# PROJECT SUMMARY (F/S)

Compiled Mar.1991
Revised Mar.1993

ASE PHL/S 322/89

## I. OUTLINE OF STUDY

**1.COUNTRY** Philippines

**2.NAME OF STUDY**
Rehabilitation and Maintenance of Bridges along Arterial Roads

**3.SECTOR**
Transportation/Road

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Department of Public Works and Highways (DPWH)

**7.OBJECTIVES OF STUDY**
Bridge Rehabilitation program
Bridge Data Base
Bridge Inspection and Maintenance

**8.DATE OF S/W** Apr.1987

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

**10.STUDY TEAM**

No.of Members 9

Period Nov.1987-Jun.1989(19.5 months)

| Total M/M | Japan | Field |
|---|---|---|
| 68.08 | 20.62 | 47.46 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
1.Topographic Survey,1988
2.Geotechnical Survey,1988 3.Scaffolding, 1988

**12.EXPENDITURE**

| | |
|---|---|
| Total | 214,117 (¥'000) |
| Contracted | 208,344 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Lozon Samar and Leyte islands
(Pan-Philippine HWY, Manila North Road)

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

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 43,101 | 13,982 | 29,119 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
52 bridges are selected among 99 bridges, taking the technical conditions and socio-economic circumstances into consideration.

1. Reconstruction 12
2. Replacement of Superstructure 15
3. Repair 25
   total 52 Brs.

- The bridge type and length are as follows:

| Bridge Type | | Unit | length(m) |
|---|---|---|---|
| Steel Bridge | Truss | 10 | 3,220 |
| | SIB | 13 | 1,088 |
| | Steel box | 1 | 177 |
| Concrete Bridge | RCDG | 13 | 300 |
| | PCDG | 11 | 1,291 |
| | Concrete Slab | 4 | 77 |
| | Total | 52 | 6,153 |

**Imp. Period:** Dec.1990-Dec.1995

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

| | | | |
|---|---|---|---|
| EIRR1) | 55.69 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Conditions
- Traffic forecast is based on review of the survey results carried out by DPWH in 1986.
- Design criteria such as design line loads and structural specification are in accordance with NSCP.

Development Impacts
- Prevent the existing bridge form river flood damage
- Improve junctioning and durability of bridge, then prevent bridge collapse
- Maintain traffic network
- Establish systematic organization

**5.TECHNICAL TRANSFER**
1.Trainee, Mr.Matanguihan Edwin Cueras, Bureau of Design, DPWH, Participated in the training course of bridge engineering in Japan.(1988.8.17 - 1988.11.4)
2.Lecture concerning bridge data base and its operation was carried ot during Feasibility 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)
(FY1992 Overseas Survey)
At the OECF Appraisal Mission in June 1989, it was decided to avoid overlapping with another OECF-financed project (Pan-Philippine Highway Improvement), and the number of bridges was reduced from 52 to 41.

Feb.1990 16th OECF Loan (PH-P104) L/A signed (Rehab. of Bridges along Arterial Roads (I) 2,079 million yen)
Project: Reconstruction of 7 bridges, replacement of 13 bridges, and repair of 17 bridges.
Nov.1990 - Apr.1992 Detailed design completed (Nippon Koei, Katahira & Engineers, TCGI)
Total investment 694.7 million pesos (foreign currency 306.8 million, local currency 387.9 million)
Apr.1992 Construction of six bridges commenced (scheduled to be completed in July 1994)
Jul.1991 17th OECF Loan (PH-P115) L/A signed (Rehab. of Bridges along Arterial Roads (II) 2,065 million yen)
Project: Reconstruciton and widening of 4 bridges located between northern Metro Manila and La Union Province.
Apr.1992 - Jun.1992 Detailed design completed (Nippon Koei, Katahira & Engineers, TCGI)
Total investment 699.3 million pesos (foreign currency 340.0 million, local currency 359.3 million)

**2.MAJOR REASONS FOR PRESENT STATUS**
A number of major bridge have been obsolete and structurally weak for increasing traffic volume and heavier loads. GOP has given high priority to their rehabilitation to ensure transport efficiency and protect the investments already made.

**3.PRINCIPAL SOURCE OF INFORMATION**
①③④

和名 幹線道路主要橋梁改修計画

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

# PROJECT SUMMARY (M/P)

Compiled Mar.1992
Revised Mar.1993

ASE PHL/A 106/90

## I. OUTLINE OF STUDY

**1.COUNTRY** Philippines

**2.NAME OF STUDY**
Improvement of Communal Irrigation Systems through Physical and Institutional Development and Rural Development in Southern Tarlac Province

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
National Irrigation Administration

**7.OBJECTIVES OF STUDY**
Master Plan Study on Improvement of Communal Irrigation Systems

**8.DATE OF S/W** Feb.1989

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

**10.STUDY TEAM**

No.of Members 10

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

| Total M/M | Japan | Field |
|---|---|---|
| 50.90 | 23.75 | 27.15 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
* Inventory : 397 (¥1,000)
* Field survey : 2,239 (¥1,000)
* Construction of

**12.EXPENDITURE**

| | |
|---|---|
| Total | 156,075 (¥'000) |
| Contracted | 142,164 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Southern Tarlac Province

**2.PROJECT COST**

| (US$1,000) | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 32,000 | 12,600 | 19,400 |
| 2) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
1) Agricultural Infrastructure Improvement
   a) Irrigation Facilities Improvement
      Canals 37km, Diversion Dam Improvement 10 units, Groundwater Collecting Conduits 4 units, Shallow Wells 271 units
   b) Drainage Developemnt 4km
2) Farm Road Improvement
   Baranqay Roads 53km, Farm-to-Market Roads 58km
3) Agricultural Development
   Farming Technology Demonstration Farm : 11 farms
   Seed Multiplication Station : 1 station
4) Institutional Development (farmers' organizations)
   Supports for Strengthening IAs
   Supports for MFIAs, FIAs and CISs

**4.CONDITIONS AND DEVELOPMENT IMPACTS**
- The rivers in the Study Area have no watershed management and erosion control.
- Annual rainfall in the Study Area is 1,900mm and the precipitation is mostly concentrated in the wet season.
- Inundation occurs often in the flat areas, particularly in the Eastern-most area along Chico River.
- By introducing water collecting conduits and pumps for shallow wells, the cropping intensity of 172% can be realized over 9,800ha of farm land.
- By establishing post-harvest facilities for paddy, the prevailing loss ratio of 16.5% could be reduced to 10.5% only.
- The improvement of farm roads will reduce transportation costs.
- IRR is calculated at 18%.

**5.TECHNICAL TRANSFER**
Through the field survay, transfer was achieved especially on the survey investigation and planning method for project formulation.

## III. PRESENT STATUS OF STUDY RESULTS

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

**(Description)**

In June 1990, when M/P and F/S were completed and priority components were being prepared for implementation, the eruption of Mt. Pinatubo buried the rivers and neighboring areas were covered by ashes to a depth of 10 - 20cm.

(FY1991 Overseas Survey)

The Study Area was affected by the eruption, and Banban River as the major source of water for irrigation was buried under the debris. The NIA is keen to construct the groundwater collection conduits, and hoping for a re-study by JICA.

JICA is preparing an assistance project for the restoration of the eruption-affected areas, but with emphasis on potable water supply facilities rather than irrigation development.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 タルラック州南部地域小規模灌漑組織強化計画

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

# PROJECT SUMMARY (F/S)

Compiled Mar.1992
Revised Mar.1993

ASE PHL/S 323/90

## I. OUTLINE OF STUDY

1.COUNTRY: Philippines

2.NAME OF STUDY
Rural Road Network Development Project (II)

3.SECTOR
Transportation/Road

4.REFERENCE NO.

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY
Department of Public Works and Highways (DPWH)

7.OBJECTIVES OF STUDY
Conduct a F/S on the development of a rural road network

8.DATE OF S/W: Apr.1989

9.CONSULTANT(S)
Katahira & Engineers International
Nippon Engineering Consultants Co., Ltd.

10.STUDY TEAM

| No.of Members | 10 | |
|---|---|---|
| Period | Oct.1989-Oct.1990 (13 months) | |
| Total M/M | Japan | Field |
| 60.26 | 58.66 | 1.06 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Socioeconomic survey
Traffic counts survey
Road inventory survey

12.EXPENDITURE

| | |
|---|---|
| Total | 277,593 (¥'000) |
| Contracted | 289,000 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
73 provinces in Philippines
(F/S was conducted as pilot study in 4 provinces)

2.PROJECT COST (US$1,000)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 147,295 | | |
| 2) | 110,902 | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

In order to improve on the findings of the phase 1 study on rural road network, the present phase 2 study selected 11 provinces and identified the basic road network plan and analyzed the feasibility of the proposed major and minor roads. Those road sections with IRRs of more than 15% are recommended for earlier implementation, and the rest for later implementation.

| | Major Roads | Minor Roads |
|---|---|---|
| 1) First Stage | 714.0km | 1,130.8km |
| 2) Second Stage | 533.0km | 924.6km |

In addition, the practices of the low-grade surfacing was surveyed, and on the basis of the findings from the experimental surfacing, the present study made a number of recommendations on appropriate design and construction requirements.

Imp. Period: .1991-.1995

4.FEASIBILITY AND ITS ASSUMPTIONS — Feasibility: Yes

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

Conditions and Development Impacts:

Conditions:
The benefits taken into account were the trafic benefit, the agricultural development benefit, and road maintenance cost savings, Project life is 25 years, (from 1993 to 2017).

The development impacts:
The all-weather road will be constructed in the rural area. This would contribute to the economic development in the rural areas and the increase of employment directly, which are the targets of development plan.

5.TECHNICAL TRANSFER
1. Accepting of conterpart trainees
2. Utilization of local consultants

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS
- ☐ Completed or in Progress
  - ○ Completed
  - ○ Implementing
  - ○ Processing
- ■ Promoting
- ☐ Delayed or Suspended
- ☐ Discontinued or Cancelled

(Description)

Based on the findings of the RRNDP-I and -II and another study (SAPROF), GOP requested the 17th OECF finance for rural roads improvement in 20 provinces (6 provinces from the RRNDPs and 13 provinces from the SAPROF). OECF yen credit was subsequently approved in July 1991 for four provinces, which included three provinces of PRNDR-I but none of the eleven provinces studied by the RRNDP-II.

GOP has requested the 19th OECF finance for the rural roads improvement in another 20 provinces (6 provincesfro PRNDR-II, Aqusan del Norte, and 13 provinces from SAPROF).

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①③

和名 地方道路網整備計画 (II)

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

# PROJECT SUMMARY (F/S)

Compiled Mar.1992
Revised Mar.1993

ASE PHL/A 315/90

## I. OUTLINE OF STUDY

**1.COUNTRY** Philippines

**2.NAME OF STUDY**
Integrated Jala-Jala Rural Development Project

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Department of Agrarian Reform

**7.OBJECTIVES OF STUDY**
To formulate an integrated rural development project

**8.DATE OF S/W** Apr.1989

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

**10.STUDY TEAM**

No.of Members 9

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

| Total M/M | Japan | Field |
|---|---|---|
| 54.00 | 21.00 | 33.00 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
- Farm economy survey
- Topographic survey
- Geo-hydrological investigation

**12.EXPENDITURE**

| | |
|---|---|
| Total | 188,616 (¥'000) |
| Contracted | 145,459 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Jala Jala Municipality (4,930ha) of Rizar Province, located 75km southeast of Manila

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

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 27,400 | 11,000 | 6,400 |
| 2) | | | |
| 3) | | | |

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

The Study prepared a development plan to support farmers who had been inluded in the land reform in Jala Jala Municipality. The plan objectives were early creation of self-reliant farmers, increase in labor productivity and reduction of disparities, and achievement of local foof self-sufficiency.

