | 250mm | - | - | - |
| Slice pipe | 2 units | - | - | - |
| 3.Aqueduct(pipe-beam) | | | | |
| Net span | - | 27.5m | - | 27.5 |
| Diameter of pipe | - | 900 | - | 900 |
| 4.Receiving Well | | | | |
| Dimension(WxHxL)(m) | - | 6.3x4.4x16.4 | - | 6.3x4.4x16.4 |

Imp. Period: .1987~.1988

**4.FEASIBILITY AND ITS ASSUMPTIONS** Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 11.60 | FIRR1) | 9.60 |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**

[Conditions]
The demand for water was projected for 1995 and 2001. The existing reservoir will not be able to satisfy the projected demand, and water must be conveyed by the pipeline from outside the area.
The project life is set at 40 years.

Development Impacts:
The industrial and urban development in the area, increase of job opportunities, upgrading of living standard, improvement of trade balance, mitigation of congestion in Bangkok.

**5.TECHNICAL TRANSFER**
1) On-the-job training during the study
2) Acceptance of counterparts for the training in Japan

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
  - ● Completed
  - ○ Implementing
  - ○ Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)
The project was implemented with the OECF loans.

1984 Sep. OECF E/S loan agreement (144 million yen)
1985-1986 Detailed design study undertaken
1985 Oct. OECF loan agreement (1,363 million yen)
1987 May Construction commenced
1988 Dec. Construction completed

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**
1) Large impact: the industrial development at the Laem Chabang area is dependent on this project.
2) Close linkage with other projects: development in Laem Chabang and the source of water
3) High priority
4) Strength of the executing agency: strong support by NESDB

**3.PRINCIPAL SOURCE OF INFORMATION**
①②④

和名 ノンコー・ラムチャバン送水パイプライン建設計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1986
Revised Mar.1993

ASE THA/S 312/83

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Second Stage Expressway System in the Greater Bangkok

**3.SECTOR**
Transportation/Road

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
Expressway and Rapid Transit Authority (ETA)

**7.OBJECTIVES OF STUDY**
Road planning

**8.DATE OF S/W** Mar.1982

**9.CONSULTANT(S)**
Pacific Consultants International

**10.STUDY TEAM**

No.of Members 16

Period May.1982-Nov.1983 (18 months)

| Total M/M | Japan | Field |
|---|---|---|
| 60.17 | 8.66 | 51.51 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Topographic survey Geological survey Traffic survey

**12.EXPENDITURE**

| | |
|---|---|
| Total | 260,230 (¥'000) |
| Contracted | 250,242 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Greater Bangkok

**2.PROJECT COST** (US$1,000)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | | | |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
-Toll highway: 27.9 km
-North-South Route running from Chaeng Wattana to an interchange at Bang Khlo: 19.2 km
-West-East Route running from an interchange at Phaya Thai to Sri Nakaim Road: 8.7 km
-Toll elevated expressway (Total length: 31.8km)

The project cost is 26,200 million bahts.

Imp. Period: .1987-.1995

**4.FEASIBILITY AND ITS ASSUMPTIONS** Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 17.00 | FIRR1) | 12.00 |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Condition:
Future traffic volume was forecasted for the targetted year 1990,2000,2010 on the basis of O-D survey made by home interviews.

Development Impact:
Traffic congestion in the city is expected to be alleviated.

**5.TECHNICAL TRANSFER**
(1) Overseas training for 2 counterpart staff
(2) Employment of local consultants for topographic and geological survey

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
  - ○ Completed
  - ● Implementing
  - ○ Processing
- ☐ Promoting
- ☐ Delayed or Suspended
- ☐ Discontinued or Cancelled

(Description)
D/D of the Second Expressway was undertaken by a consortium of 5 consulting firms.

In September 1988, ETA decided to implement the project with the private sector investment and the contract was granted to the Bangkok Expressway Consortium in December of the same year. ETA allowed one year for the acquisition of right of way.

(FY 1991 Overseas Survey)
Construction will be completed in 1955. There was route adjustment for more suitable traffic catchment making the total length of the expressway 39 km.

Comparison between the development study plan and the ongoing project:

| | Study plan | Ongoing project |
|---|---|---|
| Length: | 27.9 km | 39.05 km |
| Cost | 26,200 million bahts | 29,500 million bahts |
| Construction period: | 1986-1995 | 1989-19995 |
| Finance: | government budget and domestic and foreign loan | private sector investement (transfer to the ETA) |

**2.MAJOR REASONS FOR PRESENT STATUS**
(1) Effectiveness: Speeding up of vehicles
(2) Priority: Traffic volume of the First Stage exceeded the anticipated figure; therefore, toll revenue will increase and priority of Second Stage is high.
(3) Strong support to promote this project

**3.PRINCIPAL SOURCE OF INFORMATION**
①②③

和名 バンコック高速道路建設計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1990
Revised Mar.1992

ASE THA/S 310/83

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
East Coast Water Resources Development (Phase II)

**3.SECTOR**
Social Infrastructures/Water Resource Development

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
Royal Irrigation and Drainage Dept.

**7.OBJECTIVES OF STUDY**
Feasibility analysis of three dams

**8.DATE OF S/W** Feb.1982

**9.CONSULTANT(S)**
Nihon Koei Co., Ltd.
Nikken Consultants., Inc.

**10.STUDY TEAM**

| | Total M/M | Japan | Field |
|---|---|---|---|
| No.of Members 12 | | | |
| Period Jul.1982-Mar.1983(9 months) | | | |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 184,263 (¥'000) |
| Contracted | 173,923 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Eastern seaboard (Rayong and Chonburi changwats)

**2.PROJECT COST**

| (US$1,000) (US$1=23Bahts) | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 198,260 | | 82,608 |
| | 2) | 329,565 | | 134,782 |
| | 3) | 69,130 | | 17,391 |

**3.CONTENTS OF MAJOR PROJECT(S)**
1) Khlong Luang:
(a)Multi-purpose dam (h.42.5.m); (b)canal connecting the dam and Chonburi; (c) irrigation and drainage (6,600ha)
2) Khlong Yai:
(a)Multi-purpose dam (h.50.8m); (b)canal connecting Nong Pla Lai Dam and Nong Kho Dam; (c) irrigation and drainage (7,700ha)
3) Khlong Thap Ma:
(a)Multi-purpose dam (h. 28.9m); (b)irrigation and drainage

Imp. Period: .1984-.1996

**4.FEASIBILITY AND ITS ASSUMPTIONS** Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 16.10 | FIRR1) | |
| EIRR2) | 15.00 | FIRR2) | |
| EIRR3) | 12.10 | FIRR3) | |

**Conditions and Development Impacts:**
Benefits of the projects are estimated as follows.

(Unit: million Bahts)

| | Water Demand | Agri. Dev. | Flood Control | Total |
|---|---|---|---|---|
| 1) | 423.3 | 180.7 | 49.8 | 653.8 |
| 2) | 793.6 | 198.2 | 57.2 | 1,049.0 |
| 3) | - | 81.7 | 19.5 | 101.0 |

**5.TECHNICAL TRANSFER**

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
- ○ Completed
- ○ Implementing
- ● Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)
1) Canal connecting Nong Pla Lai Dam and Nong Kho Dam
OECF E/S loan agreement (204 million yen) in Feb. 1990

2) Khlong Luang and Khlong Thap Ma:
Suspended after the completion of the F/S.

(FY 1991 Overseas Survey)
Project scale was reduced.

**2.MAJOR REASONS FOR PRESENT STATUS**
(FY 1991 Overseas Survey)
Khlong Yai is planned to follow Nong Pla Lai Dam, whereas Khlong Luang and Khlong Thap Ma have resettlement problems.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 東部水資源開発計画（フェーズII）

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1990
Revised Mar.1992

ASE THA/A 308/83

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Mae Chang Irrigation Project

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
RID (Royal Irrigation Department), Ministry of Agriculture and Cooperatives

**7.OBJECTIVES OF STUDY**
Feasibility study of the irrigation plan in Mae Chang area through the construction of a water storage dam

**8.DATE OF S/W** Nov.1982

**9.CONSULTANT(S)**
Sanyu Consultants Inc.
Taiyo Consultants Co., Ltd.

**10.STUDY TEAM**

No.of Members 13
Period Jan.1983-Jan.1984(13 months)

| Total M/M | Japan | Field |
|---|---|---|
| 69.11 | 34.81 | 34.30 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 186,107 (¥'000) |
| Contracted | 141,808 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Northern part of Thailand, Mae Chang River Basin

**2.PROJECT COST** (US$1,000)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 44,000 | 22,000 | 22,000 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Irrigation canal for new water resource development through construction of reservoir dam and deversion dam
(main canal 51.3km, tributary canal 93.3km)

Imp. Period: Apr.1984-Apr.1992

**4.FEASIBILITY AND ITS ASSUMPTIONS** Feasibility: Yes/No

| | | |
|---|---|---|
| EIRR1) | 13.60 | FIRR1) |
| EIRR2) | | FIRR2) |
| EIRR3) | | FIRR3) |

**Conditions and Development Impacts:**
Productivity of agriculture will be increased by water resource development through dam.
It will also increase all-year employment opportunities, and stabilize agricultural production through improvement of living environment, which will heighten farmers' living standard in project site and surrounding areas.

