PROJECT SUMMARY (Other)

Compiled Mar.1990
Revised Mar.1992

ASE THA/S 603/87

I. OUTLINE OF STUDY

1.COUNTRY: Thailand

2.NAME OF STUDY
Effective Port Management and Operation System

3.SECTOR
Transportation/Port

4.REFERENCE NO.

5.TYPE OF STUDY: Other

6.COUNTERPART AGENCY
Ministry of Transport and Communication

7.OBJECTIVES OF STUDY
-Formulation of a framework for port operation

8.DATE OF S/W: Feb.1986

9.CONSULTANT(S)
Overseas Coastal Area Development Institute of Ja

10.STUDY TEAM

No.of Members 12

Period Aug.1986-Mar.1988(8 months)

Total M/M	Japan	Field
99.90	48.44	51.36

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Leagal System

12.EXPENDITURE

Total	265,006 (¥'000)
Contracted	265,693

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Port of Bangkok, Port of Laem Chabang, Port of Map Ta Phut, Port of Sattahip, Port of Phuket, Port of Song Khla

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)
Recommendation of port management
- Determination of fundamental concept for the port planning and development policy.
- Making of the port management policy.
- Preparation for the operation and management as an international port.
- Reviewing the legal system concerning port development, management and operation.
- Recommendation of improvement of the cargo handling.

4.CONDITIONS AND DEVELOPMENT IMPACTS
(Development Impacts)
1) Effective port service is indispensable for Thai economic activity, and at the same time port development is emphasized its importance as main infrastructure for promotion of industrial location and as a core of regional economical development.

2) Reduction of transportation cost through the effective port operation

3) Mitigation of the congestion at Bangkok port as well as promotion of the development of the Eastern Seaboard region are brought about through the enhancement of the effectiveness of containe cargo handling and inland transportation at Port of Laem Chabang.

5.TECHNICAL TRANSFER
The study of port management was carried out for the counterpart.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

The National Port Administration Commission was established in the Ministry of Transport and Communication by accepting recommendations of the study and came into operation since December 1988.

- Port of Laem Chang
The administrative body has been established in the PAT.The Ccontainer Terminal and the agricultural/Bulk Berth are leased to the private companies and operated by them.

- Port of Map Ta Phut
Started operation in 1992. IEAT became an administrative body, and each berth is leased to the private company.

- Port of Song Khla and Port of Phket
The private sector is in charge of port management and its operation.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 効果的港湾システム調査

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

PROJECT SUMMARY (M/P)

Compiled Mar.1986
Revised Mar.1993

ASE THA/S 104/88

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Flood Forecasting System in the Chao Phraya River Basin

3.SECTOR
Social Infrastructures/River & Erosion Control

4.REFERENCE NO.

5.TYPE OF STUDY M/P

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

7.OBJECTIVES OF STUDY
Formulation of a flood forecasting system over Chao Phraya river basin

8.DATE OF S/W Jul.1986

9.CONSULTANT(S)
CTI Engineering Co., Ltd.
Nihon Koei Co., Ltd.

10.STUDY TEAM

No.of Members 11

Period Feb.1987-Jun.1988(16 months)

Total M/M	Japan	Field
73.32	38.47	34.85

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Survey

12.EXPENDITURE

Total	209,304 (¥'000)
Contracted	183,794

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Chao Phraya River Basin(162,000 sq.km)

2.PROJECT COST

		Total Cost	Local Cost	Foreign Cost
(US$1,000)	1)	55,948		
(US$1=130Yen)	2)			

3.CONTENTS OF MAJOR PROJECT(S)

Step 1: Flood forecasting system started with the existing facilities as the bases and by adding auxillary equipment as required. This system is composed of (1) 34 of rainfall gauging stations, (2) 31 of water level gauging stations, (3) 54 of HF radio stations, (4) 7 of VHF radio stations, and (5) one set of data management system.

Step 2: Flood forecasting system with latest equipment and facilities operated under full flood forecasting organizations. This system is composed of (1) 65 of rainfall gauging stations, (2) 19 of water level gauging stations, (3) 19 of rainfall/water level gauging stations, (4) 2 of radar rainfall gauging stations, (5) 110 of VHF radio stations, (6) 15 of VHF repeater stations, (7) 2 of VHF radio stations, (8) 5 of sub-stations, (9) 6 of terminal stations of TOT, (10) one of flood forecasting center, and (11) one set of data management system.

4.CONDITIONS AND DEVELOPMENT IMPACTS

The flood forecasting system opens up to the possibilities of highly reliable flood forecasting services through collection of flood information from extensive areas of the Chao Phraya River basin.
The communication networks of the flood forecasting systems render great services in communication other than flood forecasting.
It is expected to mitigate the flood damage at the main urban areas along the river course such as Nakon Sawan, Chai-Nat, Ayutaya, Bangkok, etc. through the efficient flood fighting works and evacuation of the inhabitants.
Besides, the hydrological data collected and managed by this system can be used as the basic data to formulate the comprehensive flood control plan in the Chao-Phraya River Basin.

5.TECHNICAL TRANSFER
Execution of an intensive lecture course to counterparts on hydrologic computation procedures.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
Royal Irrigation Department highly appreciated the study and prepared to pledge for the grant aid for the urgent projects among the proposed plans, but has not requested to the Government of Japan.
The RID has an intention of requesting similar projects of irrigation water management sysytem.

(FY 1991 Overseas Survey)
No policy has come out regarding this project.

(FY 1992 Overseas Survey)
Waiting for the answer.

2.MAJOR REASONS FOR PRESENT STATUS
Grant and projects by the Government of Japan has been narrowed down according to the increase of GNP of Thailand.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 チャオピア川洪水予報システム計画

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

PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1990
Revised Mar.1991

ASE THA/S 207A/88

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Road Development in the Central Region

3.SECTOR
Transportation/Road

4.REFERENCE NO.

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

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

7.OBJECTIVES OF STUDY
Road development

8.DATE OF S/W Feb.1987

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

10.STUDY TEAM

No.of Members 10
Period Aug.1987-Mar.1989(20 months)

Total M/M	Japan	Field
85.80	15.70	70.10

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Traffic survey by vehicle type, O/D survey, road inventory survey, boring and road surface survey

12.EXPENDITURE

Total	338,279 (¥'000)
Contracted	328,737

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Central Region (26 changwats, including Bangkok; 104,000 sq.km, pop. 17 million)

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
US$1=25 Bahts	1)	79,202		
	2)	49,151		

3.CONTENTS OF MAJOR PROJECT(S)

1)Trunk highway network (ML projects), 8 Links, total length:288.8km.
Project No.ML-1 ~ ML-8
- The increase of lanes and new highway construction are necessary in many places.
- It will be necessary in the future to develop a road network with inter-city expressways.

2)Supplemental road network (IM projects), 23 Links,total length:718.2km.
Project No.IM-1 ~ IM-23
- It will be necessary in the future to improve 85 routes (2,017km)

3)Rehabilitation (RH projects), 8 Links, total length:206.8km
Project No.RH-1 ~ RH-8

4)Improvement of intersections 48 places

The project costs 1) and 2) above are for the ML project and the IM project.

4.CONDITIONS AND DEVELOPMENT IMPACTS

Development Impacts:
- Efficient functioning of existing highways
- Meet increased traffic volume
- Regional development
- Strengthen required linkage between producing places, markets, transportation centers, etc.
- Ease traffic congestion
- Prevent highway accidents
- Invite private firms to participate in highway construction

5.TECHNICAL TRANSFER
Technique of data collection, analysis and methodology approaches.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
The study was followed by the feasibility study.

(FY 1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS
See next page.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 中央部道路網整備計画

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

PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1990
Revised Mar.1993

ASE THA/S 207B/88

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Road Development in the Central Region

3.SECTOR
Transportation/Road

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Dept. of Highways

7.OBJECTIVES OF STUDY
Road development

8.DATE OF S/W Feb.1987

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

10.STUDY TEAM

No.of Members	10		
Period	Aug.1987-Mar.1989(20 months)		
	Total M/M	Japan	Field
	85.70	15.70	70.10

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Traffic survey by vehicle type, O/D survey, road inventory survey, boring and road surface survey

12.EXPENDITURE

Total	338,279 (¥'000)
Contracted	328,737

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Central Region (26 changwats, including Bangkok; 104,000 sq.km, pop. 17 million)

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
US$1=25B	1)	398,960	202,640	196,320
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)
1)Trunk highway network (ML projects) 7 projects, total length 320.3km
ML-1:13.6km, ML-2:23.7km, ML-3:44.6km, ML-4:61.9km,ML-5:50.3km
ML-7:40.9km, ML-9:81.7km

2)Supplemental road network (IM projects)
11 projects, total length 297.2km
IM-1:18.7km, IM-2:35.9km, IM-11:40.7km, IM-12:51km, IM-13:17.8km
IM-14:25.6km, IM-15:24.7km, IM-16:20.8km, IM-17:19.2km,IM-22:15.9km
IM-23:26.9km

3)Rehabilitation (RH projects) 3projects, total length 96.7km
RH-2:39.7km, RH-3:17.9km, RH-5:39.3km

4)Improvement of intersections

Imp. Period: .1991-.1993

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes

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

Conditions and Development Impacts:
[Conditions] Trunk road projects are selected to alleviate traffic congestion and to support the national project (Eastern Seaboard Development). Provincial road projects are selected to stimulate regional development and to provide socio-economic needs of the population. Feasibility analysis was undertaken on 21 projects which the Dept. of Highways assigned high priority.Economic benefits are taken as the difference in vehicle operating cost and travel time for with and without projects.
[Development Impacts]
Alleviation of traffic congestion, Regional development,etc.
* The EIRRs for new costruction, improvement of roads and rehabilitation of roads are 19.7% ~ 39.6%, 15.1% ~ 32.5% and 74.2% ~ 150.1% respectively.
All the routes analyzed were found to be feasible.

5.TECHNICAL TRANSFER
Instruction on how to formulate the M/P, F/S, and 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)
15 routes out of 21 are under construction by OECF finance (L/A 1988 Nov. 4,117 million yen). ML-5 (Chonburi - Pataya) has been under construction since Aug. 1990. Another OECF L/A (5,670 million yen) was signed in Sep. 1991.

1990 Dec. OECF loan agreement (15,497 million yen)
Construction scheduled to commence in FY1992.

Of the remaining routes, D/D for ML-9 (Bangkok-Chonburi new highway) is under way with the World Bank finance.

(FY 1991 Overseas Survey)
The construction will be completed in 1995.

(FY 1992 Overseas Survey)
The construction of ML-9 was commenced in 1992 and is now under way.

2.MAJOR REASONS FOR PRESENT STATUS
Selected routes were consistent with the policy of the Thai Government.

3.PRINCIPAL SOURCE OF INFORMATION
①②③④

和名 中央部道路網整備計画

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

PROJECT SUMMARY (M/P+F/S)

ASE THA/S 208A/88

Compiled Mar.1990
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Potential Tourism Development for the Southern Region

3.SECTOR
Tourism/General

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Tourism Authority of Thailand (TAT)

7.OBJECTIVES OF STUDY
Formulation of a master plan through 2001 and feasibility analysis of priority projects

8.DATE OF S/W Jul.1987

9.CONSULTANT(S)
JCP Co., Ltd.
Pacific Consultants International

10.STUDY TEAM

No.of Members 16
Period Nov.1987-Mar.1989(12 months)

Total M/M	Japan	Field
58.79	21.04	37.75

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Market survey
LANDSAT survey

12.EXPENDITURE

Total	211,779 (¥'000)
Contracted	198,915

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Phuket, Phangnga, and Krabi (Greater Phuket)

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	1,753,000	526,000	1,227,000
2)			

3.CONTENTS OF MAJOR PROJECT(S)
- Development of tourism resources
  Conservation of historical sites in Phuket; village tourism; Andaman Historical and Cultural Research Center; National park development; training center
- Improvement of tourism infrastructure:
  Airport; water supply; roads; cruising route improvement urban development; tourism manpower training school
- New resort complex:
  Thai Muang, Khok Kloi beach resort, Phuket Marine center

4.CONDITIONS AND DEVELOPMENT IMPACTS
EIRR of the entire package was estimated to be 34.6%.
Development impacts:
1) With 1987 as base year, per capita GNP will increase 26.8% by 1991, 55.4% by 1996 and 86.6% by 2001.
2) Employment will increase 2 times by 1991, 2.7 times by 1996 and 3.7 times by 2001.
3) Net foreign exchange earnings will increase 2.7 times by 1991, 3.7 times by 1996 and 5.5 times by 2001.
In addition to the investments mentioned above, it is necessary to strengthen administrative organizations, such as clear demarkation of responsibility between the central and regional governments (especially on environmental administration, and infrastructural development), good coordination between local administrative bodies, expansion of the functions of TAT (planning, coordination and project implementation capability in addition to tourism promotion) and formation of a wider area coordinating committee of Phuket, Phangnga and Krabi Provinces.

5.TECHNICAL TRANSFER
OJT on the selection of sites for international tourism development, analysis of tourism development potentials, market development and promotion campaigns and programming through intergration with other organizations

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 priority projects.

(FY 1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 南部地域開発計画

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

PROJECT SUMMARY (M/P+F/S)

ASE THA/S 208B/88

Compiled Mar.1990
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Potential Tourism Development for the Southern Region

3.SECTOR
Tourism/General

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Tourism Authority of Thailand

7.OBJECTIVES OF STUDY
Formulation of a master plan through 2001 and feasibility analysis of priority projects

8.DATE OF S/W Jul.1987

9.CONSULTANT(S)
JCP Co., Ltd.
Pacific Consultants International

10.STUDY TEAM

No.of Members 16
Period Nov.1987-Mar.1989(12 months)

Total M/M	Japan	Field
58.79	21.04	37.75

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Market survey
LANDSAT survey

12.EXPENDITURE

Total	211,779 (¥'000)
Contracted	198,915

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Phuket, Phangnga, and Krabi (Greater Phuket)

2.PROJECT COST (US$1,000)

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

3.CONTENTS OF MAJOR PROJECT(S)
1) New resort complex:
- Thai Muang international beach resort base (5,000 hotel rooms)
- Khok Kloi public beach development (1,000 hotel rooms)

2) Phuket marine center (100ha)
- Yacht harbor (200 berths for yachts and a basin for boats)
- Marine hotel (200 rooms)
- Marine center (restaurants, supermarkets)

Imp. Period: .1989-.2001

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)		FIRR1)	12.90
EIRR2)		FIRR2)	13.40
EIRR3)		FIRR3)	

Conditions and Development Impacts:
See the preceding page.

5.TECHNICAL TRANSFER
OJT on the selection of sites for international tourism development, analysis of tourism development potentials, market development and promotion campaigns and programming through intergration with other organizations

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) TAT has been making preparations to obtain the Cabinet endorsement on the proposed projects.

2) TAT has been coordinating with Royal Forest Dept. and Fine Arts Dept. on the implementation of the projects below proposed for public sector investment.
- Andaman Historical and Cultural Research Center (Krabi)
- Tourism Manpower Training School (Phuket)
- National Park Training Center (Phuket).

3) With regard to the improvement of other tourism facilities and the development of new resort complexes, TAT will prapare programs after the endorsement by the Cabinet.

(FY 1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

TAT obtained an OECF loan to implement 72 tourism-related projects by the end year (1991) of the 6th national development plan (L/A in Jan. 1988, 6,252 million yen). However, the implementation of these projects have been considerably behind the schedule. Pending the completion of these projects, TAT plans to apply for another OECF loan on tourism-related projects, including those proposed by this study.