1. Intensive Agriculture: 11 villages, 3,800ha
2. Farm Mechanization: tractors, threshers, power sprayers, rice mills
3. Irrigation: 13 systems (paddy 950ha, upland crops 210ha)
4. Drainage: main canals 11.2km, branch canals 39.3km, culverts 70 locations
5. Roads: trunk roads 18.1km, feeder roads 46km, farm roads 9.6km
6. Rural Electrification: power transmission line (3-phase)23km, distribution line 8.6km
7. Rural Water Supply: 16 level-I deep wells, 4 level-II deep wells, 2 springs
8. Rural Development Center: facilities for farmer training, extension services on agriculture and home economics

Imp. Period: Jan.1991-Oct.1994

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

| | | | |
|---|---|---|---|
| EIRR1) | 14.40 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**

Conditions:
1. Diversification (upland crops 260ha, small plantations 850ha, fruits 600ha) and intensification (paddy double cropping 950ha) over the area of 2,690 ha
2. Consolidation of communal systems and concentrated development of 8 village-wise irrigation systems (650ha) to enable year-round irrigation

Major Development Impacts:
1. Four-hold increase in paddy output (production 6,000 tons, local consumption 3,000 tons, and a surplus of 3,000 tons in the year 2000)
2. Fruits (citrus 3,850 tons, mango 2,100 tons) will be used as materials for local agro-industries or marketed in Manila as fresh fruits.
3. Production of beef and pork will be doubled partly utilizing agricultural residues as animal feeds.
4. Total benefits of the project after deducting the "without project" benefits come to 143.1 billion pesos (18.4 from paddy , 13.9 from upland crops, 4.1 from fruits, 4.4 from livestock and the remainder from infrastructural development).
5. Increases of annual farming household income will range from 6 to 33.8 million pesos (three- to ten-hold increases).

**5.TECHNICAL TRANSFER**
Technology transfer counterparts in the course of the study.

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

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

(Description)

The project cost estimated by the JICA study exceeded the cost ceiling for the Japanese grant aid program. Subsequently, GOP prioritized project components for the grant approval.

| | |
|---|---|
| Oct.1991~Mar.1992 | Basic design study completed |
| Oct.1992 | E/N signed (39.32 illion yen) |
| OCt.~Nov.1992 | D/D completed (Final total project cost 1,137 million yen) |
| Mar.1993~Mar.1994 | Construction scheduled |

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 ハラハラ農業開発計画

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

# PROJECT SUMMARY (F/S)

Compiled Mar.1992
Revised Mar.1993

ASE PHL/A 316/90

## I. OUTLINE OF STUDY

**1.COUNTRY** Philippines

**2.NAME OF STUDY**
Improvement of Seed Production and Distribution, and Establishment of Appropriate Seed Storage System

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Department of Agriculture

**7.OBJECTIVES OF STUDY**
Planning for improvement of seed production and distribution and establishment of appropriate seed storage system for rice, corn and other crop.

**8.DATE OF S/W** Feb.1989

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

**10.STUDY TEAM**

No.of Members 8

Period Nov.1989-Dec.1990 (11 months)

| Total M/M | Japan | Field |
|---|---|---|
| 46.81 | 18.00 | 28.81 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 140,815 (¥'000) |
| Contracted | 141,332 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Philippines

**2.PROJECT COST**
(US$1,000)
US$1=27.5peso

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 12,479 | 3,049 | 9,430 |
| 2) | | | |
| 3) | | | |

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

The Study formulated model seed production and distribution projects for the selected areas of Region II (peanut), Region VI (Paddy) and Region XI (maize). In addition to the model projects, it will be necessary to establish an urgent improvement plan by examining the degrees of urgency and the impacts of individual project implementation.

1) Region II (Project cost: 86,682,000 pesos)
   - Ilagan E.S. irrigation system development
   - Seed processing machinery and facilities
   - Laboratory and storage
2) Region VI (Project cost: 136,291,000 pesos)
   - Seed processing machinery and facilities
   - Laboratory and storage
3) Region XI (Project cost: 120,195,000 pesos)
   - Davao NCC irrigation system development
   - Improvement of on-farm roads and farm roads
   - Seed processing machinery and facilities
   - Laboratory and storage

**Imp. Period:** .1993-.1999

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 3.30 | FIRR1) | |
| EIRR2) | 32.80 | FIRR2) | |
| EIRR3) | 25.30 | FIRR3) | |

**Conditions and Development Impacts:**

Conditions:
- Period of economic evaluation is set at 20 years, based on the life period of facilities.
- Economic costs of tradable goods are coverted from the financial costs, using conversion factors by sector.
- Economic costs of non-tradable goods are obtained by the conversion factor of 0.8.
- Labor costs are obtained from consumption by the conversion factor of 0.65.

Development Impacts:
- The establishment of the seed production and distribution systems will ensure increased supply of certified seeds.
- Surplus seeds will be supplied to outside regions, and the buffer stock of seeds could be distributed in emergencies.
- Increased supply of quality seeds will raise the production of crops, which in turn will stimulate the growth of agro-industrial production and employment.

**5.TECHNICAL TRANSFER**
2-day seminar with 45 participants
2 weeks field observation and study tour.

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

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

(Description)
(FY1991 Overseas Survey)
The scale of the projects has been reduced. Local production and distribution of seeds is inadequate for peanut, but relatively advanced for maize owing to the private sector involvement.
The preliminary survey mission of the Japanese Grant Aid Program visited the project sites to study peace and order situations. Subsequently, the basic design study (rice seeds only) was undertaken from July 1992 to Feb.1993.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 優良種子流通配布計画

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

# PROJECT SUMMARY (M/P)

Compiled Mar.1993
Revised Mar.1993

ASE PHL/S 109/91

## I. OUTLINE OF STUDY

**1.COUNTRY** Philippines

**2.NAME OF STUDY**
Calabarzon Intergrated Regional Development

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

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Department of Trade and Industry (DTI)

**7.OBJECTIVES OF STUDY**
To formulate the M/P of flood control for the Ilong-Hilabangan River Basin and to identify priority projects

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

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

**10.STUDY TEAM**

No.of Members 12

Period Mar.1990-Sep.1991(18 months)

| Total M/M | Japan | Field |
|---|---|---|
| 126.90 | 39.30 | 87.60 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Aerophotqraphinq River Survey, Construction of Hydrologqical Gauqinq Stations Geologic Survey and Boring Survey.

**12.EXPENDITURE**

| | |
|---|---|
| Total | 427,347 (¥'000) |
| Contracted | 386,362 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Philippines, Luzon Island, 5 provinces (Cavite, Batangas, Rizol, Laguna, and Quezon)

**2.PROJECT COST**

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

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

- 3 projects of port development includinq Greater Capital Reqion Pot Study
- 6 projects of roads and highways includinq Cavite Coastal Road
- 6 projects of industrial support includinq Cavite EPZA
- 5 projects of urban development including Laquna West Urban Development
- 2 projects of agriculture includinq Batanqas East Agriculture Development
- 5 projects of rural development includinq Laquna Upland IRD Projects
- 3 projects of social development includinq Southern Taqaloq Manpower Trainiq and Employment Program
- 2 projects of environmental manaqement includinq Marikina Watershed Development and Management

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

Development Impacts:
- To enhance the income level in rural areas by creatinq employment opportunities in primary agriculture, agro-processinq and service activities as well as by increasinq productivity in agriculture.
- To sustain high level of qrowth on the balance between agriculture and industry by promotinq complementary linkaqes between the two major sectors, improvinq the industrial structure, and includinq related service activities.
- To contribute to more equitable development,not qeneralinq the urban poor and squatters, upliftinq the rural people from poverty, and realizinq better spatial distribution of population and economic activities.
- To create a better human environment and enhance social capacity for development by protectinq/enhancinq natural environment, improvinq the provision of physical infrastructure and social services, and incorporatinq socio-cultural values in project planning and implementation.

**5.TECHNICAL TRANSFER**
The planninq capability of the Philippine counterparts had been strenqthened durinq this study throuqh dissemination of information and involvement of the people of Philippines.

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**

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

(Description)
The proposed master plan was approved in Feb.1992 by the President. However, the preparations of implementation, such as the establishment of Calabarzon Development Authority, have been postponed due to the presidential election. In addition, the environmental problems of specific projects are yet unsolved.
Calara II coal thermal power plant to be implemented with OECF loan.
Batangas port is still pending due to relocation problem.
Cavite rural water supply is requested for JICA F/S.

**2.MAJOR REASONS FOR PRESENT STATUS**
- Presidential election in May 1992.
- Effects of the eruption of Mt. Pinatubo.

**3.PRINCIPAL SOURCE OF INFORMATION**
①

和名 カラバールソン地域総合開発計画

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

# PROJECT SUMMARY (M/P)

ASE PHL/S 110/91

Compiled Mar.1993
Revised

## I. OUTLINE OF STUDY

**1.COUNTRY** Philippines

**2.NAME OF STUDY**
Ilog-Hilabangan River Basin Flood Control Project

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

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Department of Public Works and Highways (DPWH)

**7.OBJECTIVES OF STUDY**
To formulate the M/P of flood control for the Ilog-Hilabangan River Basin and to identify priority Projects.

**8.DATE OF S/W** Nov.1989

**9.CONSULTANT(S)**
CTI Engineering Co., Ltd.
INA Civic Engineering Consultants Co., Ltd.
Pasco International Inc.

**10.STUDY TEAM**

No.of Members 15
Period Feb.1990-Jun.1991(17 months)

| Total M/M | Japan | Field |
|---|---|---|
| 61.27 | 23.74 | 37.53 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Aerophotographing River Survey
Construction of Hydrological Gauging Stations geologic Survey and Boring Survey

**12.EXPENDITURE**

| | |
|---|---|
| Total | 398,765 (¥'000) |
| Contracted | 368,216 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Ilog-Hilabangan River Basin of 2,162 sq.km in Negros Island

**2.PROJECT COST**

| (US$1,000) | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 44,750 | | |
| 2) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
The Iloq-Hilabanqan River Basin which have 2,162 sq.km of the drainage area suffers from the flood damage in the flood prone area coverinq about 125sq.km. Master plan was formulated in the manner of river improvement to prevent the flood damage in the flood prone area. In parallel with the study on flood control project the potential study on water resources development was examined. However, the suitable dam site for water resources development could not be found out, so that this was not included in the study. This river improvement plan for the river stretch of about 21.5 km in total includes provision of revetment and sluice and replacement of bridges. The project scale of 100 year return period is applied for the master Plan. The design discharge is 5,450 cu.m/s.

**4.CONDITIONS AND DEVELOPMENT IMPACTS**
Master plan was prepared setting the target completion year of 2020 and it is assumed that population in the flood prone area will increase in accordance with the past increasing rate.
After completion of M/P, the flood prone area of about 125 sq.km will be released from the flood damage up to the flood discharge of a 100-year return period. The annual average benefit is expected to be 126.6 million Pesos after the year of 2020.

**5.TECHNICAL TRANSFER**
- Periodical lecture meeting and on-the-job training for counterparts.
- JICA counterpart training course in Japan.

## III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
ALthough the type of this study had been originally M/P+F/S type, the F/S portion was cancelled because of the security problems of the stydy site. Neither the contents of the M/P major projects have been in progress or in use.

**2.MAJOR REASONS FOR PRESENT STATUS**
Security problems due to NPA's activities in the Negros Island where the project site is located.