**5.TECHNICAL TRANSFER**
To Thai counterparts assigned through the survey

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ☐ Completed or in Progress
  - ○ Completed
  - ○ Implementing
  - ○ Processing
- ☐ Promoting
- ■ Delayed or Suspended
- ☐ Discontinued or Cancelled

(Description)
The project has been suspended because of the change in agricultural policy of the Thai Government.

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**
Problem of relocating 25 families in the area which will be submerged in water in the River Basin.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 メチャンかんがい農業開発計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (M/P)

Compiled Mar.1990
Revised Mar.1992

ASE THA/S 103/84

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Sub-Regional Development of the Upper Southern Part

**3.SECTOR**
Development Plan/Integrated Regional Development Plan

**4.REFERENCE NO.**

**5.TYPE OF STUDY** M/P

**6.COUNTERPART AGENCY**
National Economic and Social Development Board (NESDB)

**7.OBJECTIVES OF STUDY**
Formulation of a regional development plan through 2000

**8.DATE OF S/W** Nov.1982

**9.CONSULTANT(S)**
International Development Center of Japan
Pacific Consultants International

**10.STUDY TEAM**

No.of Members 26
Period Mar.1983-Mar.1985(24 months)

| Total M/M | Japan | Field |
|---|---|---|
| 157.10 | 20.70 | 136.40 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 431,827 (¥'000) |
| Contracted | 416,274 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Upper part of the Southern Region (pop.1.1 million)

**2.PROJECT COST**

| (US$1,000) | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| | 1) | | |
| (US$1=23Bahts) | 2) | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

The study proposed 10 high priority projects at the total cost of 24,272 million baht.
1) Surat Thani Industrial Estate
2) Phuket Airport Industrial Estate and Export Processing Zone
3) East-West Link
4) Surat Thani International Port (Khanom Deep-sea Port)
5) Krabi Oil Refinery and Pipeline
6) Phuket Urban Development
7) Surat Thani Urban Development
8) Central Lowland Development
9) Tapi-Phum Duang River Management
10) Phuket Water Supply

Note: The cost shown above pertains to the ten high priority projects.

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

Development impacts:
1) Lessening of the concentration of economic activities in Greater Bangkok and more decentralized economic growth

2) Agricultural development (agricultural land development of unutilized or underutilized land and an increase of agricultural exports)

3) Industrial development (Sophistication of processing industries)

4) Tourism development (beach resorts, etc.

5) Energy development (hydro-power, thermal power (coal), refining of Middle East petroleum)

6) Development of two urban cores (Surat Thani and Phuket)

**5.TECHNICAL TRANSFER**

1) Participation of counterparts in the JICA training program (2 Staff)
2) OJT for the counterparts through joint work

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**

- ■ In Progress or In Use
- ☐ Delayed
- ☐ Discontinued

(Description)

1) After the completion of the study, ADB reviewed 10 high priority projects and endorsed their validity.

2) The Southern Seaboard Development Committee (chaired by the Prime Minister) was established in 1989. Under the purview of this Committee, a study on the development of Southern Thailand is being implemented, including the East-West Link, the Krabi Oil Refinery and Pipeline, and the Khanom Deep-sea Port, with World Bank finance.

3) With JICA technical assistance, the Tourism Authority of Thailand implemented a master plan study on tourism in Southern Thailand (1988).

4) With JICA technical assistance, the Dept. of Highways of the Ministry of Communications is implementing a master plan study on the road network (the East-West Link) in Southern Thailand.

5) The Electricity Generating Authority of Thailand is making preparations for a study on the Kaen Krung Dam proposed ad part of the Tapi-Phum Duang River Management, but the problem of relocation is yet unsolved.

6) Unilever and other private enterprises have been active in the Central Lowland Development.

**2.MAJOR REASONS FOR PRESENT STATUS**

(FY 1991 Overseas Survey)
The project was integrated in the Sixth National Plan (Chapter 5:"Preparaton for Development of Other New Economic Areas").

**3.PRINCIPAL SOURCE OF INFORMATION**

①②

和名 南タイ北部地域総合開発計画

{M/P,M/P+(F/S),Basic Study,Other}

# PROJECT SUMMARY (M/P+F/S)

ASE THA/S 205A/84

Compiled Mar.1988
Revised Mar.1992

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Development Project of Leam Chabang Coastal Area

**3.SECTOR**
Development Plan/Integrated Regional Development Plan

**4.REFERENCE NO.**

**5.TYPE OF STUDY** M/P+(F/S)

**6.COUNTERPART AGENCY**
Industrial Estate Authority of Thailand

**7.OBJECTIVES OF STUDY**
Formulation of a master plan (target year 2000) for the development of Laem Chabang Area and feasibility analysis of the short-term plan (target year 1987)

**8.DATE OF S/W** Sep.1983

**9.CONSULTANT(S)**
Nihon Koei Co., Ltd.

**10.STUDY TEAM**

No.of Members 11
Period Jan.1984-Mar.1985(15 months)

| Total M/M | Japan | Field |
|---|---|---|
| 65.31 | 36.60 | 28.71 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 255,314 (¥'000) |
| Contracted | 181,733 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Laem Chabang Coastal Area, some 120km southeast of Bangkok

**2.PROJECT COST**

| | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| (US$1,000) | 1) | 397,000 | 214,000 | 183,000 |
| (US$1=23B) | 2) | 1,051,000 | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
1) Industrial Development
2) Port Development: 16 berths,domestic wharf 1,100m, wharf area 258ha
   length of breakwater 3,070m
3) Urban Development: New town population 120,000, Area 930ha
4) Transportation Planning
5) Utility Development
   Water supply, sewerage system, drainage system, solid waste disposal, power supply system(2 substations)
   telecommunication system (number of telephones 13,764, number of telex terminals 64)
   land preparation plan (land fill 3 million cu.m)

* The project cost 1) above is for a short-term plan and 2) is for a long-term plan.

**4.CONDITIONS AND DEVELOPMENT IMPACTS**
Development Impacts
1) Creation of employment opportunities
2) Increase in foreign exchange earnings
3) Control of excessive growth in the Bangkok Metropolitan Area and Development of the regional economy

**5.TECHNICAL TRANSFER**
On-the-job training and seminar
Study tour to Japan: 4 staff (Urban Development and Project Analysis)

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**
- ■ In Progress or In Use
- □ Delayed
- □ Discontinued

(Description)
A feasibility study was subsequently undertaken.

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**
Priority was given to the project in the national development plan of Thailand.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 ラムチャバン臨海部開発計画

{M/P,M/P+(F/S),Basic Study,Other}

# PROJECT SUMMARY (M/P+F/S)

ASE THA/S 205B/84

Compiled Mar.1988
Revised Mar.1992

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Development Project of Leam Chabang Coastal Area

**3.SECTOR**
Development Plan/Integrated Regional Development Plan

**4.REFERENCE NO.**

**5.TYPE OF STUDY** (M/P)+F/S

**6.COUNTERPART AGENCY**
Industrial Estate Authority of Thailand

**7.OBJECTIVES OF STUDY**
Formulation of a master plan for the development of Laem Chabang Area and feasibility analysis of the short-term plan

**8.DATE OF S/W** Sep.1983

**9.CONSULTANT(S)**
Nihon Koei Co., Ltd.

**10.STUDY TEAM**

No.of Members

Period Jan.1984-Mar.1985(15 months)

| Total M/M | Japan | Field |
|---|---|---|
| 65.31 | 36.60 | 28.71 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 255,314 (¥'000) |
| Contracted | 181,733 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Laem Chabang (120km southeast of Bangkok)

**2.PROJECT COST**

(US$1,000)
(US$1=23B)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 397,000 | 214,000 | 183,000 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Major components of the short-term development plan:
1) Industrial Development: Industrial estate 219ha
2) Port Development: 6 berths, domestic wharf 280m, land area 116ha
length of breakwater 2,400m
3) Urban Development: New town population 24,000, area 130ha
4) Transportation Development
5) Utility Development: Water supply, sewerage system, drainage system
solid waste disposal, power generation(88.5MW)
telephone lines(3,000), telex terminal(32)
land preparation plan(land fill 2.6 million cu.m)

Imp. Period: .1985-.1989

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 19.20 | FIRR1) | 8.40 |
| EIRR2) | | FIRR2) | 4.80 |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Conditions:
EIRR: adjusted the price with the Standard Conversion Factor of 0.92; Benefits consist of value added in the industrial estate
FIRR: Calculated for the investments and for entities in charge of development (FIRR for the developing entity is calculated to be 8.0% for the industrial estate and 11% for the housing estate)
Development impacts:
1)Creation of employment 2)Increased foreign exchange earnings
3)Regional economic growth 4)Improvement of transportation system
5)Development of coastal shipping and port related industry.
6)Utilization of local resources; 7)Accumulation of production technologies, managerial technology and know-how.
Note: EIRR and FIRR1)above are for the industrial estate, and 2)FIRR for the housing estate.