3.PRINCIPAL SOURCE OF INFORMATION
①②④

和名 南部地域開発計画

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

PROJECT SUMMARY (M/P+F/S)

ASE THA/A 202A/88

Compiled Mar.1990
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Agricultural Land and Conservation for Integrated Rural Development in the East

3.SECTOR
Agriculture/General

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Ministry of Agriculture and Cooperatives
Department of Land Development (DLD)

7.OBJECTIVES OF STUDY

8.DATE OF S/W Feb.1987

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

10.STUDY TEAM

No.of Members 12

Period Sep.1987-Sep.1988(13 months)

Total M/M	Japan	Field
68.45	22.98	45.47

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Topographic survey
Analysis of soil samples

12.EXPENDITURE

Total	213,841 (¥'000)
Contracted	202,533

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Four provinces in the eastern Thailand facing or close to the sea(Chachoengsao,Chonburi,Rayon and Chanthaburi)

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
by 1988 price	1)	2,776,293	1,696,090	1,080,203
	2)			

3.CONTENTS OF MAJOR PROJECT(S)

All over Thailand, soil erosion problems caused by random development is serious, 34% of national land is eroded. 47%(716,000ha) of the areas in 4 provinces of the East of Thailand are eroded.
The project for " Agricultural Land and Conservation for Integrated Rural Development" has been formulated.

Province	Study Area	Project Area	Planning Area (sq.km)
Chachoengsao	5,351	5,351	2,200
Chonburi	4,363	4,363	3,041
Rayong	3,552	3,552	2,634
Chanthaburi	6,338	1,981	965
Total	19,604	15,247	8,840

Soil conservation measures
1. Agricultural measures: cropping methods, cultivation methods
2. Mechanical measures: terracing systems, terrace channels
3. Irrigation facility: farm ponds and reservoirs
4. Supporting measures: infrastructures, agro-industry, farmers'education, institutional cooperation

4.CONDITIONS AND DEVELOPMENT IMPACTS

[Conditions]
1) Classification of eroded areas

Classificaiton	Soil loss(ton/ha/year)
1.Top-urgent	(more than 50)
2.Urgent	(50-30)
3.Necessary	(30-20)
4.Normal	(20-5)
5.Not Necessary	(under than 5)

2)Pilot areas are chosen from the "Urgent" category
3)Most of the "Top-Urgent"areas are in reserved forest areas.
[Development policy]
- To formulate a "Long Term Intergrated Rural Development Plan", mainly land conservation.
- To protect against soil erosion that occurred by random deforestation which is a major problem for agricultural productivity improvement.
- Crop rotation with proper irrigation systems is one method to increase agricultural production.
- Infrastructure and the creation of emplyment opportunities by agro-industry are methods for rural living improvements.

5.TECHNICAL TRANSFER
- Acceptance of three trainees for in-service training in Japan
- OJT
- Organizing seminars at the DLD main office

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

The following plans have been made to strengthen the capabilities of DLD in implementing the project.

(1) To establish a "Technology Introducing Center" at the DLD main office.
(2) To set up a "Soil and Water Conservation Center" at every regional office of DLD.

(FY 1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 東部タイ農地保全総合開発計画

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

PROJECT SUMMARY (M/P+F/S)

ASE THA/A 202B/88

Compiled Mar.1990
Revised Mar.1993

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Agricultural Land and Conservation for Integrated Rural Development in the East

3.SECTOR
Agriculture/General

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Ministry of Agriculture and Cooperatives
Department of Land Development (DLD)

7.OBJECTIVES OF STUDY
Building up the ability of project execution

8.DATE OF S/W Feb.1987

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

10.STUDY TEAM

No.of Members 12
Period Sep.1987-Sep.1988(13 months)

Total M/M	Japan	Field
68.45	22.98	45.47

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Topographic surbey
Analysis of soil samples

12.EXPENDITURE

Total	213,841 (¥'000)
Contracted	202,533

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Four provinces in the eastern Thailand facing or close to the sea (Chachoengsao, Chonburi, Rayon, and Chanthaburi)

2.PROJECT COST (US$1,000) by 1988 price

	Total Cost	Local Cost	Foreign Cost
1)	6,649	4,063	2,587
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
Contents of Major Projects
In 16 pilot areas selected from 4 provinces of the East of Thailand, " The Feasibility Study for Agricultural Land and Conservation for Integrated Rural Development" was carried out. The pilot areas were representative areas for planning, being 884,000 ha of typical geological, meteorological, soil and crop areas.

Province	Planning Area(sq.km)	Pilot Area (sites)
Chachoengsao	2,200	4
Chonburi	3,041	5
Rayong	2,634	5
Chanthaburi	965	2
Total	8,840	16

Soil conservation measures
1. Agricultural measures: cropping methods, cultivation methods
2. Mechanical measures: terracing systems, terrace channels
3. Irrigation facility: farm ponds and reservoirs
4. Supporting measures: infrastructures, agro-industry, farmers'education, institutional cooperation

* above costs are in Sept. 1988 prices.

Imp. Period: .1991-.1995

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes

EIRR1)	10.40	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
[Conditions]
1)The project will be carried out as national project.
2)Classification of eroded areas

Classificaiton	Soil loss(ton/ha/year)
1.Top-urgent	(more than 50)
2.Urgent	(50-30)
3.Necessary	(30-20)
4.Normal	(20-5)
5.Not Necessary	(under than 5)

3)Pilot areas are chosen from the "Urgent" category
[Development Impacts] 1)creation of employment opportunities, 2)improvement of socio-economic and rural living conditions of farmers, 3)military protection, 4)save and earn foreign currency, 5)improvement of farmers' cooperation, 6)ecological conservation, 7)prevent a change of micrometeorology, 8)water resource conservation and disaster prevention.
In case of 4 model areas EIRR is 8.5~ 11.6%. If no procurement of construction machines, EIRR is 13.1%.

5.TECHNICAL TRANSFER
- Acceptance of three tainees for in-service training in Japan
- OJT
- Organizing seminars at the DLD main office

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

Progress:
The Thai Government intends to implement the 16 pilot projects for agricultural land conservation, which were worked out through F/S, according to the priority orders given to each project.
The Thai Government requested the grant aid of the Japanese Government for procuring the machineries for civil engineering and construction as well as those for farming operation which are required to implement the projects.
The Japanese Government, in response to the request, has done B/D surveys.
The equipments are arriving in March 1992, and Project-type Technical Cooperation will also be carried out in FY 1992.

(FY1991 Overseas Survey)
Detail design will be conducted from 1992 to 1994, construction from 1992 to 1995 and approximately 136.1 million bahts will be financed by the RTG budget.

(FY1992 Overseas Survey)
Waiting for the answer.

2.MAJOR REASONS FOR PRESENT STATUS
Conservation of agricultural lands, which plays a key role in preservation of the environment, is deemed as one of the measures of top priority. Therefore, it should be implemented urgently, and the Thai Government requested the assistance through the grant aid scheme.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 東部タイ農地保全総合開発計画

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

PROJECT SUMMARY (F/S)

Compiled Mar.1990
Revised Mar.1993

ASE THA/S 321/88

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Project of the Regional Truck Terminals

3.SECTOR
Transportation/Land Transportation

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Dept. of Land Transport (DLT), Ministry of Communications

7.OBJECTIVES OF STUDY
Projection of cargo and determination of the scale of regional ternimals

8.DATE OF S/W Oct.1986

9.CONSULTANT(S)
Pacific Consultants International

10.STUDY TEAM

No.of Members 10
Period Jan.1987-Jul.1988(19 months)

Total M/M	Japan	Field
48.30	17.50	30.80

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
- Commodity Flow Survey
- Traffic Count Survey
- Freight Survey

12.EXPENDITURE

Total	159,475 (¥'000)
Contracted	141,404

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Bangkok, Chieng Mai, Khon Kaen, Nakhon Sawan, Nakhon Ratchasima, Hat Yai/Songkhla

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	8,780	4,704	4,076
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

Construciton of three truck terminals:

	Staqe1(1991-1992)	Staqe2(1991-1992)	area
1. Chaing Mai	27berth	18berth	24,555sq.m
2. Khon kaen	30	20	27,246sq.m
3. Hat Yai/Songkhla	50	45	49,104sq.m

Freight Volume Handled (unit:1000ton/year)

	1996	2006
1. Chaing Mai	436	667
2. Khon Kaen	661	1,107
3. Hat Yai/Songkhla	840	1,598

Newly established joint venture company(limited com.) composed of the Government and private company operates terminal. One company is assigned each terminal.

Imp. Period: .1991-.2000

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

EIRR1)	40.36	FIRR1)	
EIRR2)	16.89	FIRR2)	
EIRR3)	39.63	FIRR3)	

Conditions and Development Impacts:

Physical distribution was projected for 1987, 1996, and 2006. Cargo traffic projections were based on the O/D survey and interviews of enterprises, and economic growth projections by NESDB. Composition of cargo was determined according to the regular O/D survey conducted by DLT. EIRR was calculated on the assumption that the terminal in Bangkok be constructed and in operation.

Regional truck terminals will contribute to (1) efficient land use in regional cities, (2) smoother road traffic in and around regional cities, (3) efficiency improvement of transport, (4) economy of scale by joint use of facilities and equipment, (5) stimulation of regional economies, and (6) environmental conservation.

* the EIRRS are based on the assumption of Bangkok Terminal construction.

5.TECHNICAL TRANSFER
OJT on the traffic survey and the interview survey Participation of 2 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)

Regional truck terminals need a Bangkok truck terminal as a pre-requisite condition. And the Thai government has just commenced the formal preparation of 10 years-suspended Bangkok truck terminal project in October 1992 when new Bangkok truck terminal project completed. The Thai goverment also intends to apply various implementation methods adopted in this project for the regional truck terminal project. Thus the Thai government has suspeneded the regional truck terminal until Bangkok truck terminal project can be succeeded.

Establishment of Bangkok truck terminal project is sure to be implemented. The government of Thailand gives the highest priority to this project, and has established a Truck Terminal Construction Committee (secretary; DLT). All of which can contribute to solving the causes of the delay. The government also made public that it is ready to provide the government's land, and to finance the capital of operation company.

A JICA Expert has been attached to DLT since Nov. 1988, and now a successor is making efforts to implement both Bangkok and regional terminal projects.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 地方トラックターミナル整備計画

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

PROJECT SUMMARY (Basic Study)

Compiled Mar.1990
Revised Mar.1992

ASE THA/S 502/88

I. OUTLINE OF STUDY

1.COUNTRY: Thailand

2.NAME OF STUDY: Topographic Mapping of Bangkok Metropolitan Area

3.SECTOR: Social Infrastructures/Survey & Mapping

4.REFERENCE NO.:

5.TYPE OF STUDY: Basic Study

6.COUNTERPART AGENCY: Bangkok Metropolitan Administration (BMA)

7.OBJECTIVES OF STUDY:

8.DATE OF S/W: Mar.1986

9.CONSULTANT(S): International Engineering Consultants Association
Kokusai Kougyo Co., Ltd.

10.STUDY TEAM

No.of Members 65

Period Sep.1986-Mar.1989(28 months)

Total M/M	Japan	Field
213.30	52.20	161.10

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

Total	1,002,033 (¥'000)
Contracted	983,807

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Bangkok Metropolitan Region

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)			
2)			

3.CONTENTS OF MAJOR PROJECT(S)

Aerial photography	Bangkok Metropolitan Region	4,000 sq.km
Topographic mapping (Scale:1/10,000)	Bangkok Metropolitan Area	2,000 sq.km
Topographic mapping (Scale:1/4,000)	Builtup Area of Bangkok	300 sq.km

4.CONDITIONS AND DEVELOPMENT IMPACTS

The maps will provide the base for planning transportation, flood control, housing, sewerage and other aspects of urban planning for the Bangkok Metropolitan Area. They are mainly used as basic data for the main principal road planning, anti-slum policy plan, housing development planning, land readjustment planning, urban traffic control plan, flood preventive measures, sewerage planning, waste disposal planning.

5.TECHNICAL TRANSFER

1) OJT on aerial triangulation, drafting, editing and other mapping processes.
2) OJT on new technologies of digital mapping and computer-aided mapping.

III. PRESENT STATUS OF STUDY RESULTS

1.PRESENT STATUS

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

(Description)

The start of the topographic survey and aerial photography scheduled for the first year was delayed due to some procedural matters, but the work progressed as planned during the second year. The printing of the maps, the final phase of the work, was done by the Royal Thai Survey Dept. in the third year.

The following organizations are currently using the maps:

- Bangkok Metropolitan Administration (BMA)
- Department of Town and Country Planning, Ministry of Interior
- Metropolitan Water Works Authority, M.I.
- Department of Public Works, M.I.
- Express and Rapid Transit Authority of Thailand, M.I.
- Royal Irrigation Department, Ministry of Agriculture and Cooperatives
- National housing Authority, M.I.
- Others

2.MAJOR REASONS FOR PRESENT STATUS

These maps are highly valued and widely used. After the completion of the map, notable changes have been made. However, revision and reprinting are quite difficult to conduct due to BMA's budgetary problems.

3.PRINCIPAL SOURCE OF INFORMATION

①

和名 バンコク首都圏地形図作成事業

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

PROJECT SUMMARY (Other)

Compiled Mar.1990
Revised Mar.1992

ASE THA/S 604/88

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
City Planning Manual

3.SECTOR
Social Infrastructures/Urban Planning & Land Development

4.REFERENCE NO.

5.TYPE OF STUDY Other

6.COUNTERPART AGENCY
Dept. of Town and Country Planning(DTCP), Ministry of Interior

7.OBJECTIVES OF STUDY
Technical transfer on urban planning

8.DATE OF S/W Aug.1987

9.CONSULTANT(S)
Yachiyo Engineering Co., Ltd.

10.STUDY TEAM

No.of Members 11
Period Nov.1987-Feb.1989(13 months)

Total M/M	Japan	Field
63.37	4.33	59.04

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	229,891 (¥'000)
Contracted	210,450

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Major cities

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	8,550		8,550
2)			

3.CONTENTS OF MAJOR PROJECT(S)

The study suggested measures to strengthen the organization of the DTCP (structural reform, technical training, data management system, etc.) and measures to improve the capability of the DTCP in planning, implementing and research, and proposed the establishment of a center for promoting urban planning and improvement.

The proposed center will be attached to the DTCP and work with the NESDB, the Regional Administration Dept. of the Ministry of Interior, Chulalongkorn Univ., Asian Institute of Technology and others. Major activities of the center are (1) technical training and (2) database management and R&D. Major facilities are seminar houses and dormitories.

4.CONDITIONS AND DEVELOPMENT IMPACTS

- The project will strengthen the functions of the DTCP.
- Improvement of urban planning techniques will contribute to the national socio-economic development.

DTCP shall improve their technical training system, data control system and technical development system by utilizing the manual which was produced by JICA study team for upgrading of their city planning and contributing on national socio-economic development.

5.TECHNICAL TRANSFER
OJT and a seminar

III. PRESENT STATUS OF STUDY RESULTS

1.PRESENT STATUS

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

(Description)
- The planning techniques included in the manual has been utilized by various divisions of the DTCP.
- Preparations are under way to establish the proposed center.
- The Government of Thailand requested JICA for a study on land consolidation and zoning.

(FY 1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 都市計画策定指針作成

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

PROJECT SUMMARY (M/P)

Compiled Mar.1991
Revised Mar.1992

ASE THA/S 105/89

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Telecommunications Development

3.SECTOR
Communications & Broadcasting/Telecommunication

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Telephone Organization of Thailand
(Corporate Planning Office)

7.OBJECTIVES OF STUDY
To fomulate a long term development plan for the period from FY 1993 to FY 2007 in Thailand

8.DATE OF S/W Jun.1988

9.CONSULTANT(S)
NTT International Corporation

10.STUDY TEAM

No.of Members 11

Period Sep.1988-Dec.1989(15 months)

Total M/M	Japan	Field
75.61	34.72	40.89

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	220,718 (¥'000)
Contracted	212,870

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Whole area of the Kingdom Thailand

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
	1)	6,406,759	3,525,379	2,881,379
US$1=145Yen	2)			

3.CONTENTS OF MAJOR PROJECT(S)

1. To install 4,345 thousand new main telephone lines within 15 years from FY 1993. and have total 6,168 thousand lines at the end of FY 2007. To improve telephone density from 3.2 at the end of FY 1992 to 10.7. To meet the telephone demand at the end of 1997.

2. To make existing network fully digitized to provide enhanced telecommunications services such as ISDN all over the country at the end of FY 2007.