**3.PRINCIPAL SOURCE OF INFORMATION**
①

和名 イログ・ヒラバンガン川流域治水計画

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

# PROJECT SUMMARY (M/P)

Compiled Mar.1993
Revised

ASE PHL/A 107/91

## I. OUTLINE OF STUDY

**1.COUNTRY** Philippines

**2.NAME OF STUDY**
Small-scale Irrigation Development Project (SSIDP)

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
National Irrigation Administration (NIA)

**7.OBJECTIVES OF STUDY**
To formulate a master plan for the SSIDP, aiming at orderly utilization of nation's water and land resources.

**8.DATE OF S/W** Feb.1990

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

**10.STUDY TEAM**

No.of Members 10

Period Jul.1990-Feb.1992(19 months)

| Total M/M | Japan | Field |
|---|---|---|
| 64.23 | 19.30 | 44.93 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 201,013 (¥'000) |
| Contracted | 191,340 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Entire Philippines

**2.PROJECT COST**

| (US$1,000) | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 35,546 | | |
| US$1=27.5p | 2) | 3,563 | | |

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

The Study formulated a 10-year Development Plan which covers 4,037 new or rehabilitation subprojects each ranging from 50ha to 500ha (total area of 570,517ha). The Study selected 459 priority subprojects (total area of 70,813ha) as Group A subprojects.

1) 10-year Development Plan : Project Cost 1) above ('000 pesos)

| | |
|---|---|
| Costs of F/S, D/D & Construction | 926,290 |
| Costs of Institutional Development | 51,236 |
| Total | 977,526 |

2) Group A Subprojects : Project Cost 2) above

| | |
|---|---|
| Cost of F/S, D/D & Construction | 74,836 |
| Cost of Institutional Development | 23,164 |
| Total | 98,000 |

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

Impacts of the 10-year Plan:
i) The implementation will increase 1.53 million tons of paddy, contributing to the achievement of 100% rice self-sufficiency.
2) The plan will create 68 million man days of employment for construction, and 97 million man days of agricultural employment after the construction.
3) Foreign exchange savings
4) The implementation will stimulate economic activities throughout the country.
5) Group A subprojects are located in the economically depressed rural areas, and their implementation will alleviate proverty problems.
6) The implementation will promote the participation of small farmers in the development process and improve their operation and maintenance capability.

**5.TECHNICAL TRANSFER**

1. Weekly meetings on the method of master plan formulation.
2. Seminars on database compilation and operation.

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**

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

(Description)

The 10-year Development Plan is considered one of the references for communal irrigation development and utilized by the National Irrigation Administration for annual planning and external assistance negotiations. However, the actual implementation has been slow, owing to the nation-wide financial constraints and the on-going reform which decentralizes the project implementation from the central to the provincial governments.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**

①

和名 小規模灌漑施設整備計画

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

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

ASE PHL/S 207A/91

Compiled Mar.1993
Revised

## I. OUTLINE OF STUDY

**1.COUNTRY** Philippines

**2.NAME OF STUDY**
Agno River Basin Flood Control

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

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Department of Public Works and Highways(DPWH)

**7.OBJECTIVES OF STUDY**
To formulate a Master Plan for flood control in the Agno River Basin and to identify the priority areas.

**8.DATE OF S/W** Dec.1988

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

**10.STUDY TEAM**

| | No.of Members | Period |
|---|---|---|
| Total M/M | | |
| Japan | | |
| Field | | |

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

**12.EXPENDITURE**
Total 671,110 (¥'000)
Contracted

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Three river systems and their alluvial plain the Pangasinan Plain in the western part of Central Luzon, which drainage area totals 7,640sq.km, broken down into 5,907 sq.km for the Agno River Basin, 1,115sq.km for the Pantal-Sinocalan River Basin and

**2.PROJECT COST**

| (US$1,000) | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 1,070,516 | | |
| 2) | 16,255 | | |

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

1) Framework Plan:
1. River improvements(stretch of 146.4 km), the Poponto floodway and natural retarding basin, and the Moriones-O'Donnel dam for the Agno River and its tributary the Tarlac River
2. River improvements for the four Agno River tributaries, Camiling, Banila, Viray-Dipalo and Ambayoan.
3. River improvements and the Binalonan floodway.
4. Flood Forecasting and Warning System(FFWS) including the up-grade of existing ABC (the Agono, Bicoland and Cagayan Rivers).
5. Debris Barrier Plan of construction of 34 dams including the San Roque Dam and the Moriones-O'Donnel Dam.

2) Long-term Plan:
1. All the Framework Plan projects proposed excluding the Moriones-O'Donnell Dam and Binalonan floodway.
2. Among the FFWS Long-term Plan, the improvement of the flood forecasting accuracy of the forecasting points in the existing Agno River FFWS and effective carrying out of flood warning activity in the Study project areas.

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

Costs of proposed plan are calculated at June 1989 price level.
1) Framework Plan:
1. Defined as an ideal portrait of flood control plan which is to be achieved in the unspecified future.
2. The flood control target is set at a 100-year probable flood for the Main Agno River and the Tarlac River and at a 50-year probable flood for the other tributaries of Agno and the Allied Rivers.
3. The flood control effect of the San Roque Dam, which design is completed, is taken into account in the plan.
4. The Long-term Debris Barrier Plan is formulated assuming that the sediment control plan will be proceeded in the future, fifty percent of the sediment yield in the mountainous areas will be mitigated by afforestation/reforestation and sediment due to mine tailings, land slide and soil erosion due to road construction will be totally controlled.

2) Long-term Plan:
1. Defined as an stage development plan of the Framework Plan, the completion target year of which is set at the year 2020(30 year-long-term plan).
2. The flood control target is set at a feasible scale during a project life of 50 years starting construction from 1995.
3. The flood control scale is set at a 25-year probable flood for the Agno River and its tributaries and a 10-year probable flood for the allied rivers.

**5.TECHNICAL TRANSFER**

## III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**

和名 アグノ川流域治水計画

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

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

ASE PHL/S 207B/91

Compiled Mar.1993
Revised

## I. OUTLINE OF STUDY

**1.COUNTRY** Philippines

**2.NAME OF STUDY**
Agno River Basin Flood Control

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

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Deprtment of Public Works and Highways (DPWH)

**7.OBJECTIVES OF STUDY**
To conduct a Feasibility Study on the flood control projects in the identified priority areas.

**8.DATE OF S/W** Dec.1988

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

**10.STUDY TEAM**
No.of Members
Period May.1989-Sep.1991(28 months)

| Total M/M | Japan | Field |
|---|---|---|

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

**12.EXPENDITURE**
Total 671,110 (¥'000)
Contracted

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
A beneficial area of 1,264 sq. km along the Upper Agno River(32 human settlements in central and northwestern Pangasinan, including the cities of Dagupan and San Carlos, and the towns of Camiling in Tarlac and Rosario in La Union) and 879 sq. km along

**2.PROJECT COST**

| (US$1,000) | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| US$1=27.8pesos | 1) | 3,913 | | |
| | 2) | 3,895 | | |
| | 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
1) Flood Control Plan for the Upper Agno River
a. River Improvement Plan
1. Bayambang - Alcala strech(22.55 km)
- Construction of a new dike downstream of the Calvo bridge to the Wawa bridge
- Demolition of the existing Poponto inlet weir and construction of new 1,200m wide Poponto floodway together with channel improvement therof
- Construction of a new diversion channel at the bifurcation point of the floodway leading to the Bayambang stretch

2. Alcala - Asingan stretch (30.85km)
- Heightening of existing dikes, enlargement of the existing low water channel(the design bed width of 150m) and construction of a shortcut
- Construction of a new stretch levee on the right bank to enlarge the existing minimum river width to 900m (stretch length of 2.8 km of Camen)
- Heightening of the existing 3.6 km long Carman concrete dike on the left bank

3. Asingan - San Manuel stretch (15.66 km)

Imp. Period: .1995-.2004

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 20.58 | FIRR1) | 19.96 |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
1. Base Year Beginning of 1990
2. Project Life 50 years (from 1995 to 2044)
3. Economic Life 50 years (from 1995 to 2044)
4. Operational Costs 0.5% of main construction cost and maintenance cost of completed works
5. Price Levels May 1991 price levels
6. Growth Factor of Benefit Flow 1.049% (= Gross Regional Domestic Product)
7. Social Discount Rate 15%

**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)

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**

和名 アグノ川流域治水計画

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

# PROJECT SUMMARY (F/S)

ASE PHL/S 325/91

Compiled Mar.1993
Revised

## I. OUTLINE OF STUDY

1.COUNTRY: Philippines

2.NAME OF STUDY: Balara Water Treatment Plant Rehabilitation Project

3.SECTOR: Public Utilities/Water Supply

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: Metropolitan Waterworks and Sewerage System (MWSS)

7.OBJECTIVES OF STUDY: To recover the productivity of the plant and to improve the water quality.

8.DATE OF S/W: Feb.1991

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

10.STUDY TEAM

No.of Members 6

Period Aug.1991-Mar.1992(8 months)

| Total M/M | Japan | Field |
|---|---|---|
| 22.83 | 9.20 | 13.63 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

| | |
|---|---|
| Total | 89,337 (¥'000) |
| Contracted | 77,191 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Balara Water Treatment Plant

2.PROJECT COST (US$1,000)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 10,576 | 1,997 | 8,579 |
| 2) | 25,442 | 5,764 | 19,678 |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

In order to recover the planned capacity (1.6 million cu.m./year) of the treatment plant, stabilize the water treatment process, and improve the maintenance and operation, the Study recommends the replacement of the malfunctioning treatment equipment including chlorination. The Study compared three alternatives shown below and judged that Alternative 2 would be technically and financially optimal.

1. Replacement and rehabilitation of only those equipments which are in need of urgent replacement or rehabilitation
2. Rehabilitation and improvement of the basic equipment, in addition to the minimum replacement and rehabilitation above.
3. Modernization of the entire equipment based on the long-term needs

Alternative 2 consists of the replacement of defective equipment, the improvement of structural defects of sedimentation basins, and other necessary improvement measures in order to ensure the 15-year durability.

The project cost 1) above is for Alternative 1, and the project cost 2) for Alternative 2.

Imp. Period: .1992-.1995

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 63.80 | FIRR1) | 7.80 |
| EIRR2) | 32.40 | FIRR2) | 5.40 |
| EIRR3) | | FIRR3) | |

Conditions and Development Impacts:

The benefits such as health and welfare improvement and promotion of local industry will be brought approximately 6 million persons in Metro Manila.

* EIRR 1) and FIRR 1) are for the replacement of the superannuated treatment equipment including chlorination, and EIRR 2) and FIRR 2) for the entire project.

5.TECHNICAL TRANSFER

Techinical transfer in terms of confirmation method for the treated water capacity, adjustment method of intensity of coaqulation and flocculation , the importances of sludge disposal of sedimentation basin, the importance of filter washing procedures and the adjustment of chemical dosage were conducted.

## 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 February 1992, MWSS submitted to National Economic Development Authority (NEDA) the request of applying for the Japanese Grant Aid Program to implement the project.

2.MAJOR REASONS FOR PRESENT STATUS

This project is important and urgent, and MWSS is financially in the difficult situation. Its finance has got in the red since 1991 according to the study.