**5.TECHNICAL TRANSFER**

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

■ Completed or in Progress
- ● Completed
- ○ Implementing
- ○ Processing

☐ Promoting
☐ Delayed or Suspended
☐ Discontinued or Cancelled

(Description)
The project is under implementation with the OECF loans.

Oct.1985 OECF loan agreement on the industrial estate I
(2,922 million yen)
Sep.1987 OECF loan agreement on the industrial estate II
(3,003 million yen)

Sep.1984 OECF loan agreement on the commercial port I
(4,172 million yen)
Nov.1986 OECF loan agreement on the commercial port II
(12,283 million yen)
Feb.1990 OECF loan agreement on the commercial port III
(6,436 million yen)

Sep.1988 OECF loan agreement on the railway
(1,013 million yen)

(FY 1991 Overseas Survey)
Construction Period: From year 1988 to year 1991.

**2.MAJOR REASONS FOR PRESENT STATUS**
1) Large impact: employment creation, increased foreign exchange, transfer of technology
2) High priority: one of the major projects to be implemented during the 5th development plan
3) close linkage with other projects
4) Strength of the executing Agency

**3.PRINCIPAL SOURCE OF INFORMATION**
①②④

和名 ラムチャバン臨海部開発計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1988
Revised Mar.1992

ASE THA/S 314/84

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Track Elevetion Project of Existing Railway Lines in the Bangkok Metropolitan Area

**3.SECTOR**
Transportation/Railway

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
State Railway of Thailand

**7.OBJECTIVES OF STUDY**
Increasing the efficiency and ensuring the safety of train operation and elimination of traffic congestion at level crossings

**8.DATE OF S/W** Jun.1983

**9.CONSULTANT(S)**
Japan Railway Technical Service

**10.STUDY TEAM**

No.of Members 13

Period Aug.1983-Jul.1984(11 months)

| Total M/M | Japan | Field |
|---|---|---|
| 53.27 | 36.19 | 17.08 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Geological and traffic volume surveys were entrusted to a local consultant

**12.EXPENDITURE**

| | |
|---|---|
| Total | 144,855 (¥'000) |
| Contracted | 136,251 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Entire Bangkok Metropolitan Area

**2.PROJECT COST**

| (US$1,000) (US$1=23B) | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 158,000 | 100,000 | 48,000 |
| | 2) | | | |
| | 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

| | | |
|---|---|---|
| Civil work | US$ | 125 million |
| Land procurement | US$ | 2000 million |
| Electric facilities | US$ | 30.9 million |
| Rolling stock | US$ | 68.6 million |

Track elevation will be mainly carried out in the following sections.
-Bangkok Station - Bang Sue Station }
-Yoma Pot, Chit-La-Da Junction - Makkasan Station } 13 km
-Makkasan Station - Mae Nam Station }

Imp. Period: .1984-.1997

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes/No

| | |
|---|---|
| EIRR1) | FIRR1) |
| EIRR2) | FIRR2) |
| EIRR3) | FIRR3) |

**Conditions and Development Impacts:**
(1) Preconditions
1] With/without analysis conducted
2] Project life estimated to be 30 years
3] 1 baht = 10 yen
4] As for the transfer of traffic, only that from buses was considered.
(2) Development impacts
1] Alleviation of traffic congestion at level crossings owing to track elevation.
2] Alleviation of road traffic congestion owing to passengers transferring from buses to the railway due to the latter's punctuality and faster speeds
3] Elimination of geographical separation and promotion of urban facilities development owing to track elevation.
* Above EIRR is 16 - 20%.

**5.TECHNICAL TRANSFER**
(1) OJT: Technical guidance was provided to counterparts on such matters as the preparation of O-D tables.
(2) Personnel training: 4 counterparts received training from JICA.
(3) Joint preparation of a report: a part of the Progress Report.

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
- ○ Completed
- ○ Implementing
- ● Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)
The State Railway of Thailand and the Ministry of Communications decided to implement the track elevation by the BOT system. SRT invited the private sector application in December 1988, but received no response. By offering better access to the SRT-owned land, the invitation was announced again in October 1989. In November 1990, SRT signed the contract of 80 billion bahts (about 400 billion yen) with Hopewell of Hong Kong.
In December 1991, the Hopewell Company decides to carry on this project, therefore, it can be expected that the construction of track elevation together with community train and freeway for the first phase along the Yommaraj-Donmaung section for a distance of 18.8km shall be finished in year 1995.

(FY 1991 Overseas Survey)
The project scale was enlarged to 60.1 km consisting of north-south and east-west lines with a budget of 60 billion bahts. The construction will be from 1993 to 1996.

**2.MAJOR REASONS FOR PRESENT STATUS**
(FY 1991 Overseas Survey)
Due to the Hopewell proposal.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 バンコク首都圏国鉄高架化計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

ASE THA/S 313/84

Compiled Mar.1988
Revised Mar.1992

## I. OUTLINE OF STUDY

1.COUNTRY: Thailand

2.NAME OF STUDY: Comprehensive Development of Coastal Shipping

3.SECTOR: Transportation/Marine Transportation & Ships

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: Office of the Mercantile Marine Promotion Commission, Ministry of Communications

7.OBJECTIVES OF STUDY: Formulation of a comprehensive development plan for the coastal shipping and regional ports

8.DATE OF S/W: Feb.1983

9.CONSULTANT(S): The Maritime International Cooperatin Center of J
Overseas Coastal Area Development Institute of Ja

10.STUDY TEAM

No.of Members 11

Period Jul.1983-Oct.1984(16 months)

| Total M/M | Japan | Field |
|---|---|---|
| 39.50 | 37.50 | 2.00 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

| | |
|---|---|
| Total | 219,015 (¥'000) |
| Contracted | 88,824 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: the entire coastal areas

2.PROJECT COST (US$1,000) (US$1=251.1yen)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 528 | 516 | |
| 2) | | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

1) Present status of physical distribution and selection of major commodities for domestic shipping
2) Present status of the domestic shipping industry
3) Cargo throughputs and present facilities of regional ports
4) Present freight movements by transportation mode and the possibility of transfer from other modes to domestic shipping
5) Formulation of a development plan for the domestic shipping industry and regional ports
6) Economic and financial analysis of the operations of domestic shipping and regional ports

Imp. Period: Jul.1983-Oct.1984

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: No

| | | | |
|---|---|---|---|
| EIRR1) | 19.70 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

Conditions and Development Impacts:

1) For the shuttle service between Bangkok and Songkhla, a fleet of 7 general cargo boats (700 tons) will be suitable.
2) Institutional measures for domestic shipping: Legislation of the domestic shipping act; clear separation between international and domestic shipping; establishment of the ship registry; introduction of the permit system on ship construction; submission of the operation reports
3) Measures for promoting domestic shipping:
Preferential treatment by the Investment Promotion Act; Fiscal incentives; simplification of freight documents and improvement of customs procedures; establishment of the institutional finance to give soft long-term loans

* Above EIRR is 19.7 - 20.6%.

5.TECHNICAL TRANSFER

1) OJT on the operation of domestic shipping and ports
2) Participation of the counterparts in the JICA training program

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

- ☐ Completed or in Progress
- ○ Completed
- ○ Implementing
- ○ Processing
- ☐ Promoting
- ☐ Delayed or Suspended
- ■ Discontinued or Cancelled

(Description)

Suspended after the completion of the study.