3. The outline of the 15-year telecommunications network expansion plan is as follows:
 1) switching systems: 4,491 thousand switching line capacity,
 2) transmission systems: 205 systems are to be installed for the long-distance; 189 fiber optical systems(FOTS) for Bangkok Metropolitan area and 511 FOTS and radio transmission systems for the Provincial area as for the spur rout transmission system.
 3) outside plant(OSP): local cables of 8,088 thousand pairs are to be expanded and 4.1 billion Baht is required as for the rehabilitation of OSP.

4.CONDITIONS AND DEVELOPMENT IMPACTS

Conditions:
1.Fund raising of required investment costs.
2.Improvement of management of TOT such as construction, operation and maintenance, procurement, marketing and customer relations, human resources, organization, budgeting and finance, tariff design, and management information.

Development Impacts:
1.Fulfillment of national telephone demand and provision of versatile services.
2.Realization of an informationized society and more dynamic and innovative business operation.

5.TECHNICAL TRANSFER

Technical Transfer in Japan was conducted to TOT counterparts, 2 members JICA sponsored and 4 TOT sponsored, while Study period of Work in Japan-2(July and August of 1989) on 41 days about the process of formulating the long term development plan.

III. PRESENT STATUS OF STUDY RESULTS

1.PRESENT STATUS

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

(Description)

1. Further Study)Bangkok Telecommunications Development Study)
 A further study titled " A Study on Regional Development Plan for Telecommunications Network in the Bangkok Metropolitan Area in the Kingdom of Thailand" was requested by the Government of Thailand in April 1990 on the recommendation of this Study report. The study was conducted from July 1991 to October 1992. The study area is the Bangkok Metropolitan area and its surroundings. The study proposed a 15-year(1993 to 2007) long-term development plan. The study conducted a feasibility study on the top telecommunications service quality from the viewpoints of call completion ratio and fault ratio.
2. BOT Project for the 7th 5-year Development Plan(1992-96)
 JICA Master Plan study recommended the improvement of TOT management including privatizaiton for the future massive telephone network expansion and its smooth operation. Thai Government decided to introduce BOT method (Build, Operation, and Transfer) to implement TOT's 7th 5-year developemnt plan. Two private companies: Telecom Asia Co. and Thai Telephone and Telecommunicaiotns Co., were awarded concession by TOT to construct and maintain 2 million local telephone lines network in the BMA and 1 million in the provicial areas respectively. The two companies are now under the construction stage. It is said that Thai Government applied BOT method for the step toward future privatization of TOT. The study report was used as a database and some outputs were utilized in TOR for BOT project.

2.MAJOR REASONS FOR PRESENT STATUS

Recent rapid economic growth has accelerated shortage problem for the infrastructures. Especially in the telecom sector, there exists waiting applicants for telephone as five times more than the number of annual new installed lines. Thai Government has set the policy guideline in the 5th and 6th Development Plan (ESDP) for improving efficiency in the operations of state enterprises. As for the domestic telephone service, which is now provided dominantly by TOT, the Government has decided that the participation of the private sector was necessary to eliminate the massive shortages for telephone.

3.PRINCIPAL SOURCE OF INFORMATION

①②

和名 国内電話網拡充長期計画

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

PROJECT SUMMARY (M/P)

Compiled Mar.1991
Revised Mar.1992

ASE THA/A 103/89

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Water Management System and Monitoring Program in Chao Phraya River Basin

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Royal Irrigation Department

7.OBJECTIVES OF STUDY
To formulate a master plan for efficient and proper management of water resources through evaluation of potential water resources and water availability for agricultural development

8.DATE OF S/W May.1986

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

10.STUDY TEAM

No.of Members 14
Period Jan.1987-Mar.1989(27 months)

Total M/M	Japan	Field
157.82	49.59	108.23

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	570,471 (¥'000)
Contracted	474,636

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Whole Chao Phraya Basin

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
	1)	26,554		26,554
US$1=148Yen	2)			

3.CONTENTS OF MAJOR PROJECT(S)

1. Water Management Model Project (6 sites, 786 million bahts for 5 years)
2. Communication System Improvement (radio equipment, 485 mil.bahts for 3 years)
3. Monitoring System Improvement (hydrology equip.& facil. 1,182 mil.bahts for 3 years)
4. Data Control System Improvement (199 mil.bahts for 3 years)
5. Irrigation and Drainage System Improvement (18 billion bahts for 20 years)
6. Study on Comprehensive River Basin Development (not costed)
   Reviews of existing plans and reformulation of water resource development plans:
   (1) Bang Pakong River Basin Plan, (2) Upper Pasak River Basin Plan,
   (3) Groudwater Development Plan (Phichit and Sukhothai),
   (4) Kwai Noi River Basin Plan, (5) Yom River Basin Plan,
   (6) Kok-In-Yom-Nan Diversion Plan, (7) Salween River Basin Plan,
   (8) Sakaekrang River Basin Plan, (9) Wang Thong River Basin Plan,
   (10) Maeklong-Chao Phraya Diversion Plan,
   (11) Lower Ping River Basin Plan (Tak-Kamphaeng Phet Area Development), and
   (12) other related development plans
7. Study on a Crop Diversification Promotion Center (not costed)
   Crop-Water relations and marketing & price information

4.CONDITIONS AND DEVELOPMENT IMPACTS

Conditions:
The proposed projects from (1) to (5) above are each subdevided into four levels, and it is easy to re-calculate the cost relative to a given target selected.
The implementation of the Water Management Model Project will help build up experiences and expertise, with which to proceed from one level to next.
The project implementation is adjustable relative to budget limitations and capabilities of available instructors.

5.TECHNICAL TRANSFER
Examination of technical criteria and staff training

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
Irrigation Engineering Center (IEC) of a project-type techinical cooperation project has plan to examine the water management system, and some of telemetering system was introduced at the site proposed in the water management model project.

(FY 1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS
The water management Model Project will be conducted on technical cooperation scheme.
The guideline for the rest of the project will be decided after the result of Model Project.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 チャオピア川流域水管理システムおよび監視計画

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

PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1991
Revised Mar.1992

ASE THA/S 210A/89

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Provincial Water Supply Projects

3.SECTOR
Public Utilities/Water Supply

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Provincial Waterworks Authority

7.OBJECTIVES OF STUDY
Preparation of development plans for 7 Provincial Cities Water Supply Projects in Thailand

8.DATE OF S/W Mar.1988

9.CONSULTANT(S)
Nippon Jogesuido Sekkei Co., Ltd.

10.STUDY TEAM

No.of Members 9

Period Jul.1988-Mar.1990(21 months)

Total M/M	Japan	Field
58.23	26.04	32.19

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Topographic Survey
Soil Investigation

12.EXPENDITURE

Total	355,723 (¥'000)
Contracted	164,359

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Patum Thani & Prachatipat, Phuket, Su Ngai Golok Phang Nga, Takua Pa, Thung Song.

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	233,228	117,079	116,149
2)			

3.CONTENTS OF MAJOR PROJECT(S)
Dam, Intake Facilities, Transmission Facilities.
Treatment Facilities and Distribution Facilities.
(1) Patum Thani & Prachatipat: Raw Water Intake Water Treatment Plant, Distribution Reservoirs, Distribution and Transmission Pipeline (283,000 m3/day)
(2) Phuket: New Water Treatment Plant, Dam, Distribution Reservoirs, Transmission Pipeline
Bangnat System (21,300m3/day)
Municipality Systa (13,900m3/day)
Khlong Katha System (10,900m3/day)
Banq Nieo Dam System (16,500m3/day)
Zone 7 System (21,400m3/day)
(3) Su Ngai Golok: Raw Water Intake, Water Treatment Plant, (9,400m3/day) Transmission Pipeline (13,000m)
(4) Phang Nga: Raw Water Intake, Transmission Pipeline (21,300m)
(5) Takua Pa: Raw Water Intake, Water Treatment Plant (4,300m3/day), Transmission Pipeline
(6) Thung Song: Water Treatment Plant, Raw Water Intake, Transmission Pipeline

4.CONDITIONS AND DEVELOPMENT IMPACTS
Major urbanization is observed in Paturn Thani & Prachatipat, and Phuket island is a most famous resort in Thailand. Su Ngai Golok is a trading area along boundary. Phang Nga, Takua Pa and Thung Song are main commercial center in the southern region of Thailand. This development Project has a economic viability with several social economic benefits, such as consumer satisfaction, health benefit, land values increase and increased employment opportunities.
In financial aspect, however, PWA equity shall be infused or water rates increased to cover the financial deficits.

5.TECHNICAL TRANSFER
Through the study, planning, demand forecasting, design of each facilities and O& M management method has been transfered to counterparts.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

Patum Thani & Prachatipat, Phuket
PWA intends to propose these package project to Japanese government for OECF yen credit.

Su Nagi Golok
This project will be carried out by PWA's own equity.

Other projects
PWA intends to request these projects to Japanese government for grant aid projects.

2.MAJOR REASONS FOR PRESENT STATUS
There are very higher economic and social efficiancy in investment of these projects. AEAs compared to financing capability of governmnent of Thailand, these projects need more capital costs.

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 地方都市水道整備計画

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

PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1991
Revised Mar.1993

ASE THA/S 210B/89

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Provincial Water Supply Projects

3.SECTOR
Public Utilities/Water Supply

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Provincial Waterworks Authority

7.OBJECTIVES OF STUDY
To conduct F/S in Phuket, Prachatipat, Patum Thani and Su Ngai Golok

8.DATE OF S/W Mar.1988

9.CONSULTANT(S)
Nippon Jogesuido Sekkei Co., Ltd.

10.STUDY TEAM

No.of Members 9

Period Jul.1988-Mar.1990(21 months)

Total M/M	Japan	Field
58.23	26.04	32.19

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Topographic Survey
Soil Investigation

12.EXPENDITURE

Total	355,723 (¥'000)
Contracted	164,359

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Patum Thani & Prachatipat, Phuket, Su Ngai Golok

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	233,228	117,079	116,149
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
(1) Patum Thani & Prachatipat
Raw Water Intake, Water Treatment Plant, Distribution Reservoirs, Distribution and Transmission Pipelines
(2) Phuket
New Water Treatment Plant 3, Raw Water Dam 3, Distribution Pipeline
(3) Su Ngai Golok
Raw Water Intake, Water Treatment Plant, Distribution Reservoirs and Tranismission Pipe

Imp. Period: .1990-.1996

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes

EIRR1)	9.50	FIRR1)	17.00
EIRR2)	7.44	FIRR2)	12.67
EIRR3)	11.63	FIRR3)	0.31

Conditions and Development Impacts:
Major urbanization is observed in Patum Thani & Prachatipat, and Phuket island is a most famous resort in Thailand. Su Ngai Golok is a trading area along boundary. So, investment of this project bring many social and economic benefits, such as, incremental of served population, land value increase, health benefit and tourism income increase.

5.TECHNICAL TRANSFER
Through the study , planning, demand forecasting, design of each facilities and O & M management method has been transfered to 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)
Patum Thani & Prachatipat, Phuket
PWA intends to propose these package projects to Japanese government for OECF yen credit.

Su Nagi Golok
This project will be carried out by PWA's own equity.

(FY 1991 Overseas Survey)
Promoting by a private company in the form of privatization.
Detail Design: From year 1992 to year 1993
Constructin : From year 1994 to year 1995

(FY 1992 Overseas Survey)
Waiting for the answer.

2.MAJOR REASONS FOR PRESENT STATUS
There are very higher economic and social efficiency in investment of these project.
As compared to financing capability of goverment of Thailand, these projects need more capital costs.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 地方都市水道整備計画

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

PROJECT SUMMARY (M/P+F/S)

ASE THA/S 209A/89

Compiled Mar.1991
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Medium to Long Term Improvement / Management Plan of Road and Road Transport in Bangkok

3.SECTOR
Transportation/Urban Transportation

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Bangkok Metropolitan Administration (BMA)

7.OBJECTIVES OF STUDY
Medium an Long-term road plan.(M/P) Area traffic control (ATC) system (F/S) Common utility duct (CUD) system

8.DATE OF S/W Apr.1988

9.CONSULTANT(S)
Yachiyo Engineering Co., Ltd.
ALMEC Corporation
International Engineering Consultants Association

10.STUDY TEAM

No.of Members	18	
Period	Nov.1988-Mar.1990(17 months)	
Total M/M	Japan	Field
127.24	55.37	71.87

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Common utility duct data collection survey Traffic survey

12.EXPENDITURE

Total	448,795 (¥'000)
Contracted	424,258

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Medium and long - term road plan Area within the, Outer Ring Road

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
	1)	5,007,320	2,164,880	2,842,440
	2)			

3.CONTENTS OF MAJOR PROJECT(S)
1) Main Roads (1) Expressways (12 projects including following 3 projects) Expressway linking Thonburi-Bang Su-Ramkhamhdeng Expressway linking Phet Kasem and SSE Expresway linking Nonchaburi and Bang Kapi (2) At-grade Main Roads (44 projects) 2) Bus-ways (13 projects)

4.CONDITIONS AND DEVELOPMENT IMPACTS
In order to meet the future transportation demand of both private and public modes at certain service levels, the study revealed that a package of road projects, comprising expressways (a total of 184km), segregated bus-ways (121km), at-grade main roads (599km) and distributors (56km specifically identified only in and around the city centre) has to be implemented by year 2006, in addition to the development of the extended LRT system (91km) and elevated Northern Line of SRT (45km). All these projects are economically viable.

5.TECHNICAL TRANSFER
Accepted of trainees : 3 persons Seminar was held in Bangkok with the attendance of about 300 people.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
Concerning the expressway, arterial roads and bus way projects proposal in the M/P and in accordance with the request of BMA issued in May 1990, IECA dispatched a preliminary study team to undertake the necessary studies in order to formulate the bus way project. Based on the report of the IECA Study BMA intends to prepare an official request to have this project implemented under JICA aid.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 バンコク首都圏中・長期道路交通計画

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

PROJECT SUMMARY (M/P+F/S)

ASE THA/S 209B/89

Compiled Mar.1991
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Medium to Long Term Improvement / Management Plan of Road and Road Transport in Bangkok

3.SECTOR
Transportation/Urban Transportation

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Bangkok Metropolitan Administration (BMA)

7.OBJECTIVES OF STUDY
Medium an Long-term road plan. (M/P) Area traffic control (ATC) system (F/S) Common utility duct (CUD) system

8.DATE OF S/W Apr.1988

9.CONSULTANT(S)
Yachiyo Engineering Co., Ltd.
ALMEC Corporation
International Engineering Consultants Association

10.STUDY TEAM

No.of Members 18
Period Nov.1988-Mar.1990 (17 months)

Total M/M	Japan	Field
127.24	55.37	71.87

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Common utility duct data collection survey Traffic survey

12.EXPENDITURE

Total	448,795 (¥'000)
Contracted	424,258

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
ATC Project: Area within the Middle Ring Road and adjacent areas (235 intersections) CUD Project: Area within the Middle Ring Road.

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	43,840	15,767	28,073
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
(ATC)..... Improvement and expansion of the area traffic control system. 1. Staqe I 143 intersections 2. State II 92 intersections (CUD).....Case Study 1. Trunk line CUD.....1,200m 2. Supply line CUD.....700m

Imp. Period: .1990-.1993

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: Yes/No

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

Conditions and Development Impacts:
(ATC) Making observations on current conditions and analyzing traffic survey results, the problems related to the ATC system in particular were evaluated and organized in a relevant manner. In order to evaluate the effectiveness of the ATC system in controlling traffic the total vehicle operating cost (VOC) and travel time cost (TTC) were estimated. In addition, an implementation program for the recommended plan was evaluated on the basis of the economic analysis. (Note) B/C Ratio 1.16

5.TECHNICAL TRANSFER
Accepted of trainees: 3 persons Seminar was held in Bangkok with the attendance of about 300 people.

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) Based on the ATC F/S study, the detailed design and tender documents were prepared from March to November of 1990 for the project under the JICA study titled " The Detailed Design Study on Area Traffic Control Project in Bangkok". 2) The Government of Thailand has decided to construct the exclusive road for automobiles utilizing San Saep Canal by BOT, and is now negotiating with interested private investors. 3) The Government is requesting a JICA feasibility study on the exclusive bus road proposed by the study.