3.PRINCIPAL SOURCE OF INFORMATION

①

和名 バララ浄水場修復計画

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

# PROJECT SUMMARY (F/S)

ASE PHL/S 324/91

Compiled Mar.1993
Revised

## I. OUTLINE OF STUDY

**1.COUNTRY** Philippines

**2.NAME OF STUDY**
Rural Road Disaster Prevention Project

**3.SECTOR**
Transportation/Road

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Department of Public Works and Highways (DPWH)
Project Management Office (PMO)

**7.OBJECTIVES OF STUDY**
1.To find disaster spots on rural roads in pilot provinces and to propose restoration policies.
2.To make enforcement plans for restoration policies proposed.
3.To settle general restoration methods of rural

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

**9.CONSULTANT(S)**
Katahira & Engineers International

**10.STUDY TEAM**

| No.of Members | 9 | | |
|---|---|---|---|
| Period | Sep.1989-Jan.1992 (27 months) | | |
| | Total M/M | Japan | Field |
| | 53.00 | 3.00 | 50.00 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 214,000 (¥'000) |
| Contracted | 200,365 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
1) Disaster restoration projects in the pilot provinces: Sixty-two disaster spots in the three provinces of Benquet, Batangas and Leyte(twenty-one spots in the Benquet Province, eighteen in Batangas and twenty-three in Leyte).

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

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 2,400 | 1,184 | 1,216 |
| 2) | | | |
| 3) | | | |

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

Restoration Methods of Disaster-damaged Roads:

| Type of Disaster | Urgent Measures | Permanent Measures |
|---|---|---|
| 1. Cut slope failure | Removal of deposits | Recutting,etc. |
| 2. Embank. slope fail. | Refilling, embankment, etc. | Refiling, embankment, etc. |
| 3. Fall of rock/debris | Removal of deposits, etc. | Recutting,etc. |
| 4. Landslide | Removal of deposits, etc. | Horizontal drain holes |
| 5. Debris flow | Removal of deposits | Catch qabion wall, etc. |
| 6. Washout of roadbeds | Refilling, embankment, etc. | Grouted riprap |
| 7. Flooded/muddy road surface | Temporary side ditch<br>Gravel surfacing | Surface drainage<br>Gravel surfacing |
| 8. Permanent/temporary bridge washout | H-Pile bent<br>Bailey bridge | Concrete bridge,or<br>None |
| 9. Perm./temp. bridge approach washout | Bailey bridge | Grouted riprap<br>Concrete bridge |
| 10.Other bridge damage | None | Concrete foot protection |
| 11.Spillway Damage | Selected material fill | Support-type concrete wall,etc. |
| 12.Culvert Damage | Refilling, embankment, etc. | Surface drainage, etc. |
| 13.Seawall Damage | Wooden fence | Gravity type stone Masonry,etc. |

**Imp. Period:** Jan.1992-Sep.1995

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

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

**Conditions and Development Impacts:**
1. All of the proposed restoration methods are technically feasible.
- Remedies of the condition that qabions, H-piles, Bailey bridge materials and vegetation seeds are not easily procured.
- Understanding cautions about executing methods of qabions and horizontal drain holes, which are scarcely used.
- Appropriate maintenance on the drain facilities, vegetation and rock fall catches.
2. All of the projects except two upgrading projects are economically feasible.
- Analysis period is twenty years from 1992 to 2011.
- Discount rate is 15% per annum.
- Evaluation is quantitative analysis of cost and benefit by comparing between two cases:
one that urgent measures are followed by permanent and the other that only urgent are executed.
-"Without case " adn with case are defined according to five disaster occurrence patterns (disaster patterns, Magnitude, frequency and restoration timing).
- Costs are defined as those for urgent or permanent measures according to projects and are assumed to be disbursed at the first year of analysis.
- benefits are divided between covering and maintenance benefits.

**5.TECHNICAL TRANSFER**
Holding a seminar
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)
The annual budgets of the DPWH have been, and are being, chiefly used for the restoration of those areas which were damaged by the earthquake in Luzon (July 1990) and the eruption of Mt. Pinatubo (Nov.1991). This Study aimed to establish the restoration and preventive measures for the regional roads in disaster-prone areas. Therefore, the implementation will be repackaged with other road improvement projects.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①

和名 地方道路防災計画

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

# PROJECT SUMMARY (M/P)

Compiled Mar.1986
Revised Dec.1992

ASO SGP/S 101/78

## I. OUTLINE OF STUDY

**1.COUNTRY** Singapore

**2.NAME OF STUDY**
Dredging Project of the Strait of Singapore

**3.SECTOR**
Transportation/Port

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Port and Harbour Bureau,
Ministry of Transport

**7.OBJECTIVES OF STUDY**
Proposal on dredging method and cost estimates

**8.DATE OF S/W** Jul.1978

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

**10.STUDY TEAM**

No.of Members 2

Period Aug.1978-Mar.1979(6 months)

| Total M/M | Japan | Field |
|---|---|---|
| 32.50 | 13.13 | 19.37 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 124,172 (¥'000) |
| Contracted | 113,950 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Strait of Singapore

**2.PROJECT COST**

| | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| (US$1,000) | 1) | 24,937 | | |
| (US$1=S$2.16) | 2) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Plan for deepening the shallow areas(4 sites) in Singapore Strait.
Based upon the bathymetric surveys,seisemic surveys,Boring,and Inspection by divers, the followings are proposed.
(1) Dredging Method:Grab Dredger
(2) Dredging Volume:484,000cu.m(area 165,000sq.m)
(3) Monthly Production: 38,000cu.m(by 7cu.m Grab)
89,900cu.m(by 13cu.m Grab)

**4.CONDITIONS AND DEVELOPMENT IMPACTS**
Very Large Carriers(Vessels) can pass the Singapore strait.
It enables that far eastern countries can obtain crude oil and other raw materials for cheaper transportation cost.

**5.TECHNICAL TRANSFER**

## III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

(FY1991 Overseas Survey)
The dredging was successfully completed consequent to the technical study concerned.

**2.MAJOR REASONS FOR PRESENT STATUS**
(FY1991 Overseas Survey)
The dredging was deemed necessary in connection with the introduction of the Traffic Separation Scheme in the Strait of Singapore.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 浅瀬浚渫計画

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

# PROJECT SUMMARY (F/S)

ASO SGP/S 301/86

Compiled Mar.1990
Revised Dec.1992

## I. OUTLINE OF STUDY

1.COUNTRY: Singapore

2.NAME OF STUDY: Plant Renovation Project of the Sentosa-1 Earth Station

3.SECTOR: Communications & Broadcasting/Telecommunication

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: Telecommunication Authority of Singapore

7.OBJECTIVES OF STUDY: To study the plant renovation of the SENTOSA-1 E/S

8.DATE OF S/W: Feb.1985

9.CONSULTANT(S): Japan Telecommunications Engineering and Consulti

10.STUDY TEAM

No.of Members 4

Period Mar.1986-Jul.1986(5 months)

| Total M/M | Japan | Field |
|---|---|---|
| 7.64 | 5.40 | 2.24 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

| | |
|---|---|
| Total | 24,504 (¥'000) |
| Contracted | 18,662 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Sentosa Island of Singapore

2.PROJECT COST (US$1,000)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 770 | | |
| 2) | 2,160 | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

The Plant Renovation Project:
1) 5 years life extension
   Antenna mechanical part & structure - partial repair
   Antenna servo drive system - to replace some devices
2) 10 years life extension
   Antenna mechanical part & structure - total repair
   Antenna servo drive system - to replace all
   High Power microwave trasmitter - extension for TDMA system

Imp. Period: Aug.1985-Jan.1986

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

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

Conditions and Development Impacts:
(1) The objectives of study was to investigate the feasibility of service life extension over the design life of the earth station.
(2) The result of the study(report) gave exact information of the earth station expansion project in Singapore Telecoms

5.TECHNICAL TRANSFER: To submit the diagnosis of service life extension over the design life of the antenna

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
The project was discontinued.
1) The antenna was the old type (york tower type) which is less flexible for expansion.
2) INTELSAT standards of the antenna were changed when the study was completed.

(FY1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION: ①②

和名 セントサ衛星地球局補修計画

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

# PROJECT SUMMARY (F/S)

ASO SGP/S 302/88

Compiled Mar.1990
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Singapore

**2.NAME OF STUDY**
Singapore Urban Transport Improvement

**3.SECTOR**
Transportation/Urban Transportation

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Public Works Department, Min. of National Development

**7.OBJECTIVES OF STUDY**
Evaluation of technical and operational feasibility of introducing a new transport system

**8.DATE OF S/W** Apr.1987

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

**10.STUDY TEAM**

| No.of Members | 11 | |
|---|---|---|
| Period | Aug.1987-Nov.1988(15 months) | |
| Total M/M | Japan | Field |
| 53.23 | 8.70 | 44.53 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 209,764 (¥'000) |
| Contracted | 195,078 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
5 routes

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

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 700,000 | | |
| 2) | | | |
| 3) | | | |

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

The study prepared plans to improve the feeder transport systems by introducing a new transit system for five selected areas. A detailed analysis was made of the Ang Mo Kio New Town System.

Major project components:
1) Route and alignment plan, including location of stations
2) Infrastructure plan (structures, stations, yards) and preliminary design
3) Selection of a transit system and an operation plan

Imp. Period:

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

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

**Conditions and Development Impacts:**

Condition:
Smooth linkage of feeder transportation with the trunk system

Development impacts:
1) Reduction of pollution (air pollution and noise)
2) Improvement of traffic safety
3) Time saving by passengers
4) Urban development in the vicinities of stations.

**5.TECHNICAL TRANSFER**
A seminar was held in Feb. 1990, with approximately 300 perticipants.

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

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

(Description)

Among the five suggested routes, the Sentosa Development Corporation and the Public Works Department are interested in implementing the Orchard - Sentosa Route, and taking steps to prepare part of the route for international tender.

The Simpang New Town System is being studied further by the Housing Development Board in order to integrate it with the overall new town planning.

The Ang Mo Kio New Town - Marine Parade Route has been included in the official arterial transport network plan.

No significant actions have been taken on the Ang Mo Kio New Town Route and the Orchard - Marina Centre Route. Because of the competing new towns development, it is difficult for the Government to muster a consensus over a new system for Ang Mo Kio New Town. The area along the Orchard-Marina Centre Route is heavily builtup and a more detailed study and inter-agency coordination will be necessary before implementation.

(FY1991 Overseas Survey)

The concept of LRT was generally accepted and incorporated in the Concept Plan for urban transport.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 都市交通改善計画

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

# PROJECT SUMMARY (F/S)

ASO SGP/S 303/90

Compiled Mar.1992
Revised Mar.1993

## I. OUTLINE OF STUDY

1.COUNTRY: Singapore

2.NAME OF STUDY: Selected Expressways

3.SECTOR: Transportation/Road

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: Public Works Department (PWD), Ministry of National Development (MND)

7.OBJECTIVES OF STUDY: Analysis of feasibility on the selected three expressways; PIE, KLE, and PYE.

8.DATE OF S/W: Oct.1989

9.CONSULTANT(S): Oriental Consultants Co., Ltd.

10.STUDY TEAM

No.of Members 9

Period Mar.1990-Mar.1991(13 months)

| Total M/M | Japan | Field |
|---|---|---|
| 46.08 | 2.50 | 43.58 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

| | |
|---|---|
| Total | 164,071 (¥'000) |
| Contracted | 152,700 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Central and northeastern parts of Singapore

2.PROJECT COST (US$1,000)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 487,000 | | |
| 2) | | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

1)Improvement of PIE (Pan Island Expressway, 8.65km)
2)New construction of KLE (Kallang Expressway 2.68km)
3)New construction of PYE (Paya Lebar Expressway 10.17km)

Imp. Period: .1990-.2009

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 6.00 | FIRR1) | |
| EIRR2) | 60.00 | FIRR2) | |
| EIRR3) | 79.50 | FIRR3) | |

Conditions and Development Impacts:

Conditions:
PIE: Widening of expressway from 6 lanes to 8 lanes
KLE & PYE: New construction of expressway with 6 lanes

Development Impacts:
1. Saving of total traveling time
2. Saving of total vehicle operating cost
3. Reduction of traffic accidents and environmental impacts
The improvement of PIE and the construction of KLE and PYE are considered feasible in technical, economic and social aspects.