A short-term expert (2 months) was sent in 1985 and 1986 to give advice on the legislation on domestic shipping and its promotion.

The project requires the government finance, and the implementation was suspended because some legislative improvement is necessary for reviewing the operation of domestic shipping companies.

(FY 1991 Overseas Survey)

The Office of the Mercantile Marine Promotion Commission (OMPC) requested the Industrial Finance Corporation (IFCT) of Thailand to negotiate with the OECF for finance, but the attempt was discontinued.

The Ministry of Transport and Communications has requested for the JICA project review.

2.MAJOR REASONS FOR PRESENT STATUS

1) Change of priority
2) Problem of demand: difficulty of providing transportation service with profit.

(FY 1991 Overseas Survey)

Therer is no law which enpowers the Government to guarantee private loan. The IFCT has the view that the project is not viable.

3.PRINCIPAL SOURCE OF INFORMATION

①②

和名 沿岸海運整備振興計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1990
Revised Mar.1993

ASE THA/A 309/84

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Lower Northeast Medium Scale Irrigation Package Project

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
RID (Royal Irrigation Department), Ministry of Agriculture and Cooperatives

**7.OBJECTIVES OF STUDY**
Integrated agricultural development through the construction of a medium-size dam for irrigation and drinking water

**8.DATE OF S/W** Dec.1982

**9.CONSULTANT(S)**
Sanyu Consultants Inc.
Naigai Engineering Co., Ltd.
Kokusai Kougyo Co., Ltd.

**10.STUDY TEAM**

No.of Members 14
Period Feb.1983-Jul.1984(25 months)

| Total M/M | Japan | Field |
|---|---|---|
| 82.10 | 38.31 | 43.79 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 240,296 (¥'000) |
| Contracted | 223,112 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
NakhonRatchasima and BuriRam Provinces, northeastern part of Thailand

**2.PROJECT COST**

| (US$1,000) Price in 1983 | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 58,874 | 28,131 | 30,743 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

| | Lam Plai Mat | Nong Lam Puk | Huai Phlu |
|---|---|---|---|
| Irrigation area | 9,100 | 300 | 700 |
| Dam height | 44.6m | 12.0m | 20m |
| pondage | 90 MCM | 4 MCM | 6 MCM |
| Diversion weir | 1 site | - | - |
| Canal irrigation | 215km | 13km | 29km |
| drainage | 45km | - | 1km |

Imp. Period:

**4.FEASIBILITY AND ITS ASSUMPTIONS** Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 8.70 | FIRR1) | |
| EIRR2) | 11.20 | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Irrigation agriculture development plan:
The proposed cropping patern is 100% of wet season paddy and 10% of dry season upland crop.
The terminal irrigation facilities are planned at each 20-30 ha of irrigable area.

Water use development plan in a village:
Field crop adjustment facilities for night will be established to breed fish as well as to secure farmers' potable water and for other use through surrounding shallow well.

**5.TECHNICAL TRANSFER**

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
- ○ Completed
- ● Implementing
- ○ Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)
The mid-size dam in Lam Plai Mat was constructed by the Thai Government fund during 1987 - 1991.
Small-scale dams in adjustment areas and surrounding dams have been under construction since 1990, with Thai Government funds.

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**
Recently external finance is mainly used for the implementation of big projects, and the Thai Government itself finances small and medium size projects.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 東北タイ南部中規模かんがいパッケージプロジェクト

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (Other)

Compiled Mar.1988
Revised Mar.1992

ASE THA/S 601/84

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Traffic Safety Plan for Roads

**3.SECTOR**
Transportation/General

**4.REFERENCE NO.**

**5.TYPE OF STUDY** Other

**6.COUNTERPART AGENCY**
Dept. of Highways, Ministry of Communications

**7.OBJECTIVES OF STUDY**

**8.DATE OF S/W** Feb.1983

**9.CONSULTANT(S)**
International Engineering Consultants Association
Central Consultant, Inc.
Chodai Co., Ltd.
Pacific Consultants International

**10.STUDY TEAM**

No.of Members 11
Period May.1983-Dec.1984(19 months)

| Total M/M | Japan | Field |
|---|---|---|
| 54.50 | 10.50 | 44.00 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 332,824 (¥'000) |
| Contracted | 142,810 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Entire country

**2.PROJECT COST**

| (US$1,000) | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | | | |
| 2) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

In order to promote traffic safety in road transport, the study conducted the following tasks.
(1) Collection and analysis of road traffic data
(2) Identification of high-risk areas
(3) Guidelines of physical facilities
(4) Planning of physical facilities
(5) Medium- and long-term plan for installing physical facilities

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

The effect of technical transfer is much larger than the direct effect of the project.

**5.TECHNICAL TRANSFER**

1) Participation of the counterparts in the JICA training program
2) Gift of equipment (2 micro-comupters)

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**

- ■ In Progress or In Use
- ☐ Delayed
- ☐ Discontinued

(Description)

Utilizing the guidelines and other suggestions of the study, the Dept. of Highways has been installing necessary traffic-safety facilities.

(FY 1991 Overseas Survey)
The results of the study have been utilized for a loan application to the World Bank for the Sixth National Economic and Social Development Plan and it was approved.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**

①②

和名 道路交通安全計画

{M/P,M/P+(F/S),Basic Study,Other}

# PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1988
Revised Mar.1992

ASE THA/S 206A/85

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**

Master Plan on Flood Protection/Drainage Project in Eastern Suburban-Bangkok

**3.SECTOR**

Social Infrastructures/River & Erosion Control

**4.REFERENCE NO.**

**5.TYPE OF STUDY** M/P+(F/S)

**6.COUNTERPART AGENCY**

Bangkok Metropolitan Administration, Department of Drainage and Sewerage

**7.OBJECTIVES OF STUDY**

Drainage

**8.DATE OF S/W** Nov.1982

**9.CONSULTANT(S)**

Pacific Consultants International
Tokyo Engineering Consultants Co., Ltd.

**10.STUDY TEAM**

No.of Members 12
Period May.1983-Feb.1986(32 months)

| Total M/M | Japan | Field |
|---|---|---|
| 115.00 | 60.50 | 54.50 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 487,871 (¥'000) |
| Contracted | 331,729 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**

Eastern Suburban Bangkok (study area of 260 sq.km)

**2.PROJECT COST**

| | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| (US$1,000) | 1) | 233,333 | 140,740 | |
| (US$1= 27 Bahts) | 2) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

The project aims to protect the area of 260 sq.km from floods coming from outer areas by construction of polder dykes and drain internal storm water by providing adequate drainage facilities. The proposed measures are as follows.
(Structural measures)
- Polder dyke (62km), gate (55 places), pump station (10 places), channel improvement (133km), drain pipe (110km)

(Non-structural measures)
- Land use regulation, provision of storm retarding basin, establishment of flood forecasting and warning system

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

Flood damage mitigation. The area of 260 sq.km will be completely protected from outer floods and inner storm rainfall will be fully controlled for 5-year probability rainfall. As a resuot, flood damage reducton on the buildings, properties, traffic, electricity and telecommuncation, and land use enhancement are much expected.

**5.TECHNICAL TRANSFER**

(1) Technology for flood plain management and optimization of drainage system
(2) Training in Japan for counterpart staff

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**

- ■ In Progress or In Use
- □ Delayed
- □ Discontinued

(Description)

A feasibility study was subsequently undertaken.

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**

①②

和名 バンコク市都市排水対策計画

{M/P,M/P+(F/S),Basic Study,Other}

# PROJECT SUMMARY (M/P+F/S)

ASE THA/S 206B/85

Compiled Mar.1988
Revised Mar.1992

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Master Plan on Flood Protection/Drainage Project in Eastern Suburban-Bangkok

**3.SECTOR**
Social Infrastructures/River & Erosion Control

**4.REFERENCE NO.**

**5.TYPE OF STUDY** (M/P)+F/S

**6.COUNTERPART AGENCY**
Dept.of Drainage and Sewerage, Bangkok Metropolitan Administration

**7.OBJECTIVES OF STUDY**
To evlauate the feasibility of building the drainage facilities

**8.DATE OF S/W** Nov.1982

**9.CONSULTANT(S)**
Pacific Consultants International
Tokyo Engineering Consultants Co., Ltd.

**10.STUDY TEAM**

No.of Members 12
Period May.1983-Feb.1986(32 months)

| Total M/M | Japan | Field |
|---|---|---|
| 115.00 | 60.50 | 54.50 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Geological survey

**12.EXPENDITURE**

| | |
|---|---|
| Total | 487,871 (¥'000) |
| Contracted | 331,729 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
East suburban area of Bangkok (Study area of 100 sq.km)

**2.PROJECT COST**

(US$1,000)
(US$1= 27 Bahts)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 98,333 | 51,630 | 46,703 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

| Facilities | Scale |
|---|---|
| Dyke(Barrier) | 5.1 km |
| Sluice gate | 4 places |
| Pumping Station | 5 stations(36 cu.m/s) |
| Klong improvement | 93 km |
| Main drain improvement | 4.3 km |
| Flood control operation center | 1 set |

Imp. Period: Apr.1987-Mar.1992

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 20.20 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Drainage facilities are to be improved based on the result of floods which occurred in 1983.
It used to take 2 or 3 months to recover. But now it takes only 3 days to 1 week.
The development impact is great.