(FY 1992 Overseas Survey)
Waiting for the answer.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 バンコク首都圏中・長期道路交通計画

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

PROJECT SUMMARY (M/P+F/S)

ASE THA/A 203A/89

Compiled Mar.1991
Revised Mar.1993

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Sebai-Sebok Basin Development Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

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

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

7.OBJECTIVES OF STUDY
Preparation of a basin-wise agricultural development plan and feasibility study of the priority projects

8.DATE OF S/W Apr.1988

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

10.STUDY TEAM

No.of Members 9
Period Sep.1988-Nov.1989(14 months)

Total M/M	Japan	Field
62.63	25.63	37.00

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	202,871 (¥'000)
Contracted	196,966

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Sebai-Sebok-Tanq Lunq Rivers' Basins in Ubon Ratchathani and Yasothan of Northeastern Thailand

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
US$1=130 yen	1)	157,154		
	2)			

3.CONTENTS OF MAJOR PROJECT(S)

The Study (Phase I) evaluated water and land resouce potentials in the three basins of Sebai, Sebok and Tanq Lung Rivers and formulated a two-staqe Master plan. Major agricultural infrastructural development Projects:

1. Short-term Plan (1990 - 1996)

	No. of projects	Irriq.Area(ha)	Cost(million yen)
Medium-size water storaqe	14	18,750	8,360
Pumping stations (Pak Munq)	7	5,400	1,880
Medium-size rehabilitation	5	5,090	390
Total	26	29,240	10,630

2. Medium-term Plan (1996 - 2000)

Medium-size water storaqe	12	7,260	5,640
Small-size water storaqe	87	4,350	1,560
Small river diversion	40	2,600	1,040
Pump stations	41	4,030	1,560
Total	180	18,240	9,800

4.CONDITIONS AND DEVELOPMENT IMPACTS

Conditions:
1) Alonq with the progress of construction works, it is necessary to secure support services such as extension services on improved farminq methods, supply of agricultural inputs and appropriate water manaqement.
2) On-farm land development is necessary in step with the construction of main canals.
3) 20% of the irriqable area will be planted with upland crops during the dry season.

Development impacts:
1) The Project will increase the irriqated area to 42,390ha, and the percentaqe of irriqation will rise from the current 6% to 18%.
2) The averaqe yield of wetland paddy will increase from the present 1.7 - 1.9 tons per hectare to 3.1 - 4.0 tons per hectare.

5.TECHNICAL TRANSFER

Technical transfer has been done properly through the process of various studies and surveys, the course of plan formulation and discussion and preparation and submission of the report.

III. PRESENT STATUS OF STUDY RESULTS

1.PRESENT STATUS

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

(Description)

In case of implementation, either provision of yen-credit for the entire program or application for grant aid for individual project can be considered. However as of now, no particular intention was shown by RID.

(FY 1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

Since there are many pending requests for loan and/or grant in Thailand, and annual implementation programs in recent years have been fully occupied, materialization of this project under technical or economical assistance of Japan seems to wait several years more.

3.PRINCIPAL SOURCE OF INFORMATION

①②

和名 セバイ・セボック流域開発計画

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

PROJECT SUMMARY (M/P+F/S)

ASE THA/A 203B/89

Compiled Mar.1991
Revised Mar.1993

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Sebai-Sebok Basin Development Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

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

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

7.OBJECTIVES OF STUDY
Preparation of a basin-wise agricultural development plan and feasibility study of the priority projects

8.DATE OF S/W Apr.1988

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

10.STUDY TEAM

No.of Members 9
Period Sep.1988-Nov.1989(14 months)

Total M/M	Japan	Field
62.63	25.63	37.00

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	202,871 (¥'000)
Contracted	196,966

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Priority areas in the basins of Sebai, Sebok and Tang Lung Rivers

2.PROJECT COST

(US$1,000)
US$1=130 yen

	Total Cost	Local Cost	Foreign Cost
1)	65,308	34,231	31,077
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

The Study examined the feasibility of five priority projects selected from 14 medium-size water storage projects proposed in the Short-term Development Plan.

Project	River Basin	Irriq.Area(ha)	Cost(million yen)
Laem S---	Sebai	1,100	1,130
H---K-----K--	Sebok	2,600	2,410
H---K---Pak Wanq	Sebok	960	1,220
H---N--K-------	Sebok	2,100	2,120
H---S----	Tanq Lunq	920	1,610
Total		7,670	8,490

Imp. Period:

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes/No

EIRR1) 8.60 FIRR1)
EIRR2) FIRR2)
EIRR3) FIRR3)

Conditions and Development Impacts:

Development impacts:
1. Irrigation development of 7,670 ha
2. Increase of production
   wetland paddy 18,942 tons, upland crops 7,361 tons, inland water fisheries 585 tons
3. Increase of the typical farmer's income(3.2 ha)

	Before Project	With Project
Non-agri. income	8,871 bahts	8,871 bahts
Farmer's income	19,942	57,956

4. EIRR for the total of 5 priority projects is 8.6%.
5. The Project supplies water not only for irrigation but for village households and village reservoirs, and contributes to the improvement of the living environment.

5.TECHNICAL TRANSFER

Technical transfer has been done properly through the process of various studies and surveys, the course of plan formulation and discussion and preparation and submission of the 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)

In case of implementation, either provision of yen-credit for the entire program or application for grant aid for individual project can be considered. However as of now, no particular intention was shown by RID.

(FY 1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION

①②

和名 セバイ・セボック流域開発計画

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

PROJECT SUMMARY (F/S)

Compiled Mar.1991
Revised Mar.1993

ASE THA/S 322/89

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Purification of Klong Water in Bangkok

3.SECTOR
Public Utilities/Sewerage

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Department Drainage and Sewerage, Bangkok Metropolintan Administration

7.OBJECTIVES OF STUDY
Urgent Klong Water Purification in Bangkok

8.DATE OF S/W Sep.1987

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

10.STUDY TEAM

No.of Members 10
Period Dec.1987-Feb.1990 (27 months)

Total M/M	Japan	Field
56.47	20.01	36.46

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Topographic Survey Construction of Areated Laqoon Treatment System

12.EXPENDITURE

Total	236,286 (¥'000)
Contracted	206,294

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Bangkok City Study Area 380 sq.km Population 3.7 milion

2.PROJECT COST (US$1,000) US$1=145Yen

	Total Cost	Local Cost	Foreign Cost
1)	8,920	6,120	2,800
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
An urgent water quality improvement for the Klonq with the introduction of dilution water from the Chao Phraya River by remodelinq the existinq qates and pumps that are utilized for drainaqe only at present.
Aerated laqoon treatment of Klonq water in two ponds to realize a net pollution load reduction and to abate water quality deterioration of the Chao Phraya River by the dilution water introduction.

Imp. Period: .1990-.2000

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes/No

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

Conditions and Development Impacts:
The project component of dilution water introduction and aerated laqoon treatment are only urqent water pollution control measures.
As such, larqe scale structural measures are not proposed.
The dilution water introduction will improve the Klonq water quality resultinq in a very siqnificant improvement of color and order. The aerated laqoons will contribute to a net pollution load reduction which will more than offset the anticipated increase in pollution load discharqe to the Chao Phraya River due to the introduction of dilution water to the klongs.

5.TECHNICAL TRANSFER
Consecutive observation of klonq water quality and water flow.
Simulation analysis of klong water quality by computer.

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
Two JICA experts are dispatched to the Department of Drainage and Sewerage of Bangkok Metropolitan Administration, the executing agency of the project. And the experts are also engaged in promoting the implementation of the project.

(FY1991 Overseas Survey)
Detailed design
Period: 1991 - present (including the simulation study of water quality)
Consultant's country: Thailand
Source of finance: Thai Government

Construction
Period: 1993-
Country of main contractors: Thailand

(FY1992 Overseas Survey)
Waiting for the answer.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 バンコク市クローン水質改善計画

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

PROJECT SUMMARY (F/S)

ASE THA/S 323/89

Compiled Mar.1991
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Measures to Promote the Container Handling System through Laem Chabang Port

3.SECTOR
Transportation/Port

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
OESB, NESDB, NOTC, PAT, SRT, BSAA

7.OBJECTIVES OF STUDY
To recommend the effective container handling system between Laem Chabang Port and Bangkok Port and the effective port management and operation system forcusing on the development of IDC.

8.DATE OF S/W Dec.1987

9.CONSULTANT(S)
Overseas Coastal Area Development Institute of Ja
Pacific Consultants International

10.STUDY TEAM

No.of Members 12
Period Mar.1988-Jul.1989(16 months)

Total M/M	Japan	Field
71.80	31.90	39.90

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
O/D Survey

12.EXPENDITURE

Total	190,597 (¥'000)
Contracted	188,539

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Bangkok and Laem Chabang

2.PROJECT COST
(US$1,000)
US$=Baht.25.6=133 yen

	Total Cost	Local Cost	Foreign Cost
1)	47,461	21,420	11,020
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
Construction of an inland container depot(ICD)
(Long-term) a 48ha ICD including 6 CFSs for handling 2.1 million tons of container cargo in 2001. (6 berths)
(Short-term) a 32ha ICD including 4 CFSs for handling 1.3 million tons of container cargo in 1996.
Stage 1: container berth 2, break-bulk berth 1, agri-bulk loading facilities (total 4 berths)
1) Facilities in each ICD: container freight station, container yard, container handling machines, gates, office, maintenance repair shop, parking space.
2) Administration Zone: main office 1,200sq.m, overtime cargo warehouse 2,100sq. m
3) Spur Line: The Lat Krabang ICD will be connected to the Eastern Line. (radius at least 300m, length 500m)

Imp. Period: .1989-Aug.1991 .1994~.1996

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: Yes

EIRR1)	17.60	FIRR1)	6.50
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
Conditions:
a) Economic Growth Rate: 6.5%(~1990),5%(1991-)
b) Container Cargo Volume in Thailand:
1996 15,560,000tons(1,487,000TEUS) / 2001 19,832,000tons(1,818,000TEUS)
c) Laem Chabang Port Development:
container cargo 1996: 6.8 million tons(638,000TEUS)
2001: 10.6 million tons(953,000TEUS)
container berth 1996: 4, 2001:6

Development Impact:
Reduction of freight cost by effectuating container transport system, promotion of economic growth, increase in employment opportunities, reduction of traffic congestion between the ICD and Laem Chabang Port, saving in customs clearance cost.

5.TECHNICAL TRANSFER
1.Promotion of technical transfer by joint study
2.Promotion of technical transfer by employing a local consultant for O/D survey
3.Counterpart training

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
Oct. 1991: The 1st phase of construction work was completed. Two of container berths were lent to private sector, began to be operated. The management body of ICD was determined as SRT was permitted to construct ICD in Lard Krabang. The beginning of the work will delay due to the increasee of land price.

(FY 1991 Overseas Survey)
SRT will employ engineering consultant firms to review the number of ICDs.

(FY 1992 Overseas Survey)
Waiting for the answer.

2.MAJOR REASONS FOR PRESENT STATUS
This project is a main part of the Development Project of Laem Chabang Coastal Area which is planned as a national project.

(FY 1991 Overseas Survey)
There are several private companies operating ICDs on Bangna Trad Highway near Lard Krabang ICD.

3.PRINCIPAL SOURCE OF INFORMATION
①②④

和名 ラムチャバン港輸送施設計画

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

PROJECT SUMMARY (F/S)

ASE THA/A 313/89

Compiled Mar.1991
Revised Mar.1993

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Agricultural Water Development Project on Chantaburi River Basin

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

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

7.OBJECTIVES OF STUDY
Feasibility study on water resources development plan within the subject river basin and irrigation plan for fruits plantation

8.DATE OF S/W Mar.1987

9.CONSULTANT(S)
Sanyu Consultants Inc.
Pacific Consultants International
Integrated Technology Inc.

10.STUDY TEAM

No.of Members 10
Period Mar.1988-Jul.1989(16 months)

Total M/M	Japan	Field
	29.33	37.81

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	203,038 (¥'000)
Contracted	193,112

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Chantaburi River Basin (East Coast)

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	122,000	42,000	80,000
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

The Project aims to stabilize and expand the fruit production by controlling the unfavorable effects of occasional drouqhts and water shortaqes durinq the dry season.

1. Storaqe Dams:

	Type	Cap.(cu.m)	Dam Height(m)	Embankment(cu.m)
Khlonq Ta Liu Dam:	rock-fill	35.85 million	87.5	4,700,000
Khlonq San Sai Dam:	earth	10.55	16.2	571,000

2. Diversion Weir: water intake 3.5 cu.m/sec.
3. Water Conveyance Pipeline: Lenqth 111.6km, dias. 350mm - 1,600mm
4. Main Pumping Stations: 3 places (dia.150mm, 200mm, and 250mm)

Imp. Period:

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes

EIRR1)	14.60	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

The Project Area has annual rainfalls of 2,500mm and is known for its tropical fruits. The marketinq system is fairly developed, but because of the less than adequate state of aqricultural infrastructure often causes water shortaqe durinq the dry season. The proposed project will solve this water stress, and increase the production and improve the quality of fruits for export.

Condition:
- Cost-sharinq by the beneficiaries is 20% of the total project cost.

Development impacts:
- Additional area of 3,500 ha planted to fruits, and an increase of production by 97,000 tons
- 20% of the present rubber-planted area, and from 30% to 40% of the upland normally used for cassava qrowinq will be converted to orchards.
- An increase of the typical farmer's cash income will range from 47% to 110%.

5.TECHNICAL TRANSFER
On the job training

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 1989 RID requested to MOAC that yen loan should be applied for the implementation of this project, but the request for loan has not yet been made.
A D/D study is under way with GOT finance. The project will be implemented with GOT finance. (as of March 1993)

(FY1991 Overseas Survey)
The project is tentativelly incorporated in the Seventh National Plan (1992-1996).

(FY1992 Overseas Survey)
Waiting for the answer.

2.MAJOR REASONS FOR PRESENT STATUS
Due to high priority of the project among the irrigated agricultural development sector in Thailand, particularly with the request of project area.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 チャンタブリ川流域農業水利開発計画

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

PROJECT SUMMARY (M/P)

Compiled Mar.1992
Revised Mar.1993

ASE THA/S 107/90

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Upper Central Region Study

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
Preparation of regional development plan toward the year of 2010

8.DATE OF S/W Jul.1988

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

10.STUDY TEAM

No.of Members 19
Period Dec.1988-Jul.1990(19 months)

Total M/M	Japan	Field
113.89	4.07	109.82

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Socio-economic study Distribution Study Landsat Image Analysis

12.EXPENDITURE

Total	345,499 (¥'000)
Contracted	330,355

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Ayutthaya, Saraburi, Lopburi, Angthong, Singburi, and Chainat
Area=16450 s.km, Population = 3740000(1987)

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)
Integrated Pasak River Basin Development Package (6 projects)
Greater Saraburi Industrial Core Development Package (15 projects)
Agro-Industrial Linkage Development Package (6 projects)
Human Resources Development Package (3 projects)

* Project costs above were not calculated.

4.CONDITIONS AND DEVELOPMENT IMPACTS

1. Regional macro-economic framework
   Population increase = 1%/year ; agricultural production : 3%/year; industrial production = 7%/year; service sector will grow according to agriculture and industrial sector. Regional production per capita will increase at 5%/year by 2010.

2. Impacts
   Gross regional production will become four times of 1987. Agriculture sector employment will shift to industry sector and it will reduce out-migration of regional population. Maintain the role of national food production center and the sound environment by the balanced development of agriculture and industry.

5.TECHNICAL TRANSFER
1. Saraburi Seminar was held with Interim Report presentation; Pattaya Seminar was held with Draft Final Report presentation
2. Study Tour in Japan for six NESDB counterpart officials.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
The Seventh National Economic and Social Development Plan for the 1992 to 1996 will incorporate the proposed development projects and programs. Preparation of the National Plan is now under progress.