5.TECHNICAL TRANSFER

1. Methodology of alternative evaluation.
2. Clarification of issues solved and proposal of solutions.

## 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 part of PIE was put to tender during the study period, and contractors were selected. The next section will be tendered soon. Construction of KLE and PYE will proceed in due course to detailed design, tender and construction in accordance with the schedule set by the PWD. As for PYE, the target year for construction is set for 2009. Implementation schedule:

PIE:PIE/Woodsville Road IC - PIE/CTE IC Completion in 1994
PIE/CTE IC West - PIE/BKE IC Completion in 1995
KLE:KLE/ECP IC - KLE/PIE IC Completion in 1997
PYE:PYE/PIE IC - PYE/TPE IC Completion in 2010

| Estimated Project Cost (million S$ | PIE | KLE | PYE |
|---|---|---|---|
| Construction Cost | 84.4 | 276.4 | 358.1 |
| Land Acquisition and Compensation Costs | 0.0 | 33.2 | 17.3 |
| Contingencies (10%) | 8.4 | 31.0 | 37.5 |
| Total | 92.8 | 340.6 | 412.5 |

(FY1991 Overseas Survey)

The findings of the study were incorporated in the Concept Plan. The in-house detailed design was made on part of PIE during 1990 - 1993. The construction is scheduled for 1991 - 1995, wholly financed by domestic funds.

(FY1992 Overseas Survey)

The project is financed by the Government of Singapore (PIE: S$ 93.3 Mil., KLE: S$ 332.8 Mil).

2.MAJOR REASONS FOR PRESENT STATUS

Development of the expressway system is considered urgent to maintain high standards of social infrastructure services in Singapore.

3.PRINCIPAL SOURCE OF INFORMATION

①②

和名 カラン・バヤレバ高速道路計画

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

# PROJECT SUMMARY (F/S)

ASO LKA/S 301/77

Compiled Mar.1986
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Sri Lanka

**2.NAME OF STUDY**
Outside Colombo Area Telecommunication Development Scheme:Stage II Project

**3.SECTOR**
Communications & Broadcasting/Telecommunication

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Ministry of Post and Telecommunication

**7.OBJECTIVES OF STUDY**

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

**9.CONSULTANT(S)**

**10.STUDY TEAM**

No.of Members 10
Period Jan.1977-Jul.1977(5 months)

| Total M/M | Japan | Field |
|---|---|---|
| 21.00 | 2.00 | 19.00 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 22,095 (¥'000) |
| Contracted | 69,027 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Colombo and six other major cities (Jaffna, Trincomalee, Anuradhapura, Kurunegala,, Badulla, (Ratnapura)

**2.PROJECT COST**

(US$1,000)
US$1=290Yen=Rs7.28

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 8,341 | 1,658 | 6,683 |
| 2) | | | |
| 3) | | | |

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

1) Subscriber trunk dialling systems: 6 cities except Colombo
2) Cross-bar systems
   - 6 local switches (total of 14,500 terminals): Colombo Central, Anuradhapura, Jaffna, Kurunegala Ratnapura, Badulla, Trincomalee
   - Toll switch (400 terminals): Colombo Central
   - Toll transit switch (200 terminals): Colombo Central
3) Toll transmission paths(new and extension)
   New microwave radio systems (3 paths); Extension of microwave radio systems (2 paths); new UHF system (1 path); and Cable carrier systems (2 paths)
4) Local cables at 6 telephone offices: Aerial cable 68km and underqround cable 30.5km (Badulla, Colombo Central, Jaffna, Kurunegala, Ratnapura)
5) 5 office buildings
   Badulla Telephone Office and four radio repeater stations ( Single Tree Hill, Namunukula, Suriyakanda, Kurunegala Rock)

Imp. Period: .1979-.1982

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 15.10 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**

Conditios:
1) Project life of 20 years, costruction period of 2 years, and discount rate of 15%
2) Assuminq that the India - Sri Lanka Microwave System (which is expected to be used as the transmission line of the proposed projet) be completed by the end of 1978, 50% of its construction cost is included in the project cost.
3) Operation & maintenance costs are assumed to be 3.5% and 12% respectively of the constructon cost.

Development impacts:
1) Extension of telecommunication to reqional cities which are now inadequately serviced
2) Reduction of waitinq subscriber applications
3) Stimulation of socio-economic development in Colombo and 6 reqional cities

**5.TECHNICAL TRANSFER**

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

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

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

Mar. 1978 OECF loan agreement signed (1,940 million yen)
Dec. 1982 Implementation completed

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①④

和名 電気通信網整備計画

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

# PROJECT SUMMARY (F/S)

Compiled Mar.1990
Revised Mar.1993

ASO LKA/A 301/77

## I. OUTLINE OF STUDY

**1.COUNTRY** Sri Lanka

**2.NAME OF STUDY**
Inginimitiya Reservoir Project

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Ministry of Irrigation, Power and Highways

**7.OBJECTIVES OF STUDY**
Rural Development by the Dam Construction and Downstream Development

**8.DATE OF S/W** Dec.1976

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

**10.STUDY TEAM**

No.of Members

Period Mar.1977-Aug.1977(6 months)

| Total M/M | Japan | Field |
|---|---|---|
| 21.50 | 13.80 | 7.70 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 56,276 (¥'000) |
| Contracted | 48,427 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Puttalum District

**2.PROJECT COST**

(US$1,000)
US$1=7.28Rs.

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 23,200 | 13,600 | 9,000 |
| 2) | | | |
| 3) | | | |

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

1) Irrigation Area: 2,500 ha

2) Dam
Type: Homogeneous type
Length: 3.97 km
Top width: 6.10 m
Approximate number of cubes: 1,112,190 cu.m

3) Reservoir
Effective storage capacity: 60.2 MCM
Total drainage area: 614,685 sq.km
Maximum annual yield (for 150 sq.miles): 415,574,000 cu.m

4) Main Canal
Type: Earth Channel
Length: LB 21.40 km
RB 26.06 km
Irrigation area: LB 1,620 ha
RB 931.5 ha

Imp. Period:

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 18.00 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**

Conditions:
1) A five year project implementation and a 50 year project life
2) The output in the newly developed land in the 6th and the 11th year will be as follows:

| | Paddy | Soya Bean | Pulses | Chillies (kg) |
|---|---|---|---|---|
| 6th year | 939.2 | 304.8 | 254 | 355.6 |
| 11th year | 1,669.6 | 609.6 | 508 | 762 |

3) Projected 1985 world market prices in terms of 1976 dollars for agricultural inputs and outputs.
4) Benefit by increasing the agricultural products

Development Impacts:
1) Increase the agricultural products
2) Create the farmer organizations and improve rural living condition

**5.TECHNICAL TRANSFER**

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

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

(Description)

The proposed project was completed by the OECF loan.

Aug.1978 OECF L/A signed (1,800 million yen)
Jun.1979 - Jun.1984 D/D and engineering service undertaken by Japan Engineering Consultants Co., Ltd.
Sep.1981 Construction started
Mar.1985 Construction completed

OECF Loan:
- Earth dam (length4,648m, height 18m, Cap.60.19 milliontons)
- Irrigation facilities (existing 664 ha, new 1,887ha)
- Land clearing & preparation and settlement (1,680 households)

(FY 1992 Overseas Survey)

The dam has already been in use. However, owing to the shortage of water, the planted area was far below the planned target (approx. 50% of the target during 1985 - 1993).

Presently a study to identify the reasons of the water shortage (SAPS) is being conducted, and the final report is due in March 1993.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**

①③④

和名 インギニミチャ灌がいダム計画

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

# PROJECT SUMMARY (F/S)

ASO LKA/A 302/79

Compiled Mar.1990
Revised Mar.1993

## I. OUTLINE OF STUDY

1.COUNTRY: Sri Lanka

2.NAME OF STUDY: Moragahakanda Agricultural development Project

3.SECTOR: Agriculture/General

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: Mahaweli Development Board

7.OBJECTIVES OF STUDY: Development by dam construction and the downstream development

8.DATE OF S/W: Jul.1978

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

10.STUDY TEAM

No.of Members 15

Period Oct.1978-Sep.1979(10 months)

| Total M/M | Japan | Field |
|---|---|---|
| 92.70 | 51.10 | 41.60 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

| | |
|---|---|
| Total | 231,530 (¥'000) |
| Contracted | 210,460 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: The area which will be irrigated by Angamedilla anicut and Elahera anicut on the Amban ganga(62,200ha)

2.PROJECT COST (US$1,000) US$1=15Rs in Dec.1978

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 187,470 | 63,670 | 123,800 |
| 2) | | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

1.Dam and Reservoir
Effective Storage Capacity: 686 MCM
Dam Type : Rockfill (Main Dam and 2nd saddle-dam)
Concrete Gravity (1st Saddle-dam)
2.Downstream Development Irrigation area: 62,200 ha
Canal Irrigation Canal 145.2 km
Drainage Canal 91.4 km

Imp. Period: .1980-.1988

4.FEASIBILITY AND ITS ASSUMPTIONS — Feasibility: Yes

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

Conditions and Development Impacts:

Conditions:
Benefit by hydroelectric power for the electric supply capacity and by irrigation for the agricultural products.

Development Impacts:
Increase of the agricultural products,
improvement of an unemployment problem
Development of social economy

5.TECHNICAL TRANSFER: OJT

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

Moragahakanda agricultural development project (Dec.1979-F/S) was reviewed again and a survey for Mahaweli ganga master plan was executed and its report was submitted on May.1989.
After presentation of this report, Master Plan of Feasibility Plan in the same name as this study was done for reconsideration and completed in 1990.

(FY 1992 Overseas Survey)
Another JICA study (M/P+F/S) was conducted in two phases during 1988 - 1989 to review this feasibility study. The new study proposed the construction of dams, irrigation development (62,000ha) and a hydropower plant (25MW) in the 1st phase and proposed 3-stage development plan for the NCRB area in the 2nd phase.
The Sri Lankan government is now considering the construction of Karuganga Dam proposed by the new study. As a result, the proposals of this F/S were greatly changed.

2.MAJOR REASONS FOR PRESENT STATUS

Under adjustment of priority for project in the government of Sri Lanka.