**5.TECHNICAL TRANSFER**
Technical advice on flood control operation, drainage facilities management/ operation.
Overseas training for counterpart staff.

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
  - ● Completed
  - ○ Implementing
  - ○ Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)
After the completion of the F/S, 59 pumps were provided by the Japanese grant aid. The construction of the Flood Control Operation Center was completed in Mar. 1991 by the Japanese grant.

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 バンコク市都市排水対策計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1986
Revised Mar.1992

ASE THA/S 316/85

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Sanitary District Water Works Project in the North - Eastern Region

**3.SECTOR**
Public Utilities/Water Supply

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
Department of Public Works,(DPW) Ministry of Interior

**7.OBJECTIVES OF STUDY**
Stable supply of clear water to the area.

**8.DATE OF S/W** Jul.1984

**9.CONSULTANT(S)**
Sanyu Consultants Inc.

**10.STUDY TEAM**

No.of Members 5
Period Oct.1984-Feb.1986(16.5 months)

| Total M/M | Japan | Field |
|---|---|---|
| 48.60 | 22.50 | 26.10 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 134,763 (¥'000) |
| Contracted | 126,639 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
10 towns and villages in the North-Eastern region of Thailand

**2.PROJECT COST** (US$1,000) (US$1=27.0B)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 6,463 | 3,080 | 3,383 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Intake Facility
Water Filtration Facility 50 - 100 cu.m/h (Temporary Well, Coaqulation Pond, Depositing Reservoir,Filter Bed, etc)
Distribution Facility
Distribution Pond Max. Daily Capacity:6H
Overhead Tanks Capacity : 2H
Pumps Distribution Network

**Imp. Period:** Oct.1986-May.1989

**4.FEASIBILITY AND ITS ASSUMPTIONS** Feasibility: Yes

| | |
|---|---|
| EIRR1) | FIRR1) |
| EIRR2) | FIRR2) |
| EIRR3) | FIRR3) |

**Conditions and Development Impacts:**
As preconditions, samples of F/S were conducted in 10 districts.

Development Impacts:
Since the construction and development of the water works is to be conducted in the town where the provincial office is, the execution and benefit from this kind of project exerts much influence not only on the town but on surrounding districts.

* Above FIRR is 6 - 8%.

**5.TECHNICAL TRANSFER**
Acceptance of 2 trainees from the local counterpart

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ☐ Completed or in Progress
  - ○ Completed
  - ○ Implementing
  - ○ Processing
- ☐ Promoting
- ■ Delayed or Suspended
- ☐ Discontinued or Cancelled

(Description)
The project implementation for each sanitary district may be commenced with the government budgets.

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**
The project is executed by the respective sanitary district organization.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 東北タイ地方水道施設緊急整備計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

ASE THA/S 317/85

Compiled Mar.1988
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Road Development in the North - Eastern Region (Phase 2)

**3.SECTOR**
Transportation/Road

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
Dept. of Highways, Ministry of Communications

**7.OBJECTIVES OF STUDY**
Feasibility analysis of new construction, improvement and rehabilitation of roads

**8.DATE OF S/W** Mar.1984

**9.CONSULTANT(S)**
Katahira & Engineers International
Nihon Koei Co., Ltd.

**10.STUDY TEAM**

No.of Members 12
Period Jun.1984-Jul.1985 (11 months)

| Total M/M | Japan | Field |
|---|---|---|
| 57.56 | 5.00 | 52.56 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 194,238 (¥'000) |
| Contracted | 183,479 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Northeaster Region

**2.PROJECT COST**

| (US$1,000) (US$1=20B) | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 42,155 | | |
| | 2) | | | |
| | 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

(1) New construction and improvement Total 502.1km:
1)A. Khong ~ J.R.2180 46.8km; 2)A. Chonnabot ~ B. Donq Han 24.0km; 3)A. Nam Phonq ~ B. Nonq Tum 28.0km; 4)B. Lao(J.R.210) ~ B. Tha Yom 40.7km; 5)B. Huai Koenq ~ A. Kumphawapi 14.2km; 6) A. Nonq Han ~ A. Kumphawapi 34.3km; 7)A.Sawanq Daen Din ~ A. Sonq Dao 19.1km; 8)A. Selaphum ~ B.Kham Phon Sunq 46.3km; 9)B. Na Suanq ~ B. Na. Yia 13.6km; 10)A. Maha Chana Chai ~ A. Kho Wanq 24.5km; 11)B. Som Poi Noi ~ B. Muanq Mak 28.4km; 12)A. Chom Phra ~ B. Nonq Khawao 31.1km; 13)A. Parakhon Chai ~ A. Krasanq 47.1km; 14)B. Nonq Pha Onq ~ A. Nonq Ki 52.6km; 15)A. Si Khiu(J.R.2)~ A. Chok Chai 51.4km.
(2) Rehabilitation 8 routes (90km)
16)A.Sikhui ~ A.Dan Khun Thot 19km; 17)A.Prathai ~ A.Khok Chik 10km
18)A.Kalasin ~ B.Lum Chai 10km; 19)A.Pak Thonq Chai ~ J.R.2 13km
20)B.Nam Konq ~ A.Si That 8km; 21)A.Chokchai ~ A.khonburi 10km
22)B.Wat ~ A.Konq 10km; 23)Nakhon Ratchasima ~ A.Chokhcai 10km

The total project cost is 1,839.22 million bahts.

* The project cost 1)above is the economic construction costs of Improvement and New Construction Routes.

**Imp. Period:** Jan.1985-Dec.1987

**4.FEASIBILITY AND ITS ASSUMPTIONS**

**Feasibility:** Yes

| | |
|---|---|
| EIRR1) | FIRR1) |
| EIRR2) | FIRR2) |
| EIRR3) | FIRR3) |

**Conditions and Development Impacts:**

Direct effects:
1) Decrease of transportation costs to road users
2) Increase of value added of agricultural produce
3) Saving of road maintenance costs
Social impacts:
1) Improved access to administrative services
2) Improvement of educational standards
3) Improvement of medical services
4) Narrowing of income disparities

* Five sections with higher EIRRs are 2)22.2%, 15)19.7%, 13)17.1%, 8)15.7%.

**5.TECHNICAL TRANSFER**

1) OJT; 2) Participation of the counterparts in the JICA training program; 3) Employment of local consultants; 4) Gift of equipment and technical guidance

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
- ○ Completed
- ● Implementing
- ○ Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)

1988 Nov. OECF loan agreement (4,085 million yen), of which 1,008 million was for the construction and improvement of 7 routes (235.1km) of the Northeastern Region.
1990 Apr. Construction started

The rest of new construction and improvement and rehabilitation are to be financed by the World Bank and own fund (part of the work is already under way).