(FY 1991 Overseas Survey)
Suphan Buri - Tha Rua - Saraburi Highway is under construction. The following F/S are planned:
- Pasak Dam Development Project
  Period: From July 1992 to July 1993
  Executing Agency: Royal Irrigation Department
  Source of Finance: Thai Government
- Environmental Monitoring and Management Project
  Period: From Sept. 1992 to the end of 1992
  Looking for foreign assistance
- Great Saraburi Industrial Core Planning Study
  Seeking for foreign assistance.
  Wishes technical supports from the Governemnt of Japan.

(FY 1992 Overseas Survey)
Waiting for the answer.

2.MAJOR REASONS FOR PRESENT STATUS
1. Proposed measures of development management can be applied to national development strategies.
2. Proposed development projects in the study region are the part of national development programs.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 中央平原北部地域総合開発計画

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

PROJECT SUMMARY (M/P)

ASE THA/S 108/90

Compiled Mar.1992
Revised

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Development of Pattaya Area

3.SECTOR
Development Plan/Integrated Regional Development Plan

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Office of Eastern Seaboard

7.OBJECTIVES OF STUDY
Master plan preparation for urban and tourism development

8.DATE OF S/W Dec.1988

9.CONSULTANT(S)
Nihon Koei Co., Ltd.
Yachiyo Engineering Co., Ltd.

10.STUDY TEAM

No.of Members 14
Period Mar.1989-Jul.1990(17 months)

Total M/M	Japan	Field
	27.34	39.42

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Tourism Market Survey, etc. 2856000 yen

12.EXPENDITURE

Total	231,362 (¥'000)
Contracted	214,024

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Pattaya Municipality (53.4 sq.km)

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	140,520	69,680	71,840
2)			

3.CONTENTS OF MAJOR PROJECT(S)
(1) South Pattaya land reclamation: Land reclamation plan of total area of 19ha.
(2) Port facilities: Construction of berth for tourist boat, terminal buildings, berth for hydrofoil and boat yard.
(3) Pattaya beach restoration: Beach expansion plan.
(4) Ta-Van pier: Constuction of pier in Ta-Van beach, Kolan island.
(5) Sewerage project: Emergency improvement plan in Na Klua area and Jomtien area and expasion and improvement of existing facilities in Pattaya city area.
(6) Rainwater drinage project: 4 plans for improvement or constructions projects.
(7) Water supply project: 2 stages development plans based on the water demand.
(8) Solid waste disposal project: Construction of final disposal field.
(9) Road project: Expansion and improvement of Pattaya 3 roads.

4.CONDITIONS AND DEVELOPMENT IMPACTS
1) Improvement of environmental conditions and addition of tourism facilities in South Pattaya
2) Improvement of Pattaya Beach
3) Improved access to Ko Lan
4) Improved water quality at sea and river
5) Reduction of flood damage
6) Stable water supply
7) Improved environmental condition around the existing waste disposal site and enhanced solid waste disposal capacity
8) Increased capacity of the roads to solve traffic congestion problem

5.TECHNICAL TRANSFER
Carried out for counterparts from the office of Eastern Seaboard and Pattaya Municipality

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
All projects recommended were approved by the Government of Thailand, and the budget was prepared in 1990. The Thai Government will imprement the recommended projects with its own finance.

(FY 1991 Overseas Survey)
Two projects are underway.

2.MAJOR REASONS FOR PRESENT STATUS
(FY 1991 Overseas Survey)
The projects have been integrated into the Eastern Seaboard Development Program.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 パタヤ地区総合開発計画

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

PROJECT SUMMARY (M/P)

Compiled Mar.1992
Revised Mar.1993

ASE THA/S 106/90

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Traffic Operation Plan for Roads

3.SECTOR
Transportation/Road

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Department of Highways Ministry of Transport and Communications

7.OBJECTIVES OF STUDY
To establish effective traffic operation plan and to perform technology transfer

8.DATE OF S/W Sep.1988

9.CONSULTANT(S)
Central Consultant, Inc.
Oriental Consultants Co., Ltd.

10.STUDY TEAM

No.of Members 8
Period Feb.1989-Jun.1990(17 months)

Total M/M	Japan	Field
58.06	21.51	36.55

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
1. Traffic Survey
2. Topographic Survey

12.EXPENDITURE

Total	199,824 (¥'000)
Contracted	176,982

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
All trunk roads managed by DOH

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	8,000	8,000	
2)			

3.CONTENTS OF MAJOR PROJECT(S)

a) Introduction of Traffic Census System
b) Introduction of Traffic Information System
c) Introduction of Road Inventory System
d) Traffic Operation System
-Improvement of selected 64 problem points on DOH roads

1) Improvement of Highway	5 points
2) Installation of Traffic Lights	110 points
3) Installation of Guard Fence	96 points
4) Construcion of Bycycle Lanes	1 point
5) Construcion of Overpasses	8 points
6) Pavement of Road Shoulders in the Urban Area	1 set

The above project cost is 8,105.6 (local cost: 7,855.6 and foreign cost: 250.0) in million bahts.

4.CONDITIONS AND DEVELOPMENT IMPACTS
Project life: 20 years
B/C : 1.43

5.TECHNICAL TRANSFER
Technical transfer has been performed on following items.
- Basic conception and technical method for the introduction of each system
- Technical guideline for improvement plan

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

Preparatory works for the projects are planned to be done in next fiscal year. (Oct.1990 - Sep.1991)
Following this study, the aftercare study traffic operation plan for roads was executed, from March 1991 to November 1991, in order to formulate an effective road traffic operation.
In the aftercare study, 24 intersections improvement, 6 road section improvement and traffic safety coutermeasures for 29 road sections were recommended.

(FY 1991 Overseas Survey)
No additional information.

(FY 1992 Overseas Survey)
The 7th five year road improvement plan (Oct.1991-Sep.1996) was designed based on this study, and about 2,400 million bahts has been appropriated in the budget for traffic safety project.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②③

和名 道路交通運用計画

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

PROJECT SUMMARY (M/P+F/S)

ASE THA/S 211A/90

Compiled Mar.1992
Revised

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Seweage and Drainage Improvement Project for Phuket Municipality

3.SECTOR
Public Utilities/Sewerage

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Public Works Department
Ministry of Interior

7.OBJECTIVES OF STUDY
Develop a comprehensive master plan for sewerage and flood control system for Phuket Minicipality

8.DATE OF S/W Feb.1989

9.CONSULTANT(S)
Nippon Jogesuido Sekkei Co., Ltd.
Nihon Koei Co., Ltd.

10.STUDY TEAM

No.of Members	11	
Period	Jul.1989-Aug.1990(14 months)	
Total M/M	Japan	Field
50.29	26.17	24.12

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
-Topographic Survey ; -Geological Survey
-Water Quality Analysis

12.EXPENDITURE

Total	180,370 (¥'000)
Contracted	159,092

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Phuket Municipality, Thailand

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	42,463	25,478	16,985
2)			

3.CONTENTS OF MAJOR PROJECT(S)
1.Sewerage:
1)Designed Population: 78200 (Year 2006)
2)Desinged Sewage Flow: 34500 cub.m/D (Daily Average)
3)Treatment Method: Oxdation Ditch Method, Drying Bed
4)Outline of Facilities: Length of Sewer: 41.1km
Pump Station : 10
Treatment Plant: 1
2.Flood Control (Urgent Plan):
1)East Flooding: Length = 4.3km, Width = 13km,
Excavation = 1500 thousand cub.m
2)River Improvement in the Town:
Excavation: 33800 cub.m/ 1.3 km
Embankment: 74400 cub.m/1.7 km ; Revetment: 0.8 km
Bridge Construction: 6
Others: Road-side U-shaped, Drain Improvement

4.CONDITIONS AND DEVELOPMENT IMPACTS
At present, there is no public sewerage system in Phuket City. Human excreta are disposed through cesspools or septic tanks installed at almost all houses and buildings in the town area, with the effluent allowed to leach into the ground or discharge into the watercourse through street gutters or the nearest drain. The implementation of this project has following impacts and benefits in this study area.
1) Health and welfare improvement
2) Environmental improvement
3) Decrease of flood damage
4) Development of hand use and increase of land value
5) Promotion of local industry

5.TECHNICAL TRANSFER
Conducted the training for three counterpart engineers in this project in Japan, and also held a seminar for project planning and design in Bangkok, Thailand.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
In the proposed projects, sewerage and flood control projects, PWD requested and prepared the application through the Thai Government to Japanese Government regarding especially sewerage project for Japanese Grant Aid Project.

(FY 1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS
Phuket Island is well known in the southern part of Asia not only in Thailand. The pollution caused by the underdevelopment of sewerage becomes an important problem. The urgent implementation of the project is expected.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 プーケット市下水排水改善計画

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

PROJECT SUMMARY (M/P+F/S)

ASE THA/S 211B/90

Compiled Mar.1992
Revised Mar.1993

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Seweage and Drainage Improvement Project for Phuket Municipality

3.SECTOR
Public Utilities/Sewerage

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Public Works Department
Ministry of Interior

7.OBJECTIVES OF STUDY
Provided a feasibility study for proposed master plan of sewereage and flood control system

8.DATE OF S/W Feb.1989

9.CONSULTANT(S)
Nippon Jogesuido Sekkei Co., Ltd.
Nihon Koei Co., Ltd.

10.STUDY TEAM

No.of Members 11
Period Jul.1989-Aug.1990(14 months)

Total M/M	Japan	Field
50.29	26.17	24.12

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
-Topoqraphical Survey ; -Geologlcal Survey
-Water Quality Analysis

12.EXPENDITURE

Total	180,370 (¥'000)
Contracted	159,092

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Phuket Municipalisty, Thailand

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	14,896	6,703	8,193
2)	7,799	3,777	4,022
3)			

3.CONTENTS OF MAJOR PROJECT(S)
1)Sewerage:
-Target Year : 2001
-Desiqned Population : 29600
-Desiqned Sewaqe Flow: 18300 cub.m/D (Daily Averaqe)
-Outline of Facilities: Lenqth of Sewer: 14.3km
Pumpinq Station: 4
Planed Treatment: 4

2)Flood Control:
-East Flooking: Lenqth = 3.4km, Width = 11m,
Excavation = 442 thousand cub.m
-River improvement in the Town: Excavation: 18400 cub.m
Revetment : 10470 cub.m
Bridqe Reconstruction: 6

The implementation period for flood control component is four years.

Imp. Period:

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes/No

EIRR1)		FIRR1)	
EIRR2)	12.50	FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
1.Sewerage System:
-Reducing the content of water pollution for rivers and canals.
-Improvement sea water pollution, where is the important place for the resort areas.
-Increase the health benefit for island habitants.

2.Flood Control System:
-Reduce the flood damage
-Improvement Economic Activity in Study Area
-Increase the land value.

5.TECHNICAL TRANSFER
Conducted the training for three conterpart enqineers in this project in Japan, and also held a seminar for the project planning and design in Bangkok, Thailand.

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 the proposed projects, sewerage and flood control projects, PWD requested and prepared the application through the Thai Government to Japanese Government regarding sewerage project for Japanese Grant Aid project, but it was not approved. The Thai Government will implement the project with its own finance.

(FY 1991 Overseas Survey)
Detail Design: From 1992 to 1993
Construction : From 1994 to 1996

(FY 1992 Overseas Survey)
Waiting for the answer.

2.MAJOR REASONS FOR PRESENT STATUS
Phuket Island is well known in the southern part of Asia not only in Thailand. The pollution caused by the underdevelopment of swereage becomes an important problem. The urgent implementation of the project is expected.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 プーケット市下水排水改善計画

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

PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1992
Revised

ASE THA/S 212A/90

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Bangkok Solid Waste Management (II)

3.SECTOR
Public Utilities/Urban Sanitation

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Bangkok Metropolitan Administration (BMA)
Department of Public Cleaning (DPC)

7.OBJECTIVES OF STUDY
Preparation of a master plan and feasibility study on priority projects

8.DATE OF S/W Aug.1989

9.CONSULTANT(S)
EX Cor.
Pacific Consultants International

10.STUDY TEAM

No.of Members 11
Period Dec.1989-Mar.1991(16 months)

Total M/M	Japan	Field
64.98	25.74	39.24

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
1. Water quality analysis
2. Chemical composition analysis of water
3. Geological survey

12.EXPENDITURE

Total	193,188 (¥'000)
Contracted	187,139

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Bangkok Metropolitan Administration Area

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	54,700	43,300	40,200
2)	74,000	11,400	33,800

3.CONTENTS OF MAJOR PROJECT(S)

1.1 Construction of Sanitary Landfill at Ram Intra
a)Place: A burrow pit at Ram Intra, b)Capacity: 1830000ton
c)Area: 15 ha., d)Construction Cost: $18 million
1.2 Construction of Sanitary Landfill in the East Part of Bangkok
a)Place: East part of Bangkok (Not specified),
b)Capacity: 3,650,000 ton
c)Area: 123ha, d)Construction: $36 million

2. Construction of an Incineration Plant
a)Place: The existing On Nut dumping ground
b)Capacity: 200t/d/unit * 3 units = 600t/d
c)Gas cooling system: Water infection system
d)Construction cost: $74 million

3. Improvement on Waste Collection System

4.CONDITIONS AND DEVELOPMENT IMPACTS

1.Construction of Sanitary Landfill at Ram Intra
With the introduction of sanitary landfill, sanitary and environmental conditions in and around a disposal site will remarkably improve. (The proposed sanitary landfill will be the first sanitary landfill of complete type in Thailand.)

2.Construction of an Incineration Plant
The proposed incinerator will be the first modern incinerator of this scale. It will contribute to the BMA in acquiring experiment and know-how that will be needed in operating future incinerators of larger scale. It will contribute to the volume reduction of waste.

3.Improvement on Waste Collection Systems
It will contribute to cost reduction and increase in collection efficiency.

5.TECHNICAL TRANSFER

The following technique has been transferred:
1. Technique for preparing a master plan.
2. Technique for daily maintenance of collection vehicles.

III. PRESENT STATUS OF STUDY RESULTS

1.PRESENT STATUS
- [x] In Progress or In Use
- [ ] Delayed
- [ ] Discontinued

(Description)
The director general of the Department of Public Cleaning (DPC) submitted a letter to the Governor of the Bangkok Metropolitan Administration, in October 1990, requesting the construction of the sanitary landfill and the incineration plant. The request has been studied by the administrators of the BMA.

As of October 1991, the situation is as follows:
1.Construction of Sanitary Landfill at Ram Intra
The Project is suspended due to increases in the land purchase cost.

2.Construction of an Incineration Plant
Whether or not to implement the project depends on the availability of subsidies of the Thai Government. The Bangkok Metropolitan Administration (BMA) has requested the subsidy from the Thai Government.

3.Improvement of Waste Collection Systems
No information available.

(FY 1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

1.Construction of Sanitary Landfill
Major reason is the increase in the land purchase cost.
2.Construction of Incineration Plant
Major reason for delay is the shortage of fund.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 バンコク廃棄物処理計画

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

PROJECT SUMMARY (M/P+F/S)

ASE THA/S 212B/90

Compiled Mar.1992
Revised

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Bangkok Solid Waste Management (II)

3.SECTOR
Public Utilities/Urban Sanitation

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Bangkok Metropolitan Administration (BMA)
Department of Public Cleaning (DPC)

7.OBJECTIVES OF STUDY
To study feasibility of sanitary landfill and incineration plant.

8.DATE OF S/W Aug.1989

9.CONSULTANT(S)
EX Cor.
Pacific Consultants International

10.STUDY TEAM

No.of Members 11

Period Dec.1989-Mar.1991(16 months)

Total M/M	Japan	Field
64.98	25.74	39.24

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
1. Water quality analysis
2. Chemical composition analysis of water
3. Geological survey

12.EXPENDITURE

Total	193,188 (¥'000)
Contracted	187,139

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Bangkok Metropolitan Administration Area

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	18,000	14,800	40,200
2)	74,000	3,200	33,800
3)			

3.CONTENTS OF MAJOR PROJECT(S)
1. Construction of Sanitary Landfill at Ram Intra
a. Place: A burrow pit at Ram Intra
b. Capacity: 1830000ton
c. Area: 15 ha.
d. Construction Cost: $18 million

2. Construction of an Incineration Plant
a. Place: The existing dumping ground at On Nut
b. Capacity: 200t/d/unit * 3 units = 600t/d
c. Gas cooling system: Water infection system
d. Construction cost: $74 million

Imp. Period: .1992

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes/No

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

Conditions and Development Impacts:
1. Construction of Sanitary Landfill on Ram Intra
With the introduction of sanitary landfill, sanitary and environmental conditions in and around a disposal site will remarkably improve.(The proposed landfill will be the first sanitary landfill of complete kind.)