The deterioration of the safty condition in the Northern area due to the activities of LTTE (Tamir-Islamic guerrilas)

3.PRINCIPAL SOURCE OF INFORMATION: ①②

和名 モラガハカンダ農業開発計画

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

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

ASO LKA/S 201A/80

Compiled Mar.1986
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Sri Lanka

**2.NAME OF STUDY**
Development Project of the Port of Colombo

**3.SECTOR**
Transportation/Port

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Sri Lanka Ports Authority(SLPA)

**7.OBJECTIVES OF STUDY**
Short Term Development Plan,and Long Term Development Plan

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

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

**10.STUDY TEAM**

No.of Members 9

Period Jun.1979-Mar.1980(9 months)

| Total M/M | Japan | Field |
|---|---|---|
| 46.14 | 33.60 | 12.54 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 104,401 (¥'000) |
| Contracted | 89,707 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Colombo (Field investigation was also conducted at Galle and Trincomare Pors)

**2.PROJECT COST**

| (US$1,000) | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 130,360 | | |
| (US$1=218.89Yen) | 2) | | | |

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

The study formulated a Master Plan with a target year of 1988.
1. Conventional berths
   1) One new berth (KQ #2): -12m x 250m (to be modified to a container berth after 1988)
   2) Expansion one berth to two berths: -9m x 165m & expansion 50m
   3) Others (3 berths converted to ship repair berths,one berth converted to a container berth)
2. Container berths
   1) Three new berths (KQ #1, #2, #3)
   2) Containerizaton of QEQ #5 (crane foundation, etc.)
3. One oil berth: Dolphines, pipelines, bunkering facilities, etc.
4. Cargo handling equipment (85 fork lifts, 8 mobile cranes & one floating crane)
5. Road 5.7km (two-lane in 1982 four-lane in 1988)

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

Basic Guidelines for the Master Plan:
1) The present and future congestion of the Port will be reduced by mechanizaton of cargo handling and additional berthing facilities. Development of oil-handling facilities will be planned apace with the expansion of the existing oil refinery.
2) Containerizaton of the Port includes the modification of existing berths and if deemed necessary the construction of new container terminals.
3) More effective and adequate land use planning
4) The road network wil be improved to increase the Port-related road transport capcity and to insure better linkage with Colombo City.
5) An urgent need for the expansion of large vessel repair facilities will be considered.

Demand Forecast:(figures in parentheses show containerized cargo)

| ('000 tons) | 1983 | 1988 |
|---|---|---|
| Dry cargo | 3,313 (899) | 4,573 (2,398) |
| Wet cargo | 2,865 | 3,108 |

**5.TECHNICAL TRANSFER**
Giving lecture on the methods for Port Planning.

## III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
It has been included in National Development Plan, and it is now under construction.

(FY 1991 Overseas Survey)
No additional information

(FY 1992 Overseas Survey)
1991 Start of construction
1993 Scheduled to be completed
(no funding is made available for North Pier)

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 コロンボ港整備計画

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

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

ASO LKA/S 201B/80

Compiled Mar.1990
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Sri Lanka

**2.NAME OF STUDY**
Development Project of the Port of Colombo

**3.SECTOR**
Transportation/Port

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Sri Lanka Ports Authority

**7.OBJECTIVES OF STUDY**
Formulating of:
Short Term Development Plan and Long Term Development Plan

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

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

**10.STUDY TEAM**

| No.of Members | Period | Total M/M | Japan | Field |
|---|---|---|---|---|
| 9 | Jun.1979-Mar.1980(9 months) | 46.14 | 33.60 | 12.54 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 104,401 (¥'000) |
| Contracted | 89,707 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Colombo

**2.PROJECT COST**

| (US$1,000) (US$1=218.89Yen) | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 70,458 | 16,418 | 54,040 |
| | 2) | | | |
| | 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Urgent Plan
1) One new conventional berth (KQ #2): -12m x 250m
2) Conversion of one berth to a ship repair berth
3) Cargo handling equipment (38 3-ton fork lifts, 47 5-ton fork lifts, 30-ton mobile cranes and one floating crane)
4) One new container berth (KQ #1): -12m x 300m
5) Crane foundation and others for QEQ #5: -11m x 200m
6) container equipment (3 container cranes, etc.)
7) Road 5.7km (two-lane)

**Imp. Period:** Feb.1981-Dec.1983

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 17.10 | FIRR1) | 8.22 |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Conditions:
1) Project life of 25 years (1980-2004)
2) 25% increase of port tariffs, excluding container tariff

Development impacts:
1) Reduction of cargo handling costs
2) Reduction of ships' staying and waiting costs and time
3) Improvement of the safety of navigation
4) the role as a center of entrepot trade and container feeder services
5) Value-added earned by ship repair (Colombo Dockyard Ltd.)
6) Contribution of expanded port activities to economic development

**5.TECHNICAL TRANSFER**
Giving lecture on the methods for Port Planning

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

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

(Description)

| Date of OECF L/A | Amount |
|---|---|
| Oct. 1980 | 7,600 million Yen |
| Apr. 1984 | 6,362 " |
| Jan. 1985 | 2,579 " |
| Oct. 1987 | 1,955 " |
| Mar. 1990 | 6,329 " |

Construction for port improvement began in October 1988.
Construction for port expansion began in May 1990.

(FY 1991 Overseas Survey)
1991 Construction is started.

(FY 1992 Overseas Survey)
The project is scheduled to be completed in 1993, but no funding is yet made available for the North Pier.

**2.MAJOR REASONS FOR PRESENT STATUS**
High return from the project

**3.PRINCIPAL SOURCE OF INFORMATION**
①②④

和名 コロンボ港整備計画

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

# PROJECT SUMMARY (Other)

Compiled Mar.1990
Revised Mar.1992

ASO LKA/S 601/80

## I. OUTLINE OF STUDY

1.COUNTRY: Sri Lanka

2.NAME OF STUDY
Development Project of the Port of Colombo(follow-up)

3.SECTOR
Transportation/Port

4.REFERENCE NO.

5.TYPE OF STUDY: Other

6.COUNTERPART AGENCY

7.OBJECTIVES OF STUDY
Technical explanation to the government authorities

8.DATE OF S/W: .0

9.CONSULTANT(S)

10.STUDY TEAM
No.of Members
Period Aug.1980-Sep.1980(0 months)

| Total M/M | Japan | Field |
|---|---|---|

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

| | |
|---|---|
| Total | 1,510 (¥'000) |
| Contracted | 1,510 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA

2.PROJECT COST

(US$1,000)

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

3.CONTENTS OF MAJOR PROJECT(S)
The study team explained the technical issues involved in the construction of the container berth which was proposed by the F/S conducted in FY 1979 and will be financed by OECF.

4.CONDITIONS AND DEVELOPMENT IMPACTS

5.TECHNICAL TRANSFER

## III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 コロンボ港整備計画アフターケア

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

# PROJECT SUMMARY (F/S)

ASO LKA/A 303/81

Compiled Mar.1990
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Sri Lanka

**2.NAME OF STUDY**
Mahaweli Ganga Agricultural Development:System C

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Mahaweli Development Board

**7.OBJECTIVES OF STUDY**
Agricultural products increased by improvement of irrigation system

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

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

**10.STUDY TEAM**

No.of Members 6
Period Mar.1981-Mar.1981 (1 months)

| Total M/M | Japan | Field |
|---|---|---|
| 3.00 | 1.80 | 1.20 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 28,983 (¥'000) |
| Contracted | 7,000 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Right Bank on the lower Mahaweli Ganga(68,000ha)

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

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 85,300 | 40,100 | 45,200 |
| 2) | | | |
| 3) | | | |

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

1.Main Canal 17.4 km
2.Branch Canal 54.7 km
3.Farm ditch 50.1 km
4.Main drains Kuda Oya, Hunqamala Ela
5.Reclamation (Block 3.4.5)
  1) Land clearing 9,255 ha
  2) Distributor and field channels 6,960 ha
  3) Secondary and field channels 6,960 ha
  4) On-farm development 6,960 ha
  5) Roads 130 km
6.Equipment and Vehicles
  1) Maintenance equipment
  2) Management and operation vehicles
  3) Tractor hire service equipment and vehicles
  4) Social infrastructure vehicles
  5) Settlement vehicles

**Imp. Period:** .1982-.1986

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

| | | | |
|---|---|---|---|
| EIRR1) | 16.80 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**

Conditions:
(1) Construction period: 5 years
(2) Increase of benefits by agricultural products.
Agricultural outputs (yearly)

| | | | |
|---|---|---|---|
| rice | 124,420 tons | pepper | 230 tons |
| Maize | 1,220 tons | Cowpeas | 310 tons |
| Coffee | 590 tons | Groundnut | 590 tons |
| Cocoa | 200 tons | | |

Development Impacts:
Improvement of agricultural products and agricultural income
Contribution to alleviate the food shortage problem

**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)

(FY1991 Overseas Survey)
The project is under implementation. 90% of the project has been completed.

(FY1992 Overseas Survey)
The construction of the main and branch canals were completed at the end of 1992. The construction of end canals, drainage and pavements is scheduled to be completed during 1993.
Technical guidance in agricultural technology and water management is being conducted by Dept. of Economics, Mahaweli Authority (to be continued till 1994).
The project has been financed by OECF, IDA and Kuwait Fund.

Oct.1981 OECF L/A signed (7,700 mil. yen)
May 1988 OECF L/A signed (2,950 mil. yen)
Main and branch canals were completed in the end of 1992. Tertiary irrigation and drainage canals and rural roads will be completed in 1993.

Japanese Grant Aid:
Dec.1982 E/N signed (996 mil. yen for the Pilot Farm)

Japanese Technical Cooperation (project type):
Feb.1985 - Jan.1990 Trials and demonstration on the pilot farm

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②③④

和名 マハヴェリ農業開発計画システムC地区

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

# PROJECT SUMMARY (F/S)

Compiled Mar.1988
Revised Mar.1993

ASO LKA/S 302/82

## I. OUTLINE OF STUDY

1.COUNTRY: Sri Lanka

2.NAME OF STUDY: Water Supply Scheme for Amparai Group of Towns

3.SECTOR: Public Utilities/Water Supply

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: National Water Supply and Drainage Board

7.OBJECTIVES OF STUDY: F/S on local water supply system for improvement on shortage of supply and environment hygiene

8.DATE OF S/W: Dec.1981

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

10.STUDY TEAM

No.of Members 6

Period Feb.1982-Oct.1982(8 months)

| Total M/M | Japan | Field |
|---|---|---|
| 45.61 | 27.41 | 18.20 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

| | |
|---|---|
| Total | 112,094 (¥'000) |
| Contracted | 103,138 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Amparai district located at east coast Ceylon Island

2.PROJECT COST (US$1,000) (US$1=250Yen=20.8Rp)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 20,300 | 13,100 | 7,200 |
| 2) | | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

| | |
|---|---|
| Service Area | 1995 : 2,732 ha<br>2005 : 3,325 ha |
| Served Population | 1995 : 172,300<br>2005 : 261,100 |
| Daily Max. | 1995 : 27,400 cu.m/day<br>2005 : 53,900 cu.m/day |
| Water Sources | Amparai area : Amparai reservoir<br>Coastal area : Sambuveli weir (surface water) |

Imp. Period: Jun.1983-Dec.1986

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

| | | | |
|---|---|---|---|
| EIRR1) | | FIRR1) | 4.91 |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

Conditions and Development Impacts:

In the project area, people get potable water out of shallow wells. With the proposed project, environment will improve and also employment opportunities increase. At present, water has been supplied to only 27,000 persons among project area population of 146,000(1981). However, by the project execution, water will be supplied to 172,000 persons out of project area population of 237,000 in the year 1995.

5.TECHNICAL TRANSFER

Carried out the training program on the water supply planning to two counterpart staff

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

The study has been highly appreciated by the National Water Supply and Drainage Board. The Ministry of Finance was planning to execute the project upon confirmation of availability of local currency portion.

As of Aug.1987, it was reported that the project was started by IDA fund and a British consultant was selected in July 1987.

The situation unchanged in 1991.

(FY 1991 Overseas Survey)
No additional information

(FY 1992 Overseas Survey)
At this moment (March 1993), the donar(s) for the project has not been decided. Once it is decided, the implementation of the project will be reconsidered.

2.MAJOR REASONS FOR PRESENT STATUS

Due to shortage of government fund, the Sri Lanka Government did not make any official request for assistance from Japan.