(FY 1991 Overseas Survey)
IBRD Loan: L/A in 1990. US$100 million.
Construction: 1988-1994

(FY 1992 Overseas Survey)
For this project, OECF loan (472.51 million bahts), World Bank loan (406.48 million bahts) and DOH budget (425.04 million bahts) were appropriated.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**

①②③④

和名 東北部道路網整備計画（フェイズII）

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

ASE THA/S 315/85

Compiled Mar.1988
Revised Mar.1992

## I. OUTLINE OF STUDY

1.COUNTRY: Thailand

2.NAME OF STUDY: Establishment of a Large Repair Shipyard

3.SECTOR: Transportation/Marine Transportation & Ships

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: Board of Investment

7.OBJECTIVES OF STUDY: Feasibility analysis of a repair shipyard

8.DATE OF S/W: Oct.1982

9.CONSULTANT(S): Overseas Ships Building Cooperation Center

10.STUDY TEAM

No.of Members 9

Period Jul.1984-May.1985(11 months)

| Total M/M | Japan | Field |
|---|---|---|
| 51.00 | 28.00 | 23.00 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

| | |
|---|---|
| Total | 146,390 (¥'000) |
| Contracted | 158,523 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Laem Chabang

2.PROJECT COST (US$1,000) (US$1=169.40Yen)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 40,000 | 15,000 | 25,000 |
| 2) | | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

- Dry dock 175m x 28m x d.11.1m
- Area of 300m x 300m = 90,000 sq.m by reclaming for ship repairing
- Quay length = 150m

Imp. Period: Jan.1986-Mar.1990

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 11.40 | FIRR1) | 5.80 |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

Conditions and Development Impacts:

The growth rate of the cargo carried by the Thai shipping companies(which has a share of 10% of the total transportation volume) was estimated on the bases of growth of GDP and international trade. The scale of the shipyard was then determined by evaluating the types of ships used and the nature of repair work needed.

Development effects will be substantial, because the existing capacity of the domestic repair yards is considerably short of the demand.

5.TECHNICAL TRANSFER

1) Participation of one counterpart in the JICA training program
2) Employment of local consultants

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

- ■ Completed or in Progress
- ○ Completed
- ○ Implementing
- ● Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)

Suspended after the completion of the study because of the low feasibility.

The Government has been encouraging the private sector investment. JICA conducted a M/P study on the shipbuilding industry, and reviewed the proposal of the study.

Private shipping companies organized a joint venture0 and are going to invest in shipyard facilities by leasing the site from the Port Authority of Thailand.

(FY 1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION

①②

和名 船舶修理ヤード建設計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

ASE THA/A 310/85

Compiled Mar.1990
Revised Mar.1992

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Comprehensive Storage Facilities Development Project (Phase II)

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
Public Warehouse Organization (PWO)

**7.OBJECTIVES OF STUDY**

**8.DATE OF S/W** Dec.1983

**9.CONSULTANT(S)**
Overseas Merchandise Inspection Co., Ltd.
Sanyu Consultants Inc.

**10.STUDY TEAM**

No.of Members 11
Period Feb.1984-Jun.1985(7 months)

| Total M/M | Japan | Field |
|---|---|---|
| 40.66 | 19.74 | 20.92 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 122,940 (¥'000) |
| Contracted | 114,782 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Whole country

**2.PROJECT COST**
(US$1,000)
US$1=202.83Yen in Dec.1984

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 42,129 | 21,167 | 20,962 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

1. Warehouse construction:
   State level - 10 sites
   Local level - 5 sites
   Seaport Warehouse - 1 site at Laem Chabang
2. Improvement on processing and loading facilities for shipping exportable rice:
   River port - 2 sites (Nonthaburi, Rajburana)
   Deep sea port - 1 site (Laem Chabang)
3. Grain reprocessing facility: 6 sites
4. Storage technology improvement and training center construction: 1 site (Nonthaburi)

* Project costs above are in Dec.1984 prices.

Imp. Period:

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 12.00 | FIRR1) | |
| EIRR2) | 13.10 | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**

Conditions: 1.Recruiting and training of personnel; 2.Proper management and control; 3.R&D by Cooperation with other organization.
Development Impacts:
1.Expansion of public activities by PWO; 2.Support government rice price policies and materialize long-term stabilization of producers' paddy price and consumers' milled rice price; 3.Improvement and rationalization of rice marketing by expanding and improving facilities/warehouses at rice markets; 4.Continued Sales to existing markets and developing new markets by improving export rice quality and expanding shipping facilities and capacities for loading onto a large sized ocean-going vessels; 5.Reducing losses during storage; 6.Support the activities of public organizations such as agricultural cooperatives, BAAC, etc. by offering them the use of Warehouse; 7.Providing services for marketing other agricultural products by offering the use of seasonal empty space and the auxiliary facilities of the warehouse.
* Above EIRRs are 1) for River port and 2) for Sea port.

**5.TECHNICAL TRANSFER**

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ☐ Completed or in Progress
  - ○ Completed
  - ○ Implementing
  - ○ Processing
- ☐ Promoting
- ☐ Delayed or Suspended
- ■ Discontinued or Cancelled

(Description)

In 1986, Thai government drastically revised the rice marketing policy and abolished the conventional government procurement at support prices. As a result, the operational scale of Public Warehouse Organization (PWO) was radically reduced. On the other hand, the government has been implementing the development of the port at Laem Chabang and planned to construct integrated facilities for collecting, processing and exporting agricultural products in the area behind the port. The government at one time considered the possibility of including the loading facilities for export rice in the area, but the idea did not materialize.

The rice exports have long been made from the river ports in Bangkok city, and the construction of modern facilities are underway by private companies.

The exports of Thai rice reached 5.7 million tons in 1989. Further rationalization of rice marketing and modernization of marketing facilities are strongly desired by both the government and private organization.

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**

The government policy is in principle to let the rice marketing in the hands of the private sector, including investments in the related facilities.

**3.PRINCIPAL SOURCE OF INFORMATION**

①②

和名 穀物貯蔵施設整備拡充計画 (Phase II)

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1990
Revised Mar.1993

ASE THA/A 311/85

## I. OUTLINE OF STUDY

1.COUNTRY: Thailand

2.NAME OF STUDY: Sakae Krang River Basin Irrigation Project

3.SECTOR: Agriculture/General

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: RID (Royal Irrigation Department), Ministry of Agriculture and Cooperatives

7.OBJECTIVES OF STUDY: Irrigation of Sakae Krang River Basin Pre-F/S and M/P

8.DATE OF S/W: Jul.1984

9.CONSULTANT(S): Nihon Koei Co., Ltd.
kyowa Engineering Consultants Co., Ltd.
Nippon Giken Inc.

10.STUDY TEAM

No.of Members 16

Period Sep.1984-Mar.1986(19 months)

| Total M/M | Japan | Field |
|---|---|---|
| 90.27 | 35.22 | 55.05 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

| | |
|---|---|
| Total | 257,848 (¥'000) |
| Contracted | 246,885 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Sakae Krang River Basin(6,300 sq.km)

2.PROJECT COST (US$1,000) US$1=27B

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 107,226 | 35,144 | 72,082 |
| 2) | | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

Mae Wong irrigation scheme was selected as a result of M/P and Pre-F/S.
1.Irrigation area : 46,700ha
2.Water source : Mae Wong river
3.Upper Mae Wong dam : Rock-fill type
Height 57m, Crest Length 794m
4.Irrigation Facilities: Intake weir 2 sites
Main canal 76.7 km
Secondary canal 285.2 km
Drainage canal 204.2 km

* Implementation period below is 7 years.

Imp. Period:

4.FEASIBILITY AND ITS ASSUMPTIONS — Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 13.00 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

Conditions and Development Impacts:
1.Increase of crop production
2.Improvement of living standard and welfare
3.Improvement of cropping productivity in the dry season

5.TECHNICAL TRANSFER

Technology transfer to counterpart in the course of the study.

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

- ☐ Completed or in Progress
  - ○ Completed
  - ○ Implementing
  - ○ Processing
- ■ Promoting
- ☐ Delayed or Suspended
- ☐ Discontinued or Cancelled

(Description)

An environmental impact assessment study was undertaken by RID for earlier implementation of the project.

(FY 1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION

①②

和名 サカエクラン川流域灌漑計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

ASE THA/S 318/86

Compiled Mar.1990
Revised Mar.1992

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Dredging Plant Development Project

**3.SECTOR**
Transportation/Port

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
Harbour Department, Ministry of Transport and Communication

**7.OBJECTIVES OF STUDY**
Frame of long-range dredging plan target in 2000 and development plan including improvement and maintenance of facilities.

**8.DATE OF S/W** Feb.1985

**9.CONSULTANT(S)**
Overseas Coastal Area Development Institute of Ja

**10.STUDY TEAM**

No.of Members 8
Period May.1985-Jun.1986(14 months)

| Total M/M | Japan | Field |
|---|---|---|
| 49.47 | 18.17 | 31.30 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 133,282 (¥'000) |
| Contracted | 119,922 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Coastal routes of Thailand , 43 routes

**2.PROJECT COST**

| | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| (US$1,000) | 1) | 9,666 | 2,730 | |
| (US$1= 27 Bahts) | 2) | | | |
| | 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Mechanical center slipways 165 m X 1
Training hoppsr dredging boat 1
(Hopper Volume;100 cu.m)

**Imp. Period:** Apr.1988-Mar.1991

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 12.20 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Comparison of the proposed project under two conditions: with case and without case. Cost and benefit is shown with cost of 1985 (1 baht = 9.01 yen)

As the effect of development, improvement of the dredging capability, possibility of the effective maintenance and repair of the dredging boat, and possibility of the development for the community are given.