2. Construction of an Incineration Plant
The proposed incinerator will be the first modern incinerator of this scale. It will contribute to the BMA in acquiring experiment and know-how that will be needed in operating future incinerators of large scale. It will contribute to the volume reductio of waste.

5.TECHNICAL TRANSFER
The following technique has been transferred: 1. Technique for preparing a master plan. 2. Technique for daily maintenance of collection vehicles. 3. Technique for time and motion 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 director general of the Department of Public Cleaning (DPC) submitted a letter to the Governor of the Bangkok Metropolitan Administration, in October 1990, requesting the construction of the sanitary landfill and the incineration plant. The request has been studied by the administrators of the BMA.
As of Octber 1991, the situation is as follows:
1. Construction of Sanitary Landfill at Ram Intra
The project is suspended due to increase in the land purchase cost.
2. Construction of an Incineration Plant
Whether or not to implement the project depends on the availability of subidies of the Thai Government. The Bangkok Metropolitan Administration (BMA) has requested the subsidy from the Thai Goverment.
3. Improvement of Waste Collection Systems: No information available.
(FY 1991 Overseas Survey)
1. Sanitary Landfill
It seems unlikely to acquire sufficient area of land inside the city. DPC/BMA is considering remote places for populated urban areas from the site. DPC/BMA got a conclusion that railway would be advantageous for long-distance haulage and has proposed JICA to conduct a study on "Solid Waste Railway Transfer Transport Project."
2. Budgeting was made in FY 1990 for Detail Design of the project.

2.MAJOR REASONS FOR PRESENT STATUS
1. Construction of Sanitary Landfill
Major reason is the increase in the land purchase cost.
2. Construction of Incineration Plant
Major reason for delay is the shortage of fund.

(FY 1991 Overseas Survey)
The reasons are, in addition to hike in land price, dwindling land supply in the city area and the citizens' opposition against Solid Waste Management facilities in their urban living environment.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 バンコク廃棄物処理計画

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

PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1992
Revised Mar.1993

ASE THA/A 204A/90

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Agricultural Water Resources Development Project of Bang Pakong River Basin

3.SECTOR
Agriculture/General

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Royal Irrigation Department Ministry of Agriculture and Coopertives

7.OBJECTIVES OF STUDY
Feasibility Study for Water resources development

8.DATE OF S/W Mar.1989

9.CONSULTANT(S)
Sanyu Consultants Inc.

10.STUDY TEAM

No.of Members 13
Period Sep.1989-Sep.1990(13 months)

Total M/M	Japan	Field
86.24	32.11	54.13

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	214,029 (¥'000)
Contracted	181,557

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Bang Pakong River Basin which encompasses four Provinces of Chonburi, Chachoengsao, Nakhon Nayok and Prachinburi

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	1,374,000	719,000	655,000
2)			

3.CONTENTS OF MAJOR PROJECT(S)

The study proposed irrigation and water resource development projects for the purpose of rural living standard improvement, narrowing of regional disparities and environmental conservation. Major projects are as follows.

1. 1st Stage: 3 sub-basins, 2 storage dams, 2 diversion weirs, agri.land dev.46,400ha
   (1) Klong S--- (1 dam, 21,200ha), (2) L---- (1 dam, 14,700ha), and
   (3) Tha Lat (2 diversion weirs, 10,500ha)

2. 2nd Stage: 2 sub-basins, 2 storage dams, agri.land dev. 66,400ha
   (1) L------ (1 dam, 29,400ha), and (2) P---- S---- (1 dam, 37,000ha)

3. 3rd Stage: 8 sub-basins, 9 storage dams, agri.land dev. 294,400ha
   (1) N--- K--- (1 dam, 138,200ha), (2) Pra P---- (2 dams, 51,600ha),
   (3) H---- S---- (1 dam, 14,300ha0, (4) Laem Phraya (1 dam, 7,500ha),
   (5) S---Noi (1 dam, 4,200ha), (6) S---Yai (1dam, 3,100ha),
   (7) Tak (1 dam, 6,900ha), and (8) B-------- (1 dam, 68,600ha)

Total: 13 storage dams, 2 diversion weirs, agri.land development of 407,200ha

4.CONDITIONS AND DEVELOPMENT IMPACTS

Conditions:
1. Objectives of irrigation development (target year 2000)
   (1) Introduction of double cropping to the existing paddy fields
   (2) Expansion of agricultural land
   (3) Shift form cassava to more profitable cash crops
   (4) Increase of the average yields
2. Inclusion of other water requirements (households, industries, fisheries)
3. Water resource development
   The water balance is calculated by taking into account 22 possible locations for storage dams and the cropping intensity of 150% over some 400,000 ha of agricultural land. 13 locations are selected.

Development impacts:
Irrigation development in parallel with water resource development will benefit agriculture, fisheries and industries as well as resident population. Estimated B/C ratios range from the highest in the Pra P----- upstream area at 1.83 to the lowest in the Nakhon Nayok area at 0.23. The ratio of the entire basin is 1.04.

5.TECHNICAL TRANSFER
Realized through the field survey, particularly on the planning and project formulation techniques.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
- Thai Government is taking necessary actions to avail financial support to proceed with the detailed design as well as the implementation of the highest priority project, the First Stage of Tha Lat River Development Project among the studied projects in the overall basin.

- It is urgently required to secure a water source for the industrial and domestic use especially in the Metropolitan Bangkok and neighboring areas, in addition to the planned stabilized irrigation water supply. With this concern, the Government is conducting necessary procedures for land acquisition as well as environmental study on the construction of Diversion Dam Project.

- Thai government requested technical cooperation to Japanese government on the implementation of detailed design for the above-mentioned project.

(FY 1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS
Urgency has been confirmed by the Cabinet and a resolution has been made to position the subject project as one of the most important Government Project.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 バンパコン川流域農業水利開発計画

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

PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1992
Revised Mar.1993

ASE THA/A 204B/90

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Agricultural Water Resources Development Project of Bang Pakong River Basin

3.SECTOR
Agriculture/General

4.REFERENCE NO.

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

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

7.OBJECTIVES OF STUDY
Feasibility Study for water resources development

8.DATE OF S/W Mar.1989

9.CONSULTANT(S)
Sanyu Consultants Inc.

10.STUDY TEAM

No.of Members 13
Period Sep.1989-Sep.1990(13 months)

Total M/M	Japan	Field
86.24	32.11	54.13

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	214,029 (¥'000)
Contracted	181,557

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Tha Lat River Basin, Chachoengsao Province

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	352,120	184,320	167,800
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

The feasibility study was undertaken on the most downstream area (Tha Lat River Basin) next to the Bangkok Economic Sphere. Banq Pakonq River is a tidal river, and it is impossible to utilize river water in the downstream areas during the dry season because of the rising sea water.

1) Stage I : 14,300ha
Banq Pakonq River-mouth Diversion Weir: length 170m, 5 gates (span 30m x height 10.6m)
Pumping Station: 17 cu.m/s, dia.1,500mm, 4 pumps
Main irrigation canals: left bank main 12km, right bank main 24km, other 0.7km
Drainage canals: 14km

2) Stage II : 28,200ha
Klong S----- Storage Dam: 396 million cu.m
Tha Lat diversion weir: length 33.5m, rehab. of rubber-type gates
Tha Lat irrigation dev.: rehabilitation of main (44km) and secondary canals
S----- irrigation dev.: construction of main (45km) and secondary canals

Imp. Period: .1992-.1998

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes

EIRR1)	11.70	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

Conditions:
The project is formulated to stabilize and increase water supply for irrigation, and thereby to enable the improvement of cropping intensity and average crop yields.
The Banq Pakonq diversion weir will stop the sea water, and enable stable water supply to households, industries and inland water fisheries.

Development impacts:
The proposed project will directly increase agricultural and inland water fishery production and income thereof, and ensure the stable water supply for households and industries.
Indirectly, the project will create employment, improve road transportation, and improve sanitary and environmental conditions in the project area.
EIRR is 14.0% for the 1st Stage, 9.7% for the 2nd Stage, and 11.7% for the entire project.

5.TECHNICAL TRANSFER
Technical transfer was carried out through the field survey especially on the aspects of planning method and dam design technique

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
- Thai government is taking necessary actions to avail financial support to proceed with the detailed design as well as the implementation of the highest priority project, the First Stage of Tha Lat River development project among the studied projects in the overall basin.

- It is urgently required to secure a water source for the industrial and domestic use especially in the Metropolitan Bangkok and neighboring areas, in addition to the planned stabilized irrigation water supply. With this concern, the government is conducting necessary procedures for land acquisition as well as environmental study on the construction of Diversion Dam Project.

- Thai government requested technical cooperation to Japanese government on the implementation of detailed design for the above-mentioned project.

(FY 1991 Overseas Survey)
The detail design will be conducted from 1992 to 1993.

2.MAJOR REASONS FOR PRESENT STATUS
Urgency has been confirmed by the Cabinet and a resolution has been made to position the subject project as one of the most important Government Project.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 バンパコン川流域農業水利開発計画

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

PROJECT SUMMARY (F/S)

ASE THA/A 314/90

Compiled Mar.1992
Revised Mar.1993

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Sukhothai Integrated Agricultural and Rural Infrastructure Development Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Agricultural Land Reform Office (ALRO), Ministry of Agriculture and Agricultural Cooperatives

7.OBJECTIVES OF STUDY
To make F/S on Integrated Agricultural Development in Thung Sai Yat and Nong Khon Kaen in Sukhothai

8.DATE OF S/W Dec.1988

9.CONSULTANT(S)
Sanyu Consultants Inc.

10.STUDY TEAM

No.of Members 10

Period Jul.1989-Jul.1990(13 months)

Total M/M	Japan	Field
47.70	19.04	28.66

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
- Test Well Drilling & Geological Survey: ¥6,471,000.-
- Water Quality Test: ¥279,000.-

12.EXPENDITURE

Total	158,547 (¥'000)
Contracted	153,066

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Thung Sai Yart (5,600ha) and Nong Khon Kaen (1,300ha) in Sukhothai Provic

2.PROJECT COST

(US$1,000) US$1=25 Bahts		Total Cost	Local Cost	Foreign Cost
	1)	17,597	4,964	12,633
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)

	Thung Sai Yart	Nong Khon Kaen
(1) Construction of Pond	14 places (2.4 MCM)	8 places (0.32 MCM)
(2) Irr./Drai. Canal	60.3 Km	31.7 KM
(3) Farm Road (New + Rehabil.)	50.5 Km + 7.2 Km	21.1 Km + 3.8 Km
(4) Rehabil. of Ext. Pond	2 places (1.4 MCM)	2 places (0.38 MCM)
(5) Village Water Supply	10 villages (3,000 persons)	5 villages (818 persons)
(6) Rural Electrification	399 households	50 households

Imp. Period: .1991-.1996

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

EIRR1)	7.90	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
1) The basic concept of the project follows the policy of the 6th 5-year plan.
2) The development concept based on diversified agriculture under rainted condition could be applicable to other similar areas with demonstration effect.
3) ALRO could upgrade their engineering and managerial capabilities through project implementation.
4) The project would contribute to eradicating poverty and to solving regional income differential in backward villages through increasing income and upgrading living standard.

5.TECHNICAL TRANSFER
(1) On-the-Job Training
(2) Seminar (Sukhothai & Bangkok) on Integrated Agricultural/Rural Development

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
Presently, ALRO, the implementing agency, is seeking an external financing for the project implementation. However, because of the competing projects for external financing, it is unlikely for the project to be included in the application list for OECF loans in the near future.

(FY 1991 Overseas Survey)
At present, priority or urgency of the project is not ranked high.

2.MAJOR REASONS FOR PRESENT STATUS
1) The change in Japanese policy for her economic cooperation to Thailand.
2) Thai economic coordination agency is not willing to use an external loan for agricultural projects which do not have high economic feasibility.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 スコタイ農村総合整備計画

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

PROJECT SUMMARY (D/D)

ASE THA/S 405/90

Compiled Mar.1992
Revised Mar.1993

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Area Traffic Contrl Project in Bangkok

3.SECTOR
Transportation/Urban Transportation

4.REFERENCE NO.

5.TYPE OF STUDY D/D

6.COUNTERPART AGENCY
Bangkok Metropolitan Administration (BMA)

7.OBJECTIVES OF STUDY
Detailed design study & Prepare the necessary documents for ATC system

8.DATE OF S/W Dec.1989

9.CONSULTANT(S)
Yachiyo Engineering Co., Ltd.
Fukuyama Consultants International, Inc.

10.STUDY TEAM

No.of Members 13
Period .1990-Nov.1991(8 months)

Total M/M	Japan	Field
52.36	25.66	26.70

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
- Intersection Confiquration Survey
- Underground Utility Lines and Materials

12.EXPENDITURE

Total	164,060 (¥'000)
Contracted	157,107

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Area 31 sq.km in Central Bangkok

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	20,000	20,000	
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
1) ATC siqnalized intersections....143
2) Control center....The control center will be located on the 1st floor of the existinq BMA, central computer and peripheral devices etc. will be provided.
3) Transmission system and communication lines will be installed.
4) 143 local controllers and 460 vehicle detectors will be equipped.
5) 5 CCTV cameras will be provided at intersection.
6) 67 intersections will be improved.

Imp. Period: May.1990-Dec.1991

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes

EIRR1)	74.00	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
IRR of this project (stage 1) is as extremely high as 74 % and all the initial investment will be covered within 12.1 months after commencement under 12 % of discount rate. B/C ratio is as high as 7.5.
Although nobody would deny that time has economic value, there are many arquments on how to measure it. In this study, time value is quantified based on the productivity of economically active population in the study area. Even in cases where this unit time value is admitted, there may be objections to apply this value to a small fraciton of a few minutes at saved travel time.

Therefore, takinq only the VOC savinq benefit which is tanqible, IRR is re-calculated at 17.2 which shows the ATC project is still economically tangible.

5.TECHNICAL TRANSFER
Counterpart training : 1 person (28 Sept., 1990 - 5 Oct., 1990)

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

Following the budgetting schedule alloted to BMA, this project is scheduled for the tender contract. The evaluation for the pre-qualification of tender was carried out after P/Q invitation in May 1990.

In order to spend the BMA's ATC project budget in 1991, BMA must conclude the contract with a pre-qualified tender before the end of September 1991.

However, this project schedule is expected to be delayed because of the BMA's slow procedure.

(FY 1992 Overseas Survey)

2.MAJOR REASONS FOR PRESENT STATUS
The reason for the abovementioned delay of schedule may be the shortage of BMA's Traffic Engineering Division (TED) staff.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 バンコク市交通制御システム整備計画

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

PROJECT SUMMARY (M/P)

Compiled Mar.1993
Revised

ASE THA/S 109/91

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Toll Highway Development

3.SECTOR
Transportation/Road

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Department of Highways, Ministry of Transport and Communications

7.OBJECTIVES OF STUDY
Study on the inter-city toll motorway network development

8.DATE OF S/W Oct.1989

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

10.STUDY TEAM

No.of Members 12
Period Feb.1990-Jun.1991(17 months)

Total M/M	Japan	Field
79.57	18.83	60.74

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Traffic Surveys

12.EXPENDITURE

Total	333,451 (¥'000)
Contracted	322,047

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Whole of Thailand (Area:513,000 sq.km, Population: 55 million)

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
	1)	4,000,000	2,400,000	1,600,000
	2)	6,000,000	3,600,000	2,400,000

3.CONTENTS OF MAJOR PROJECT(S)
Construction of 4,300km inter-city toll motorway network.
Phase 1 1991-1995 900km
Phase 2 1996-2000 1,000km
Phase 3 2001-2010 2,400km

4.CONDITIONS AND DEVELOPMENT IMPACTS
1)Condition
The trip number in 2010 will be 3.4 times as much as that in 1990.