3.PRINCIPAL SOURCE OF INFORMATION

①②

和名 地方上水道整備計画

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

# PROJECT SUMMARY (Other)

Compiled Mar.1990
Revised Mar.1992

ASO LKA/S 602/82

## I. OUTLINE OF STUDY

1.COUNTRY: Sri Lanka

2.NAME OF STUDY
Colombo Airport Development (follow-up)

3.SECTOR
Transportation/Air Transportation & Airport

4.REFERENCE NO.

5.TYPE OF STUDY: Other

6.COUNTERPART AGENCY
Airport and Aviation Service(S.L.) Ltd.

7.OBJECTIVES OF STUDY
Detailed investigation of construction cost

8.DATE OF S/W: .0

9.CONSULTANT(S)
Japan Airport Consultants, Inc.

10.STUDY TEAM

No.of Members 2
Period Dec.1981-May.1982(6 months)

| Total M/M | Japan | Field |
|---|---|---|
| 4.42 | 3.26 | 1.16 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

| | |
|---|---|
| Total | 26,740 (¥'000) |
| Contracted | 8,869 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
katunayake

2.PROJECT COST

| | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| (US$1,000) | 1) | 115,739 | 25,525 | |
| (US$1=20.55Yen) | 2) | | | |

3.CONTENTS OF MAJOR PROJECT(S)
As a result of comparative study of urgency between new runway construction and terminal complex development, new runway construction is recommended as having a higher priority.

4.CONDITIONS AND DEVELOPMENT IMPACTS
Greatly improved handling of air passengers and other users of airport is expected to contribute to earning of foreign exchange.

5.TECHNICAL TRANSFER
OJT is made by having the local consultants assist the Japanese consultants in the supervision of construction.

## III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

The project was included in the 1984 Public Investment Plan and was completed in 1988. The F/S was undertaken by Netherlands Airport Consultants BV (NACO).
Financing of the project was as follows.
OECF - Passenger Terminal (10,200 million yen)
EXIM Japan - Runway
UK ODA - Navaids
France - Other facilities

(FY1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 コロンボ空港整備計画アフターケア

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

# PROJECT SUMMARY (F/S)

Compiled Mar.1986
Revised Mar.1992

ASO LKA/S 303/83

## I. OUTLINE OF STUDY

1.COUNTRY: Sri Lanka

2.NAME OF STUDY: Colombo-Katunayake Expressway and New Port Access Road Project

3.SECTOR: Transportation/Road

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: Greater Colombo Economic Commission (GCEC)

7.OBJECTIVES OF STUDY

8.DATE OF S/W: Sep.1982

9.CONSULTANT(S): Japan Bridge and Structure Instituted, Inc.
Kokusai Kougyo Co., Ltd.

10.STUDY TEAM

No.of Members 21

Period Dec.1982-Jan.1984(13 months)

| Total M/M | Japan | Field |
|---|---|---|
| 65.59 | 7.49 | 58.10 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY: Topographic and geological survey

12.EXPENDITURE

| | |
|---|---|
| Total | 203,467 (¥'000) |
| Contracted | 193,010 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Colombo metropolitan area

2.PROJECT COST (US$1,000) (US$1/225Yen=23Rs)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 51,080 | 19,790 | |
| 2) | | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

[Project A]
1) Main Road 25.4km
K-1:Daluqama IC - Raqama IC 7.1km; K-2:Raqama IC - Ekala IC 8.4km
K-3:Ekala IC - Airport 9.9km
2) Alternatives and affiliated roads
K-4:Wewelduwa - Kiribathqoda(Access Road to Biyaqama) 1.7km
K-5:Ekala IC - Neqombo(A3)Road 3.1km; K-6:Danduqam - Airport 9.5km
K-7:KIPZIC - Canada Sri Lanka Friendship Road 1.6km
[Project B] 1) Main Road 5.7km
P-1:Colombo Port - Prince of Wales Avenue 1.6km
P-2:Prince of Wales Avenue - Peliyaqoda 1.5km
P-3:Peliyaqoda - Daluqama(Alonq Kandy) 2.9km
2) Alternative and affiliated roads
P-4:Peliyaqoda -Daluqama (Alonq Kandy) 2.6km
P-5:Peliyagoda - Wattala 1.0km

Imp. Period: Jan.1986-Dec.1989

4.FEASIBILITY AND ITS ASSUMPTIONS — Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 18.50 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

Conditions and Development Impacts:

[Conditions]
Start of operation in 1990; the project life of 25 years; opportunity cost of capital at 12%.
[Development Impacts]
1) Establishment of an efficient road network through the separation of passing traffics and large vehicles.
2) Productivity improvement in the GCEC area and Gampaha District as the result of transport connection.
3) Inducement of new industrial investments to Katunayake Investment Promotion Zone and elsewhere.
4) Expansion of the regional market due to the construction of new roads, particularly of the expressway.
5) Shortening of the commuting time within GCEC area and Gampaha District, and the resulting population diffusion effect.

5.TECHNICAL TRANSFER

1) Participation of 2 trainees in JICA training program 2) OJT

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

The D/D of the port access road (1.5km) of Project B was undertaken as part of the OECF loan on the Colombo Port improvement (L/A in Oct.1987, 1,955 million yen).

Mar.1990 OECF E/S loan agreement (520 million yen) on Colombo - Katunayake Express way
Jun.1990 D/D started
Dec.1992 D/D completed

2.MAJOR REASONS FOR PRESENT STATUS

The project implementation was long suspended owing to the political destabilization, but has been resumed to alleviate the traffic congestion.

3.PRINCIPAL SOURCE OF INFORMATION

①②④

和名 コロンボ周辺道路網整備計画

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

# PROJECT SUMMARY (F/S)

Compiled Mar.1986
Revised Mar.1993

ASO LKA/S 304/83

## I. OUTLINE OF STUDY

**1.COUNTRY** Sri Lanka

**2.NAME OF STUDY**
Telecommunications Network Improvement Project in Greater Colombo

**3.SECTOR**
Communications & Broadcasting/Telecommunication

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
SLTD

**7.OBJECTIVES OF STUDY**
Feasibility study on "Telecommunications Network Improvement Project in Greater Colombo" as an integral part of the National Development Plan.

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

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

**10.STUDY TEAM**

No.of Members 15
Period Jan.1983-Nov.1983(11 months)

| Total M/M | Japan | Field |
|---|---|---|
| 46.30 | 11.70 | 34.60 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 117,636 (¥'000) |
| Contracted | 109,525 |

## II. SUMMARY OF STUDY RESULTS

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

**2.PROJECT COST**
(US$1,000)
(US$1=270Yen)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 38,333 | 4,526 | 33,807 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
(1) Junction Network
Junction cable installation: 109.1km
(The above includes optical fiber cable installation for 11.7km.)
PCM system establishment: 781 systems
PCM repeaters: 1,411 pcs
Manhole construction: 327 pcs
Duct installation: Installation length 59.7 km, Pipe length 230km
(2) Subscriber Network
Primay cable installation: 147km
Secondary cable installation: 950km
Cross-connecting cabinet establishment: 187 locations
Number of lead-in cable pairs to exchanges: 67,900 pairs
Manhole construction: 450 pcs
Duct installation: Installation length 96km, Pipe length 490km

Imp. Period: Aug.1986-Nov.1988

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

| | | | |
|---|---|---|---|
| EIRR1) | 29.70 | FIRR1) | 15.20 |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Assumptions:
1)The project life is set at 20 years after service-in.
2)The prices used in the financial analysis were converted to "the border price" by multiplying by the standard conversion factor. As for this project, the border prices happen to be the same as the domestic market prices.
3)Economic benefits consist of consumer's surplus and the operating revenues calculated in the financial analysis.
Development Impacts: (1) Improvement of telecommunication service in the Metropolitan areas; (2)The greater ease of emergency access to medical institutions is conducive to protection and rescue of human lives; (3)Upgrading and diversification of government services including improvement of security; (4)Increased supply of information; (5)Activation of economic activities; (6) Creation of employment oppotunity.

**5.TECHNICAL TRANSFER**
1) Joint preparation of the report; 2) On the job training (SLTD counterparts)

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

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

(Description)

May 1985 OECF loan agreement (10,359 million yen) (Ph-1)
Mar.1991 Construction completed
Mar.1991 OECF Loan Agreement (Ph-II)
Dec.1991 Consulting Service Agreement

(FY 1991 Overseas Survey)
No additional information

(FY 1992 Overseas Survey)
Jun.1993 Detailed Design and start of construction due.
Dec.1994 Implementation scheduled to be completed

**2.MAJOR REASONS FOR PRESENT STATUS**
High priority; This project is considered top priority by the Government of Sri Lanka.

(FY 1992 Overseas Survey)
The greater Colombo area is the center of political and economic activites in the country, and the outdated and insufficient telecommunications system had become a major bottleneck to overcome by the early 1980s.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②④

和名 大コロンボ電気通信網整備計画

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

# PROJECT SUMMARY (M/P)

Compiled Mar.1988
Revised Mar.1992

ASO LKA/S 101/85

## I. OUTLINE OF STUDY

**1.COUNTRY** Sri Lanka

**2.NAME OF STUDY**
Master Plan for the Domestic Telecommunication Network

**3.SECTOR**
Communications & Broadcasting/Telecommunication

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Ministry of Posts and Telecommunications Development.

**7.OBJECTIVES OF STUDY**
To study the Master Plan for telecommunications development in the year 2000.

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

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

**10.STUDY TEAM**

No.of Members 12
Period Dec.1984-Oct.1985(11 months)

| Total M/M | Japan | Field |
|---|---|---|
| | 28.22 | 21.80 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 136,112 (¥'000) |
| Contracted | 128,045 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Whole country

**2.PROJECT COST**

| (US$1,000) | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 29,307 | | |
| (US$=26.00Rp) 2) | | | |

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

To propose 100% of Digitalization of Trunk Network in the year 2000 and the network development for the following towns
(1) Greater Colombo Area Telecommunications Improvement Project-2
(2) SLTD Organization Improvement project
(3) Subscriber's line expansion project and Telecommunications network expansion project for rural towns/villages

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

Conditions:
To realize 100% of demand fulfillment and 100% of digitalization in the year 2000

Impacts:
To decrease the difference in Quality and in Quality between Urban area and Rural area.

**5.TECHNICAL TRANSFER**
(1) Trainee acceptance: 3 counterparts invited Japan, and (2) On the job training (SLTD counterparts)

## III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

The government of Sri Lanka applied the project (the Greater Colombo Telecommunications Improvement Project for yen credit, and OECF pledged financing in October 1990.