**5.TECHNICAL TRANSFER**
The business training was carried out at some Japanese important port, Port and Harbour Research Institute, and some shipyard,etc.

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ☐ Completed or in Progress
- ○ Completed
- ○ Implementing
- ○ Processing
- ☐ Promoting
- ■ Delayed or Suspended
- ☐ Discontinued or Cancelled

(Description)
Suspended after the completion of F/S due to the lack of fund.

F/S must be reviewed, because the exchange rate has changed since the last F/S.

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**
Delay due to the ceiling on the government budget

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 港湾浚渫船隊整備計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

Compiled Mar.1990
Revised Mar.1992

ASE THA/A 312/86

## I. OUTLINE OF STUDY

1.COUNTRY: Thailand

2.NAME OF STUDY: Bang Nara Irrigation and Drainage Project

3.SECTOR: Agriculture/General

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: RID (Royal Irrigation Department)

7.OBJECTIVES OF STUDY:

8.DATE OF S/W: Jul.1984

9.CONSULTANT(S):
Sanyu Consultants Inc.
Japan Engineering Consultants Co., Ltd.

10.STUDY TEAM

No.of Members 12

Period May.1985-Jan.1987(21 months)

| Total M/M | Japan | Field |
|---|---|---|
| 106.23 | 42.55 | 63.68 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

| | |
|---|---|
| Total | 293,737 (¥'000) |
| Contracted | 271,828 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Bang Nara River Basin of Nava Tik Province in Southern Thailand

2.PROJECT COST (US$1,000) (US$1=20Bahts in 1985)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 25,240,000 | 10,320,000 | 14,920,000 |
| 2) | | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)
- To construct tidal gates both in Nara Tik side and Taqbai side of Bang Nara River
- Pumping irrigation by utilizing planned reservoir with 9 pumping stations
- Rehabilitation of drainage rivers flowing into Bang Nara River
- To install 6 check gates to control acid water

Imp. Period:

4.FEASIBILITY AND ITS ASSUMPTIONS — Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 10.20 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

Conditions and Development Impacts:
The beneficial area:
- by pumping irrigation for existing paddy fields, 9,100 ha
- by rehabilitation of river, 5,280 ha for paddy fields and 6,210ha for rubber fields

The main purpose of the project is to utilize Bang Nara water resources for irrigation and to control the flood in rainy season.

5.TECHNICAL TRANSFER

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

- ■ Completed or in Progress
  - ● Completed
  - ○ Implementing
  - ○ Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)

The proposed project was implemented by Japanese grand aid.

| | |
|---|---|
| Feb. 1988 | E/N siged for D/D (94 million yen) |
| Feb. - Jun. 1988 | Detailed design undertaken |
| Oct. 1988 | Construction started |
| Sep. 1988 | E/N siged (888 million yen) |
| Jul. 1989 | E/N siged (2,604 million yen) |
| Jun. 1990 | E/N siged (375 million yen) |
| Nov. 1990 | Construction completed |

(FY 1991 Overseas Survey)
The total Japanese grant aid amounted to 3,867 million yen. There were minor changes in the location of fixed pumping stations owing to the land acquisition problems.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 バンナラ川かんがい排水計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (Other)

Compiled Mar.1990
Revised Mar.1992

ASE THA/S 602/86

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Road Improvement,Rehabilitation and Traffic Safety in
Bangkok

**3.SECTOR**
Transportation/General

**4.REFERENCE NO.**

**5.TYPE OF STUDY** Other

**6.COUNTERPART AGENCY**
Bangkok Metropolitan Administration

**7.OBJECTIVES OF STUDY**
Policy recommendations on traffic safety measures

**8.DATE OF S/W** Mar.1985

**9.CONSULTANT(S)**
International Engineering Consultants Association

**10.STUDY TEAM**

No.of Members 29
Period Jun.1985-Mar.1987(22 months)

| Total M/M | Japan | Field |
|---|---|---|
| | 7.01 | 143.93 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 412,771 (¥'000) |
| Contracted | 4,182 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Bangkok Metropolitan Area

**2.PROJECT COST**

| (US$1,000) | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | | | |
| 2) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

The study compiled basic information on traffic safety planning and recommended some road improvements.
-Continuous grade separation -Intersection improvement
-Pavement improvement
-Busstop improvement
-Pedestrian path -Guard fence
-Median -Safety island
-Traffic sign -Traffic signal
-Pedestrian crossing bridge -Road marking
among others.

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

The study results will contribute to the planning process on traffic safety measures, road improvement and pavement repairs.
Small scale improvement engineering for traffic safety was efficiently transferred through proposing an engineering guideline and actual design on each actual spot, and carrying out of model project simultaneously.

**5.TECHNICAL TRANSFER**

1) OJT on the evaluation method of pavement; 2) Participation of the counterparts in the JICA training program (road administration and road improvement); 3) Employment of local consultants (traffic survey, inventory survey, pavement survey, etc.)

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**

- ■ In Progress or In Use
- ☐ Delayed
- ☐ Discontinued

(Description)

Many traffic safety projects were carried out along with the guideline and designs by Thai government budget and they are now in sound operation.

Construction project of Rama IV continuous grade separation bridge is now under construction by Japanese grant aid.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**

①

和名 バンコク首都圏庁バンコク市道路改良・交通安全計画

{M/P,M/P+(F/S),Basic Study,Other}

# PROJECT SUMMARY (M/P)

ASE THA/A 102/87

Compiled Mar.1990
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Aerial Photography and Forest Management Plan in the Encroached National Reserve Forest

**3.SECTOR**
Forestry/Forestry & Forest Conservation

**4.REFERENCE NO.**

**5.TYPE OF STUDY** M/P

**6.COUNTERPART AGENCY**
Royal Forestry Department,
Ministry of Agriculture and Cooperatives

**7.OBJECTIVES OF STUDY**
This forest management plan is formulated in order to restore the function which the forest had originally had in the area of the degraded national reserve forest.

**8.DATE OF S/W** Jul.1985

**9.CONSULTANT(S)**
Japan Forest Technical Association
Kokusai Kougyo Co., Ltd.

**10.STUDY TEAM**

No.of Members 19
Period Oct.1985-Mar.1988(31 months)

| Total M/M | Japan | Field |
|---|---|---|
| 160.00 | 90.00 | 70.00 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 450,604 (¥'000) |
| Contracted | 434,600 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
An Area of 20,000sq.km extended over Kanchanaburi Province and other 4 provinces in the western part of the Central Plain Region

**2.PROJECT COST**

| (US$1,000) | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | | | |
| 2) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
In order to contribute to management of the Reserve National Encroach Forest, the Model area was set up in the above mentioned areas and working plans were formulated in each 3 types of areas in the Model Area as follows:
1.Forestry Area : Forest management plan for the proper and sustainable production
2.Agroforestry Area: Forest Village plan for local people
3.Preserved Area : Forest conservation plan for National Park and soil and water conservation

* Costs are not calculated.

**4.CONDITIONS AND DEVELOPMENT IMPACTS**
The above mentioned plans will improve forests for timber supply, National Park and forests for soil and water conservation so that deforestation will be reduced. And the Forest Village plan will enhance the settlements of farmers who live in the encroached National Reserve Forest.
It is necessary to improve the road networks and develop researches of tree growth. When dealing with the proposed plan of a forest village in the model area, the authorities concerned need to iron out the handling of the settlement with the persons concerned.

**5.TECHNICAL TRANSFER**
1.To Accept the trainees out of counterparts: 2.To conduct jointly field works such as a forest inventory survey, a soil survey and a survey on the Forest Villages and Tropical Farming : 3.To practice works on preparation of the topographic map : 4.To

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**
- ■ In Progress or In Use
- ☐ Delayed
- ☐ Discontinued

(Description)
In order to prepare a project based on the proposed plans, the Royal Forest Department has been ironing out the handling of the existing projects by itself. The proposed plans contain various types of projects.
Therefore Japan will be needed for supporting to prepare a project by conducting a follow-up survey and/or an experimental project.

(FY1992 Overseas Survey)
Waiting for the answer.