2)Development Impacts

Direct Benefit:
- Savings in vehicle operation cost
- Savings in time cost

Indirect Effects:
- Betterment of national development
- Promotion of manufacturing, tourism, agriculture, fisheries and commercial activities.
- Improvement in living conditions.

5.TECHNICAL TRANSFER
Openning of Seminar at BKK (Dec.1990) / Participation of the counterparts in the JICA training program / Collaboration with the counterparts / Employment of local cousultant

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
DOH has submitted TOR for F/S on the inter-city toll motorway projects (644km of 4,300km) to the Government of Japan in Dec. 1990. In November 1992, S/W was signed and P/S on two routs (the total length: 260km) will be carried out.

2.MAJOR REASONS FOR PRESENT STATUS
About 600km inter-city toll motorways construction plan has been made in the 7th 5-year National Economic and Social Development Plan (1992-1996).

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 有料高速道路計画

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

PROJECT SUMMARY (M/P+F/S)

ASE THA/S 213A/91

Compiled Mar.1993
Revised

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Road Development in the Southern Region

3.SECTOR
Transportation/Road

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Department of Highways
Ministry of Transport and Communications

7.OBJECTIVES OF STUDY
1) To establish a master plan for road networks in the Southern Region with a target completion year 2001; 2) To select priorty projects by the year 1996; and 3) To perform technology transfer to Thai counterpart personnel in the course of

8.DATE OF S/W Oct.1989

9.CONSULTANT(S)
Pacific Consultants International
Oriental Consultants Co., Ltd.

10.STUDY TEAM

No.of Members 8

Period Feb.1990-Sep.1991(20 months)

Total M/M	Japan	Field
67.98	5.73	62.25

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Social and Economic Survey
Soil Survey
Traffic Survey

12.EXPENDITURE

Total	277,624 (¥'000)
Contracted	273,090

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Southern Region in Thailand

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)

The road improvement master plan with a target completion year 2001 is as follows:
1. Widening to six lanes : 150km
2. Widening to four lanes : 1,210km
3. Widening to seven-meter lanes: 970km (in total: 2,330km)
4. Solid crossing of multi-lane roads
5. Pavement completion of provincial roads
6. Upgrading of substandard roads to six-meter pavement
7. Bypass construciton in the urban areas and major towns

The master plan projects with a target completion year 1996 is as follows:
1. Construction of new roads : 120km
2. Construction of additional lanes: 780km
3. Widening to seven-meter oanes : 1,460km
4. Widening to six-meter lanes : 130km
5. Reconstruction and upgrading : 132km (in total: 2,622km)

4.CONDITIONS AND DEVELOPMENT IMPACTS

Development Impact:
1. Capacity increase of national roads linking major urban centers.
2. Capacity increase of roads near urban districts including bypass construction
3. Road construction linking provincial capitals especially those in the west coast and southern areas near national boarder.
4. Upgrading of substandard roads to six-meter pavements.
5. Attaching importance to disaster prevention and traffic safety.
6. Environment preservation in road construction especially in the mountanious districts.

5.TECHNICAL TRANSFER

OJT (meetings once a month)
Seminar on traffic demand forecast and CAD in Japan (May-June 1991)

III. PRESENT STATUS OF STUDY RESULTS

1.PRESENT STATUS

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

(Description)
Followed by F/S.

This study is an input to the Seventh Five Year Plan (1992-1996).

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 南部道路網整備計画

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

PROJECT SUMMARY (M/P+F/S)

ASE THA/S 213B/91

Compiled Mar.1993
Revised

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Road Development in the Southern Region

3.SECTOR
Transportation/Road

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Department of Highways
Ministry of Transport and Communications

7.OBJECTIVES OF STUDY
1)To carry out feasibility study on the selected projects in the master plan; 2)To carry out feasibility study on the Krabi-Khanom link as a part of the Southern Seashore Development Plan(SSDP); and 3)To perform technology transfer

8.DATE OF S/W Oct.1989

9.CONSULTANT(S)
Pacific Consultants International
Oriental Consultants Co., Ltd.

10.STUDY TEAM

No.of Members 8

Period Feb.1990-Sep.1991(20 months)

Total M/M	Japan	Field
67.98	5.73	62.25

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Social and Economic Survey
Soil Survey
Traffic Survey

12.EXPENDITURE

Total	277,624 (¥'000)
Contracted	273,090

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Southern region in Thailand

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	598,099		
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

The priority projects with the target year 1996 are as follows:

No.	Project	Length(km)	Cost(in mil.bath)
NC-1	Chumphone Road	9.1	110.2
AD-2-1	Phuket Road	38.4	612.6
AD-1-2	Surat Thani Road	40.1	468.6
NC-5	Connection 4/406	24.1	285.3
WD7-4-1	Hua Sai Road	96.3	215.6

To carry out a study on required transport capacity of the Krabi-Khanom link which consists of the Seashore Development Plan (SSDP: the isthmus transformation to new international economic zone through the constructin of "Trans Thai Land Bridge"). The project and construction costs of three route alternatives are as follows:

Plan	Project Cost (in mil.bath)	Construction Cost (in mil.bath)
A	8,442.2	6,365.5
B	9,419.6	7,264.4
C	8,438.8	5,634.9

Imp. Period: .1992-.1996

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes/No

EIRR1)	14.80	FIRR1)	
EIRR2)	13.70	FIRR2)	
EIRR3)	14.80	FIRR3)	

Conditions and Development Impacts:

The EIRRs of priority projects with the target year 1996 are as follows.

No.	Project	EIRR(%)
NC-1	Chumphone Road	69.9
AD-2-1	Phuket Road	69.2
AD-1-2	Surat Thani Road	52.3
NC-5	Connection 4/406	52.3
WD7-4-1	Hua Sai Road	34.3

The project economic costs and EIRRs of three alternatives of the Krabi-Khanom link are as follows:

Plan	Project Economic Cost(in mil.bath)	EIRR(%)
A	8,442.2	14.8
B	9,419.6	13.7
C	8,438.8	14.8

5.TECHNICAL TRANSFER
Methods of Traffic Demand Forecast and Computer Utilization

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
Nineteen projects out of the F/S and Pre-F/S studies of this Road Development Study in the Southern Region are included in the road development plan by DOH in the Seventh Five Year Plan (1992-1996). The importance of the Phuket and Surat Thani roads are particular recognized by the DOH.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 南部道路網整備計画

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

PROJECT SUMMARY (M/P+F/S)

Compiled Mar.1993
Revised

ASE THA/A 205A/91

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Integrated Rural Development of Salt-affected Land in Notheast Thailand

3.SECTOR
Agriculture/General

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Department of Land Development, Ministry of Agriculture and Cooperatives

7.OBJECTIVES OF STUDY
Formulation of a Master Plan and economic evaluation of the pilot project

8.DATE OF S/W Nov.1989

9.CONSULTANT(S)
Sanyu Consultants Inc.

10.STUDY TEAM

No.of Members 12

Period Mar.1990-Oct.1991(7 months)

Total M/M	Japan	Field
65.00	27.30	37.70

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Survey of river profile and section
Topographic Survey (4,500ha)
Shallow well drilling

12.EXPENDITURE

Total	253,905 (¥'000)
Contracted	237,071

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Amphoe Phra Yun, Changwat Khon Kaen, Norht-east Thailand

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
	1)	50,000	23,000	27,000
US$1=25.0Bahts	2)			

3.CONTENTS OF MAJOR PROJECT(S)

The Study formulated an integrated rural development project in the salt-affected area, aiming to improve rural standards of living, to alleviate rural income disparities, to effectively utilize water and land resources and to conserve and improve rural environment.

Major project components
1) Irrigation Facilities:
Total gross area 3,715ha; 6 new weirs & rehab. of 11 existing weirs; 27 new ponds & rehab. of 3 existing pond; 50 pumps
2) Drainage Facilities: Drainage improvement (5,000ha)
3) Rural Road: 31km improvement & rehab. of 3 bridges
4) Rural Water Supply: 4 Villages (3,800 persons)
5) Forestry: Afforestation 583ha
Agro-forestry 15,830ha
6. Social Services: Training and recreation, Market facilities

4.CONDITIONS AND DEVELOPMENT IMPACTS

Assumptions:
1) Irrigation development and salination control to improve and stabilize paddy yields
2) Introduction of a agroforestry system to develop sustainable upland agriculture
3) Agricultural diversification (irrigation, horticulture, sericulture, fish culture, animal husbandry, fodder production, etc.)
4) Project life of 50 years
Quantifiable benefits from the project are estimated to be 87.3 million Bahts (agriculture 78.1 million, inland fisheries 4.7 million, village water supply 0.8 million, and rural road 3.7 million), with an EIRR of 8.1%.

Development impacts:
1)Regeneration of vegetative cover in the basin area, agricultural diversification and improvement of rural living conditions
2) Increased income distribution and reduced regional disparities
3) Increased communal undertakings and solidarity
4) Reduction of water drawing labor among women and children and improved public sanitation

5.TECHNICAL TRANSFER
OJT and Seminar

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
Followed by the feasibility study of the pilot project area.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 東北タイ塩害地域農村総合開発計画

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

PROJECT SUMMARY (M/P+F/S)

ASE THA/A 205B/91

Compiled Mar.1993
Revised

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Integrated Rural Development of Salt-affected Land in Notheast Thailand

3.SECTOR
Agriculture/General

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Department of Land Development, Ministry of Agriculture and Cooperatives

7.OBJECTIVES OF STUDY
Formulation of a Master Plan and economic evaluation of the pilot project

8.DATE OF S/W Nov.1989

9.CONSULTANT(S)
Sanyu Consultants Inc.

10.STUDY TEAM

No.of Members 12

Period Mar.1990-Oct.1991(7 months)

Total M/M	Japan	Field
65.00	27.30	37.70

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Survey of river profile and section
Topographic Survey (4,500ha)
Shallow well drilling

12.EXPENDITURE

Total	253,905 (¥'000)
Contracted	237,071

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Amphoe Phra Yun, Changwat Khon Kaen, Norht-east Thailand

2.PROJECT COST

(US$1,000)
US$1=25.0Bahts

	Total Cost	Local Cost	Foreign Cost
1)	12,600	4,800	7,800
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

The pilot area is selected to represent major development components which characterize the entire study area.

1) Irrigation facilities:
   Two sites along Huai Yang (158ha and 166ha) and one site along the canal to Nong Khu Weir (57ha)
2) Drainage improvement: 820ha(salt-affected land 300ha, slightly salt-affected land 520ha
3) Rural Road:
   Surface raising at 10 flooded places(total 1km); concrete drainage pipes (10 places); simple asphalt paving within 15 villages (total 7.5km)
4) Rural Water Supply: 4 Villages (3,800 persons)
5) Forestry & Social Services: Training and recreation, Market facilities

Imp. Period: .1992~.1997

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

EIRR1)	9.50	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

Assumptions:
1) Grassland improvement in severely salt-affected land for animal grazing (210ha); 2) Paddy cultivation in most of the lowland (2,150ha); 3) Agroforestry in upland areas (1,840ha); 4) Project life of 50 years

Expected Development:
1) 2.2-time increase of rice production to 3,000 tons (30% from irrigated land); 2) intensive horticulture (tomato & watermelon) in irrigated lowland after the rainy season; 3) 1.7-time increase in number of cattle/water buffaloes; 4) 4.3-time increase of the area planted to mullberry

Quantifiable benefits from the pilot project are estimated to be 17.4 million bahts (agriculture 15.6 million, inland fisheries 0.5 million, village water supply 0.8 million, and rural road 0.5 million). Annual gross farming income for average land-owning farmers (3ha) is estimated to be 7,272 bahts without project, but 11,820 bahts (rain-fed paddy farmers) and 26,990 bahts (irrigated paddy farmers) with project.

5.TECHNICAL TRANSFER
On-the job training through field survey and seminar in Khon Kaen.

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

Feb. 1992 Thai government discussed the grant aid request to the Japanese government for the pilot area (4,500 ha), but did not agree.

Aug. 1992 The implementing agency reexamined the project and reapplied to the DTEC for equipment assistance. However, the priority is not high among requests for Japanese assitace.

2.MAJOR REASONS FOR PRESENT STATUS
Since grant aid by Japanese Gomernement is difficult, this project will be financed by Thai government. However, project-type technical assistance can be sought.

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 東北タイ塩害地域農村総合開発計画

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

PROJECT SUMMARY (F/S)

ASE THA/A 315/91

Compiled Mar.1993
Revised

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Integrated Rural Development Project at Lower North Thailand

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Office of Accelerated Rural Development, Ministry of Interior.

7.OBJECTIVES OF STUDY
- Master plan on integrated rural development project of 4 provinces
- Feasibility study of 4 model projects

8.DATE OF S/W Feb.1990

9.CONSULTANT(S)
Sanyu Consultants Inc.
Pacific Consultants International

10.STUDY TEAM
No.of Members 10
Period Jun.1990-Aug.1991(14 months)

Total M/M	Japan	Field
66.90	26.70	40.20

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Topographic mapping
Analysis of soil and water samples

12.EXPENDITURE

Total	222,913 (¥'000)
Contracted	218,890

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
4 Provinces (Phitsanuiote, Sukhothai, Kamphaeng phet and Tak)

2.PROJECT COST

(US$1,000) US$1=25bahts		Total Cost	Local Cost	Foreign Cost
	1)	115,300	57,900	57,400
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)
1.Irrigated agriculture development
- Irrigation of 9,300ha
- Improvement of rained agriculture
- Development of sericulture, cattle raising and inland fisheries (108projects)

2. Rural road development
- Construction of rural roads (1,070km)
- Pavement of existing roads (60km)

3. Rural water supply (574 deep wells)
4. Rural infrastructure development
- Rural youth and agriculture technology training
- Cottage industry groupe working facilities (36)

Imp. Period: .1992-.1997

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes/No

EIRR1)	7.80	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
1. Associated projects (education, public health, agro-industry) shall be implemented under the coordination by National Rural Development Coordinating Center.

2. For effective implemantation of the project, the proposed 4 model projects shall be implemented in advance.

3. Increase in income through improvement of agricultural productivity and creation of job opportunity.

4. Improvement of quality of life.

5.TECHNICAL TRANSFER
Seminar in integrated rural development at Lower North Thailand in August, 1992 in Bangkok.

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 Project-type Technical Cooperation is under consideration.
There is no possibility of OECF loan.

(FY1992 Overseas Survey)
Waiting for the answer.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 北タイ南部農村総合開発計画

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

PROJECT SUMMARY (Other)

ASE THA/S 605/91

Compiled Mar.1993
Revised

I. OUTLINE OF STUDY

1.COUNTRY Thailand

2.NAME OF STUDY
Traffic Operation Plan for Roads (follow-up)

3.SECTOR
Transportation/Road

4.REFERENCE NO.

5.TYPE OF STUDY Other

6.COUNTERPART AGENCY
Department of Highways, Ministry of Transport and Communications

7.OBJECTIVES OF STUDY
1. To formulate the traffic operation plan.
2. To recommend a suitable road improvement plan.
3. To transfer technology

8.DATE OF S/W Sep.1990

9.CONSULTANT(S)
Central Consultant, Inc.
Oriental Consultants Co., Ltd.