**2.MAJOR REASONS FOR PRESENT STATUS**
A comprehensive project including the forestry, the agriculture and the irrigation is prior to the proposed project.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 国有林管理計画

{M/P,M/P+(F/S),Basic Study,Other}

# PROJECT SUMMARY (F/S)

Compiled Mar.1990
Revised Mar.1993

ASE THA/S 319/87

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
New Krungthep Bridge Construction and Thonburi Road Extension

**3.SECTOR**
Transportation/Road

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
Public Works Department

**7.OBJECTIVES OF STUDY**
Construction of PC bridge

**8.DATE OF S/W** Nov.1985

**9.CONSULTANT(S)**
Nihon Koei Co., Ltd.
Central Consultant, Inc.

**10.STUDY TEAM**

No.of Members 10
Period Feb.1986-Jun.1987(17 months)

| Total M/M | Japan | Field |
|---|---|---|
| 39.73 | 1.73 | 38.00 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 142,329 (¥'000) |
| Contracted | 129,651 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
New Krung Thep Bridge: downstream side of existing Krung Thep Bridge over Chao Phraya River Thon Buri Road:between Middle and Outer Ring Roads, Thon Buri Area.

**2.PROJECT COST**

| (US$1,000) (US$1=153Yen) | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | | | |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
(1)New Krungthep Bridge
Main Bridge: 4-span continuous PC Box of 476m length(125m+226m+125m), Navigational clearance in center of 34m in height and 60 in width.

| | Thoribori Side | Bangkok Side |
|---|---|---|
| Approach Bridge | 770m | 599m |
| Interchange | 131m | 120m |
| Rampway | 400m | 480m |

The project cost is 1,885 million bahts.

(2)Thoribori Road Extention
1st Stage Construction
Target year of opening:1991, construction of a L-shaped bypass of 3.3km
2nd Stage Construction
Target year of opening:1995,construction of a connector with ORR 6.5km
The project cost is 2,469 million bahts.

**Imp. Period:** Oct.1988-Oct.1995

**4.FEASIBILITY AND ITS ASSUMPTIONS**
Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 20.00 | FIRR1) | |
| EIRR2) | 41.00 | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
[Conditions]
1) Construction Period: 36months(opening of FY1991)
2) Construction costs were estimated based on interviews with Japanese-affiliated construction companies: 1885 mil. Bahts(35% foreign fund) for New Krungthep bridge, and 2469 mil. Bahts(26% foreign fund) for Thoribori Road Extention.
[Development Impacts]
1) Solving the problem of traffic jams in the Krungthep Bridge - Thoribori Road area, Improvemetn of traffic conditions on the circular roads running through Bangkok without adverse effects on river traffics.
2) Facilitating the Krungthep Bridge - Thoribori Road area's turning into a major residential area for Greater Bangkok.
3) Facilitating the diffusion of the developemnt of Greater Bangkok area to West Chaobaya area with the Thoribori Road as the center.

**5.TECHNICAL TRANSFER**
(1) Two counterpart were invited to Japan for training
(2) Use of local consultants

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**
☐ Completed or in Progress
○ Completed
○ Implementing
○ Processing
■ Promoting
☐ Delayed or Suspended
☐ Discontinued or Cancelled

(Description)
The D/D was completed with PWD's finance for yen credit application.
(1) Krung Thep Bridge: Detailed design made by Norcon (Norway) and Thai consultants.
(2) Thon Buri Road: Detailed design of the first section (3.5km) completed under a local tender.

(FY 1991 Overseas Survey)
Construction period: 1994 - 1996.

(FY 1992 Overseas Survey)
The project is included in the 6th and 7th National Economic and Social Development Plan and its priority is high. Thai cabinet approved the construction of New Krungthep Bridge in August 1987. Application for yen credit will be done through the Ministry of Finance. The project will be completed in 1995.

**2.MAJOR REASONS FOR PRESENT STATUS**
(1) Aging of the existing Krung Thep Bridge
(2) Strong support by Public Works Dept.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②③

和名 新クルンテップ橋及びトンブリ道路延伸計画

{F/S,(M/P)+F/S,D/D}

# PROJECT SUMMARY (F/S)

ASE THA/S 320/87

Compiled Mar.1990
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Railway Yards Improvement

**3.SECTOR**
Transportation/Railway

**4.REFERENCE NO.**

**5.TYPE OF STUDY** F/S

**6.COUNTERPART AGENCY**
State Railway of Thailand

**7.OBJECTIVES OF STUDY**
Preparation of a basic improvement plan for 10 years with a target year of 2006
F/S for several high-priority yards with a target year of 1996

**8.DATE OF S/W** Aug.1985

**9.CONSULTANT(S)**
Japan Railway Technical Service
Pacific Consultants International
The Japan Electrical Consulting Co., Ltd.

**10.STUDY TEAM**

No.of Members 13
Period Dec.1985-Jun.1987(19 months)

| Total M/M | Japan | Field |
|---|---|---|
| 98.86 | 61.11 | 37.75 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**

**12.EXPENDITURE**

| | |
|---|---|
| Total | 266,088 (¥'000) |
| Contracted | 258,834 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Bangkok, Mae Noni, Bang Sue, and Hat Yai Stations

**2.PROJECT COST**
(US$1,000)
(US$1=26.455B)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 13,357 | 7,557 | 5,800 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**

Improvement of yard facilities(passenger facilities, freight faacilities, track facilities, electric facilities, signalling and telecommunications facilities):
Bangkok: 1. Additional construciotn of two arrival tracks for strngthening capacity of arrival tracks; 2.Modification of two departure tracks into arrival/ departure tracks for strengthening capacity of arrival/ departure tracks; 3. Additional construciton of one arrival track for strengthening capacity of departure tracks. 4.Extension of effective length of the passenger car yard for strengthening capacity for passenger car; 5.Extension of effective length of tracks for DRC(diesel railcar) storage; 6.Modification of locations of signal erection and improvement of interlocking devices for ensuring train safety.
Mae Nam: 1.New construction of two sorting tracks for freight cars in a place about 4 km away from the origin of the Bangkok Port Line; 2. New construction of a shortcut line between Mae Nam Station and the Bangkok Port Line; 3.Additional construciton of one sorting track and extension of effective length of tracks for strengthening capacity for empty car storage.
Band Sue: 1. New construction of two arrival/departure tracks in the freight station for dealing with direct transport between freight stations; 2.Improvement of signalling facilities entailed by track improvement (erection of signals, etc.)
Hat Yai: 1.Modification of track layout for eliminating the concurrence of freight car shunting and handling of imcoming and outgoing freight trains; 2.Additional construciton of three sorting tracks for strengthening capacity for freight car sorting; 3. Additional construciton of two storage tracks for passenger cars for

**Imp. Period:** Jan.1987-Dec.1991

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 18.29 | FIRR1) | 19.72 |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
(1) Preconditions for IRR calculation
1. Traffic volume is forecasted for the years 1991, 1996, and 2006.
2. Of the yards taken up in the study, four high-priority yards are to be improved by 1991.
(2) Development impacts
1. Improvement of yards with bottlenecks will increase passenger traffic.
2. Improvement of yard functions will lead to efficient transport and a reduction in transport cost.

**5.TECHNICAL TRANSFER**
1)OJT: A seminar was held on measures for yard planning. 2)Counterparts participated in JICA training program. 3)Instruction, as well as the preparation of a guidbook, on measures for yard work improvement.

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

- ■ Completed or in Progress
- ○ Completed
- ● Implementing
- ○ Processing
- □ Promoting
- □ Delayed or Suspended
- □ Discontinued or Cancelled

(Description)
Detailed design completed in December 1987. Part of the high-priority work for Bangkok and Bang Sue stations was implemented. At present, the project is progressing in two categories.

(1) 1st category -- Work to improve the operational efficiency of main yards and to meet future traffic increase.
* Bangkok yard -- Construction of a new departure track and 2 arrival tracks, conversion of 2 arrival tracks to arrival/departure tracks, and extension of the effective length(37 million baht, to be completed at the end of 1990).
* Ban Phachi yard -- 25 million baht,to be completed in the middle of 1990.
* Other improvements -- To start as scheduled.

(2) 2nd category -- Smaller-scale work such as platform improvement.
* 5 to 10 yards to be improved every year.

(FY 1991 Overseas Survey)
The project is integrated in the SRT Investment Program and the construction will be completed in 1993.

(FY 1992 Overseas Survey)
Waiting for the answer.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 鉄道ヤード改良計画

{F/S,(M/P)+F/S,D/D}