10.STUDY TEAM

No.of Members 6		
Period Apr.1991-Nov.1991(7 months)		
Total M/M	Japan	Field
21.96	1.96	20.00

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

12.EXPENDITURE

Total	77,234 (¥'000)
Contracted	76,828

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
DOH roads within the area of the Outer Ring Road of Bangkok

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	8,000		
2)			

3.CONTENTS OF MAJOR PROJECT(S)
The Dept. of Highways (DOH), Ministry of Transport and Communications, prepared the 7th Highway Development Plan (Oct.1991-Setp.1996), by partly incorporating the findings and proposals of the JICA TOPR Study (Traffic Operation Plan for Roads) conducted from Jan.1989 to July 1990. The present follow-up study of the TOPR Study was conducted in response to the additional request of the DOH, and aimed to propose a traffic operation plan for reducing traffic accidents in the area inside the Outer Ring Road of Bangkok, to prepare preliminary designs for selected sections, and to continue the transfer of technology to the Thai counterparts.
In consulatation with DOH, the present study selected ten sites out of 59 sections under study and prepared preliminary designs (scale:1/500) for improvement as follows; 1)Road improvement curvature improvement and installation of a motorcycle lane):S-44; 2) Improvement of intersections with signals:S-18 and S-22; 3) Creation of grade separation :S-19 and S-48; 4) Improved channelizaitn at intersections and median openings: S-10, S-15, and S-24; and 5) Imporved signalizaitn and channelkizaiton at intersections:S-43, S-52, and S-48.

4.CONDITIONS AND DEVELOPMENT IMPACTS
Criteria for Selection:
Sections for the follow-up study were selected according to the following criteria.
1) Sections for which traffic controllers, road users and local residents strongly request earliest improvement.
2) Sections which are considered most dangerous on the basis of the analysis of accidents and other trffic-related data.
3) Sections which are judged as requiring urgent improvement at the time of field observations.
In consultation with the DOH, 59 sections were selected for the follow-up study. 24 sections were found to require improvements of intersections, 6 sections to require regular road improvement, and 29 sections to require measures for pedestrian safety.
Ten sites for preliminary designing were selected according to the following criteria.
1) Sections with obvious traffic congestions and risks where improvements will immediately realize desirable effects.
2) Sections requiring the types of improvements which are applicable to other sections.
3) Sections for which it is judged necessary to draw preliminary designs of the proposed specific improvements.
Expected Impacts:
Implementation of proposal improvement plans will substantially contribute to the improvement of the very serious road traffic problems on road under jurisdiction of DOH, in particular the heavy traffic condition and frequent occurrence of traffic accidents.

5.TECHNICAL TRANSFER
By applying the results of the former TDRR Study concretely, much more technology was transfered to the Thai counterparts.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
In the Seventh Highway Development Plan (Oct.1991-Sept.1996), the budget of 10 billion baht is appropriated for traffic safety projects. These projects will be implemented together with projects proposed in the former TOPR Study.
Projects for grade separations and the motorcycle lane program will be implemented under the construction project and the road maintenance project.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 道路交通運用計画（アフターケア）

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

PROJECT SUMMARY (F/S)

Compiled Mar.1990
Revised Mar.1992

MEA DZA/A 301/85

I. OUTLINE OF STUDY

1.COUNTRY: Algeria

2.NAME OF STUDY:
Projet d'amenagement articole de la region pripherique du Lac Fetzara

3.SECTOR:
Agriculture/General

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY:
Ministry of Agriculture

7.OBJECTIVES OF STUDY:

8.DATE OF S/W: Mar.1983

9.CONSULTANT(S):
Sanyu Consultants Inc.

kyowa Engineering Consultants Co., Ltd.

10.STUDY TEAM

No.of Members 13

Period Dec.1983-Mar.1985(17 months)

Total M/M	Japan	Field
71.58	29.15	41.83

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

Total	315,059 (¥'000)
Contracted	280,430

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA:
Southwest 20km from Annaba City, Annaba Province

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	350,000	220,000	130,000
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
Agricultural infrastructure improvement plans:
Irrigation, drainage, terminal field improvement, agricultural facilities.
Agriculture development plan: farm land of 10,570ha
Agriculture improvement plans: housing, water supply, sewerage, transmission of electricity, school, post office.

Imp. Period: .1985-.1992

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: Yes/No

EIRR1)	7.30	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
Opportunity cost of capital : 10%
Those projects will contribute not only to the increase of agricultural production, but promotion of rural economy, expansion of social investment, effective management of state-operated farm land organization and regional economic development.

5.TECHNICAL TRANSFER
To counterparts assigned 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)
There is no hope of funding the proposed project because of the deterioration of the Algerian economy.

2.MAJOR REASONS FOR PRESENT STATUS
At some point, the possibility of applying to the Yen Credit Program was discussed, but Algeria is not eligible for the Program.

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 フェツァラ湖周辺地域農業開発計画

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

PROJECT SUMMARY (F/S)

Compiled Mar.1990
Revised Mar.1992

MEA EGY/S 301/75

I. OUTLINE OF STUDY

1.COUNTRY: Egypt

2.NAME OF STUDY: Suez Canal Extension Project

3.SECTOR: Transportation/Port

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: Suez Canal Authority

7.OBJECTIVES OF STUDY: Promotion of Japanese cooperation to the 1st stage development of the Suez Canal

8.DATE OF S/W: .0

9.CONSULTANT(S):

10.STUDY TEAM

No.of Members 10

Period Nov.1974-Jul.1975(8 months)

Total M/M	Japan	Field

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

Total 16,526 (¥'000)

Contracted

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Suez Canal

2.PROJECT COST (US$1,000) US$1=LE0.39

	Total Cost	Local Cost	Foreign Cost
1)	820,512	307,179	513,333
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

The 1st phase project shown below will take 3.5 years to complete, and it is imperative to proceed to the 2nd phase immediately, because the route going around Cape Town will cost less for supertankers than the Canal transit.

1st Phase Canal Extension:
1. Dredging: the entire canal length to four times the wet sectional area of the largest vessel transiting the Canal
   Dredging 470 million cu.m, Excavation ashore 67 million cu.m
2. Revetment: Relocation to the east side
3. West Breakwater: submerged mound structure, length 7,354m
   Breakwater from the light house to 4,500m, submerged from 4,500m to 7,354m
4. Eartworks: Removal of concrete military structures and the banking from the east side
5. Others: dredging of anchorage at Port Said and elsewhere, navigation aids, oil pollution control devices, etc.

Imp. Period: .1975-.1978

4.FEASIBILITY AND ITS ASSUMPTIONS — Feasibility: Yes

EIRR1)	11.50	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

Conditions:
1. Project life of 30 years
2. Planned canal extension:

	Water Depth(m)	Sectional Area(sq.m)	Max.Draft (ft)	Max. Tonnage of Largest Vessel (DWT)
Canal reopening	15.5	1,850	40	60,000
1st phase ext.	19.5	3,200	53	150,000
2nd phase ext.	23.5	4,200	67	250,000

3. Benefits: Increase of the canal revenue after reopening (1.64 billion E pounds)

Development impacts:
1. Increase of foreign exchange reserves and stimulation of trade
2. Reduction of crude oil transportation costs by the passage of supertankers
3. Economic development in the area along the Canal
   In addition, the Canal extension will greatly contribute to the international shipping industry.

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)

1975 Jul. OECF loan agreement (Suez Canal expansion I, 38 billion yen)
1977 Dec. OECF loan agreement (Suez Canal expansion II, 23 billion yen)
1979 Jul. OECF loan agreement (strengthening dredging capacity, 12 billion yen)
1978 - 1981 Technical cooperation to the Economic Unit of the Suez Canal Authority

(FY1991 Overseas Survey)
1975 D/D was conducted by the local finance
1975-80 Construction work was done by local finance of 42 million L.E. other than the above OECF loan.

2.MAJOR REASONS FOR PRESENT STATUS

Development of Suez Canal was the top priority of the Egyptian Government.

3.PRINCIPAL SOURCE OF INFORMATION

①②④

和名 スエズ運河拡張計画

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

PROJECT SUMMARY (F/S)

Compiled Mar.1986
Revised Dec.1993

MEA EGY/S 302/76

I. OUTLINE OF STUDY

1.COUNTRY Egypt

2.NAME OF STUDY
Urban Water Supply Project in the Great Cairo

3.SECTOR
Public Utilities/Water Supply

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
The General Organization for the Greater Cairo Water Supply

7.OBJECTIVES OF STUDY
To alleviate the increasing shortage of water in Cairo

8.DATE OF S/W Dec.1974

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

10.STUDY TEAM

No.of Members	Total M/M	Japan	Field
12	39.50	20.50	19.00

Period Sep.1975-Mar.1976(5 months)

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Analysis of water in the Nile River

12.EXPENDITURE

Total	93,212 (¥'000)
Contracted	72,670

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
The City of Cairo

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
US$1=300yen	1)	33,250	7,518	25,732
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)
1)Pumping facilities for raw water supply
Nasr City: 4 pumps (d.500mm)
Heliopolis: 4 booster pumps (d.500mm)
2)Heliopolis water conveyance facilities
Raw water pipeline: d.1,350mm, 9,800m
Drinking water pipeline: d.1,200mm, 9,800m
One regulation tank: 15,000 cu.m
3)Nasr City water conveyance facilities
Raw water pipeline: d.1,200mm, 5,100m
One regulation tank: 22,000 cu.m
4)Helwan water conveyance facilities
Raw water pipeline: d.500mm, 4,800M
One regulation tank: 4,000 cu.m

Imp. Period: Sep.1976-Jun.1978

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes

EIRR1)	10.78	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
Conditions:
With the annual interest rate of 3.5%, deferment period of 3 years and repayment period of 28 years, the project is feasible.
Development Impacts:
The project will increase the supply of treated water by 200,000 sq.m/day (10% of the present supply) and raw water by 140,000 sq.m/day(105%). The change of clean water now used for irrigation to raw water makes the actual increase of treated water by 235,000 sq.m/day and will cover the existing shortage.

5.TECHNICAL TRANSFER
1)OJT: Inspection of water work facilities and factories in Japan was held for 11 engineers.
2)Instruction to a local consultant of research and investigation method was executed.

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
OECF Loan Agreement: Jun. 1976(5,820 million yen)
Dec. 1978(3,375 million yen)
Detailed design: Completed in Dec. 1979
Completion of Project: Aug. 1984

The implemented project was modified as follows:

d1400 - 1200mm: 9.4km
d1200 - 1000mm: 6.1km
d1200mm: 9.6km
d1000mm: 21.8km
d800 - 75mm: 43.0km
d500 - 75mm: 53.0km
d500mm: 7.3km
Cost:US$36,780,000 (US$1=250yen)

(FY1991 Overseas Survey)
No additional information

2.MAJOR REASONS FOR PRESENT STATUS
1)Contribution to the alleviation of water shortage caused by population increase and urbanization
2) High Priority
3) The General Organization is the most powerful and active governmental agency in Cairo City.

3.PRINCIPAL SOURCE OF INFORMATION
①②④

和名 カイロ大都市圏都市用水開発計画

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

PROJECT SUMMARY (M/P)

MEA EGY/S 101/79

Compiled Mar.1985
Revised Dec.1992

I. OUTLINE OF STUDY

1.COUNTRY Egypt

2.NAME OF STUDY
High Dam Lake Area Integrated Region Development Plan

3.SECTOR
Development Plan/Integrated Regional Development Plan

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Ministry of Development and New Cities
High Dam Lake Development Authority

7.OBJECTIVES OF STUDY
Formulation of a regional development plan and selection of priority projects

8.DATE OF S/W Jun.1978

9.CONSULTANT(S)
International Development Center of Japan
Nihon Koei Co., Ltd.
Nomura Research Institute

10.STUDY TEAM

No.of Members 14
Period Jan.1979-Feb.1980(14 months)

Total M/M	Japan	Field
61.00	27.30	33.70

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	183,572 (¥'000)
Contracted	158,365

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Aswan City (pop. 0.2 million) and the High Dam Lake Area

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)
The study covers the area consisting of Aswan City and the High Dam Lake area extending 120 km from east to west and 300 km from south to north. Major projects are as follows:

1) Establishment of an agricultural experiment station (selection of suitable crops, development of appropriate farming systems, improvement of irrigation management and disease and pest control)
2) Establishment of a Fishery Management Center (Resource surveys, experimental aquaculture, resource management).

4.CONDITIONS AND DEVELOPMENT IMPACTS
Conditions:
It is necessary to ascertain the constraints of development such as availability of water and soil conditions in order to utilize the development potentials.

Development impacts:
The development of the High Dam Lake area will contribute to the balanced regional growth and the alleviation of the population pressures in the Nile delta area.

5.TECHNICAL TRANSFER
- OJT on regional development planning
- Acceptance of trainees (JICA counterpart training program)

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
After the completion of the study, the fishery management center was established by the Japanese grant aid, and the technical cooperation (dispatch of Japanese fishery experts and acceptance of trainees) has been implemented.

(FY1991 Overseas Survey)
1) The Master Plan has been translated into Arabic and integrated into regional development program of the five-year Development Plan. It has been used as the main guide for the development of the Region.
2) The Fishery Management Center has been established by the Japanese aid.
3) An Agricultural Development Research Center has been requested for the Japanese Grant Aid, but no action has been effected.
4) An Agricultural Experiment Station has been constructed by local finance.
5) A foreshore agricultural project is under implementation by finance from the World Food Program WFP (about 11,000 feddan)
6) The construction of the roads between Aswan - Abu Simbel, Kalabasha - Gurf Hussein, and Aswan - El Alaqi has been completed by local finance.
7) Abu Simbel Port and the Ice Making Plant have been completed by local finance.
8) About 100 companies are working on the quarry development around the lake.

2.MAJOR REASONS FOR PRESENT STATUS
(FY1991 Overseas Survey)
The High Dam Region is considered as one of the high potential areas for development due to the availability of water. Further Japanese technical cooperation is hoped on the Agricultural Research Center, the Fishing Transport Project, the Mining Training Center and the Aswan Health Center.

3.PRINCIPAL SOURCE OF INFORMATION
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和名 南部地域総合開発計画

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

PROJECT SUMMARY (F/S)

MEA EGY/S 303/79

Compiled Mar.1986
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY: Egypt

2.NAME OF STUDY: Cairo - Alexandria Line Electrification for Egyptian Railways

3.SECTOR: Transportation/Railway

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: Egyptian National Railways

7.OBJECTIVES OF STUDY: F/S for electrification of the line between Cairo and Alexandria and a review of rolling stock specifications

8.DATE OF S/W: Jul.1978

9.CONSULTANT(S): Japan Railway Technical Service

10.STUDY TEAM

No.of Members 31

Period Sep.1978-Dec.1979(15 months)

Total M/M	Japan	Field
61.63	49.43	12.20

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

Total	79,528 (¥'000)
Contracted	69,133

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Line between Cairo and Alexandria and regions along the route

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	457,000	98,200	358,800
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

Rolling stock(48 ELs, etc.)	138.5LE	
Electric wires(208km)	78.8LE	
Power transformer facilities (3 substations, etc.)	33.3LE	Machines (for inspection and
repair at rolling stock bases)	18.2LE	
Civil facilities(rolling stock bases, etc)	16.0LE	
Signal and telecommunications facilities (improvement, etc.)	12.4LE	
Land (for rolling stock bases and substations)	9.7LE	
Design and administration	13.1LE	

Imp. Period: Jun.1979-Dec.1983

4.FEASIBILITY AND ITS ASSUMPTIONS — Feasibility: Yes

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

Conditions and Development Impacts:

1.Preconditions
Increase in fare and efficient fund procurement

2.Expected development impacts
1) Effective utilization of resources(use of power from Aswan High Dam, economization of oil)
2) Balanced development of local cities and alleviation of population concentration in and around Cairo by reducing time-distance.

5.TECHNICAL TRANSFER: Preparation of the report with the cooperation of Egyptian National Railways

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 completion of the F/S, the project was suspended owing to the lack of funds. However, some improvement works on signals, tracks, etc., based on this project were implemented with the financial cooperation of both France and West Germany.

(FY1991 Overseas Survey)
The Egyptian Railways is convinced that electrification should be implemented. However, the project is suspended owing to the reasons mentioned below. An alternative project of introducing turbo train units between Cairo and Alexandria has been implemented since 1983 by French finance.

2.MAJOR REASONS FOR PRESENT STATUS

-An arrangement of the large initial cost is the main obstacle.
-Lack of surplus electric power.

3.PRINCIPAL SOURCE OF INFORMATION: ①②

和名 エジプト国鉄カイロ～アレキサンドリア線電化

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