Mar.1991 OECF Loan Agreement (Phase II, 10,968 million yen)
Dec.1991 Consulting Service Agreement
Jul.1995 Implementation scheduled to be completed

(FY 1993 Overseas Survey)
No additional information

**2.MAJOR REASONS FOR PRESENT STATUS**
(1) Effectiveness (2) High priority

**3.PRINCIPAL SOURCE OF INFORMATION**
①②④

和名 全国電気通信網整備計画

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

# PROJECT SUMMARY (F/S)

ASO LKA/A 304/85

Compiled Mar.1990
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Sri Lanka

**2.NAME OF STUDY**
Rehabilitation of Tank Irrigation Project

**3.SECTOR**
Agriculture/Irrigation, Drainage & Reclamation

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Ministry of Lands and Land Development

**7.OBJECTIVES OF STUDY**
To stabilize agricultural products and increase incomes and living standard

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

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

**10.STUDY TEAM**

No.of Members 10
Period Jan.1985-Mar.1986(15 months)

| Total M/M | Japan | Field |
|---|---|---|
| 50.29 | 18.33 | 31.96 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 198,301 (¥'000) |
| Contracted | 184,918 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Minipe scheme 6,800ha
Nagadeepa scheme 2,400ha

**2.PROJECT COST**
(US$1,000)
US$1=27.5Rs

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 16,830 | 9,370 | 7,460 |
| 2) | | | |
| 3) | | | |

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

| | Minipe | Nagadeepa |
|---|---|---|
| 1.Canal System | | |
| Main Canal | 55.3km | 11.6km |
| Branch Canal | - | 6.3km |
| D Canal | 70.3km | 20.0km |
| F Canal | 42.0km | 42.9km |
| Heen Ganga Intake | 7.4m(H) X 74m(L) | |
| 2.Road System | | |
| Rehabilitation of Road | 18.8km | 5.9km |
| Bridge | - | 4 X 50m |

Imp. Period:

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

| | | |
|---|---|---|
| EIRR1) | 17.10 | FIRR1) |
| EIRR2) | | FIRR2) |
| EIRR3) | | FIRR3) |

**Conditions and Development Impacts:**

Conditions:
Agricultural products and farmers' income are expected to go up by (a) extending irrigation areas during the dry season.
(b) growth of yield per unit area
(c) agricultural diversification

Development Impacts:
Stabilizing agricultural products and upgrading the income by
(a) rehabilitating the existing irrigations and the road system
(b) ensuring proper operation and maintenance of the system

**5.TECHNICAL TRANSFER**
1.OJT 2.Acceptance of Trainees (1 person)

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

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

(Description)

(FY 1992 Overseas Survey)
The project has been implemented by the OECF loan and the Japanese grant aid.

Jul.1988 OECF L/A signed (1,850 mil. yen)
The loan covers the rehabilitation of main canals (73.3km)
and roads, branch canals (90km) and roads, etc.
Construction scheduled to be completed in 1994.

Apr.1989 Grant Aid E/N signed (449 mil. yen)
Minipe and Nagadeepa rural developement
Phase I: Improvement of roads and digging of wells
Completed

Jun.1989 Grant Aid E/N signed (709 mil. yen)
Phase II: Improvement of roads and digging of wells
Completed

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①③④

和名 農業用貯水池復旧計画

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

# PROJECT SUMMARY (M/P)

ASO LKA/A 101/87

Compiled Mar.1990
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Sri Lanka

**2.NAME OF STUDY**
Integrated Rural Development Project for Gampaha District

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Ministry of Project Planning and Implementation

**7.OBJECTIVES OF STUDY**
District-wide integrated rural development

**8.DATE OF S/W** Apr.1986

**9.CONSULTANT(S)**
Chuo Kaihatsu International Corp.

Sanyu Consultants Inc.

**10.STUDY TEAM**

No.of Members 13

Period Jul.1986-Mar.1987(9 months)

| Total M/M | Japan | Field |
|---|---|---|
| 54.27 | 23.24 | 31.03 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 168,183 (¥'000) |
| Contracted | 146,293 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Gampaha district(1,600sq.km, 1.4 million population)

**2.PROJECT COST**

| (US$1,000) | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 22,046 | 512 | 21,534 |
| US$1=28Rp.in 1987 | 2) | 10,710 | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
5 long term and 20 short term objectives were set.
3 priority projects were selected from the short term projects for early development.
Short term projects:
1.Development of Agricultural Production
2.Development of Agricultural Infrastructure
3.Development of Rural Industries
4.Development of Human Resources
5.Development of Social Infrastructure
Priority projects:
1.Model Project for Improvement of Agricultural Production
2.Development of Human Resources
3.Development of Social Infrastructure
The Cost 1) above pertains to the short-term plan, and the Cost 2) to the total of priority projects.

**4.CONDITIONS AND DEVELOPMENT IMPACTS**
Implementation of the priority projects is prerequisite for later implementation of all the short term projects which will nurture a condusive socio-economic and physical infrastructure to realize the latter.
Impacts of priority projects are as follows:
1.Increased production(minor export crops, general upland crops, paddy)
2.Increased farmers income
3.Social benefit (Improved diet, increased employment opportunities, upgrading of education level, improved health)

**5.TECHNICAL TRANSFER**
1.Training 8 (2 persons in 1986 under the master plan study, and 4 persons in 1990 and 2 persons in 1991 under detailed design and construction supervision)

## III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
In 1987, the Sri Lankan government selected the Model Project for Improvement of Agricultural Production which is one of the priority projects based on this master plan as the first priority project for implementation, and made request to the Japanese government for grant aid to materialize it.
Basic design was completed in January 1989, E/N in June(grant aid 996 million Yen), contract with consultant in August and contract with contractor for Phase I in January 1990. First phase construction was completed in February 1991.
The project was completed over 2 phases, with Phase II E/N concluded in June 1990 (grant aid 1.075 billion Yen), consultant contract for July 1990, and contractor contract in October 1990. Second phase construction was completed in October 1991.
As of the present, formal request has been made by the Sri Lankan government for project technical cooperation for the project.

(FY 1991 Overseas Survey)
No additional information

(FY 1992 Overseas Survey)
A formal request for a project-type technical cooperation was made, and a pre-development study mission was dispatched in March 1993.
A request for a Grant Aid was made in February 8 1993, for construction and renovation of bridges and improvement of link roads (A total cost of Rp. 370.4 mil.).

**2.MAJOR REASONS FOR PRESENT STATUS**
Project implementation is progressing smoothly.
This is due to the fact that the understanding of affected residents was obtained during the master study phase, and that the project places emphasis on the rehabilitation of existing structures.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②③

和名 ガンパハ県農業総合開発計画

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

# PROJECT SUMMARY (M/P)

Compiled Mar.1991
Revised Mar.1993

ASO LKA/A 102/89

## I. OUTLINE OF STUDY

**1.COUNTRY** Sri Lanka

**2.NAME OF STUDY**
Sand Drift in the Southeastern Coast

**3.SECTOR**
Fisheries/Fisheries

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Ministry of Fisheries and Aquatic Resources
Executing Agency:Ceylon Fishery Harbours Corporation

**7.OBJECTIVES OF STUDY**
Countermeasure for Siltation

**8.DATE OF S/W** Oct.1987

**9.CONSULTANT(S)**
Nippon Tetrapod Co., Ltd.

**10.STUDY TEAM**

No.of Members 6
Period Mar.1988-Dec.1989(16.5 months)

| Total M/M | Japan | Field |
|---|---|---|
| 29.73 | 16.81 | 12.92 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Sounding, Topographical survey/Observation of Meteorology and Hydrographic Conditions/Hydraulic model test

**12.EXPENDITURE**

| | |
|---|---|
| Total | 224,515 (¥'000) |
| Contracted | 203,563 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Kirinda Fishery Harbour Southeastern Coast Fishery population 1,409/Fishing boats 128/Yearly haul 385t

**2.PROJECT COST**

| (US$1,000) | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 14,437 | | 14,437 |
| US$1=35.32Rp in1989 | 2) | | | |

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

| | |
|---|---|
| Extension of Main Breakwater | 200m |
| Improvement of Existing Main Breakwater | 100m |
| Construction of Sub-breakwater | 230m |
| Construction of Jetty | 200m |

**4.CONDITIONS AND DEVELOPMENT IMPACTS**
With conducting natural condition survey in the NE & SW monsoon season and clarifying numerical simulation for the sand drift, the following proposals were planned.
(1) By constructing a Groyne at the Kirinda point, the sand drift of the SW monsoon season will be shifted onto an offshore course.
(2) By extension of main breakwater, the coastal sand drift will be prevented and the tranquility within the harbour will be improved for mooring.
(3) by establishing another new sub-breakwater in the north of the existing sub-breakwater, siltation will b prevented at harbour mouth.

**5.TECHNICAL TRANSFER**
-Training and study in Japan(1 person)
-Guidance about using survey materials and a new method of investigation in Sri Lanka

## III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
The following study on the basic design for the prject for rehabilitation of the Kirinda Fisheries Harbour.

(1) Economic and Social Study in the Kirinda area.
  a. Study of population (total population, the number of household, birthrate, mortality rate, etc.) and industries (railroad, road, allied industries, development plan, etc.).
  b. Investigation of regional development in case this project is executed.

(2) Fishery Study
  To collect information of fish products, fishery circulation, fish consumption, fishing boats, etc. Economic analysis and estimation of investment effect in consideration of the above-mentioned results.

(3) In consideration of effective utilization of land facilities in Kirinda Fisheries Harbour, to plan a suitable layout and countermeasure for siltation for executing this project.

<1991 Overseas Survey>
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②③

和名 南東部沿岸漂砂調査

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

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

ASO LKA/S 202A/89

Compiled Mar.1991
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Sri Lanka

**2.NAME OF STUDY**
Development of the Port of Colombo

**3.SECTOR**
Transportation/Port

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Sri Lanka Ports Authority

**7.OBJECTIVES OF STUDY**
F/S, M/P, & ST/P

**8.DATE OF S/W** Mar.1988

**9.CONSULTANT(S)**
Overseas Coastal Area Development Institute of Ja
Japan Port Consultants Co., Ltd.

**10.STUDY TEAM**

No.of Members 10
Period Nov.1988-Nov.1989(13 months)

| Total M/M | Japan | Field |
|---|---|---|
| 52.66 | 28.19 | 24.47 |

**11.ASSOCIATED AND/OR SUBCONTRACTED STUDY**
Boring, Topographic Survey, Bathymetric Survey

**12.EXPENDITURE**

| | |
|---|---|
| Total | 175,721 (¥'000) |
| Contracted | 176,480 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Colombo Port

**2.PROJECT COST**

| (US$1,000) | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 478,534 | | |
| 2) | 409,376 | | |

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

The Study proposed two alternatives of the Master Plan for the Port of Colombo.

| | Plan A: Cost 1) | Plan B: Cost2) |
|---|---|---|
| 1)New North Pier | | |
| No.3 Berth | -11m x 210m | - |
| No.4 Berth | -7.5m x 130m | - |
| 2)Port container terminal | o | - |
| 3)New Queen Elizabeth Container Terminal(NQECT) | | |
| No.1 Berth | -14 x 350m | -14 x 340m |
| No.2 Berth | -14 x 350m | -14 x 330m |
| No.3 Berth | -12 x 300m | -12 x 330m |
| 4)Extension of SW breakwater (550m) | o | - |
| 5)New SW breakwater (510m) | - | o |
| 6)Re-alignment of main entrance channel | o | o |
| 7)Computer communication | o | o |
| 8)Port highway system | o | o |

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

Conditions:
The relative importance of the Port of Colombo in the international transportation network of container cargo will not change significantly in the foreseeable future. The additional development after the present development plan will have to be determined by taking into account the planned development of the Port of Galle.

Development Impacts:
1. Increased foreign exchange earnings from handling more transshipment container cargo
2. Activation of international trade in Sri Lanka and neighboring countries
3. Improved reliability of the port of Colombo

**5.TECHNICAL TRANSFER**
On-the-Job training
JICA counterpart training

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**

- [■] In Progress or In Use
- [ ] Delayed
- [ ] Discontinued

(Description)

Oct. 1989 OECF loan agreement on Jaye Container Terminal No.3
Oct. 1991 Construction work of JCT No.3 was commenced
Sep. 1991 Appraisal Mission for No.4 Berth will be dispatched

(FY 1991 Overseas Survey)
No additional information

(FY 1992 Overseas Survey)
1) JCT No.3 is scheduled to be completed in 1994. The other profects are under progress as follows.
2) JCT No.4 and communications system: under construction
3) Rehabilitation of Queen Elizabeth Quay: completed
4) Pipe laying and dredging: scheduled to be implemented
5) New North Pier: in progress

**2.MAJOR REASONS FOR PRESENT STATUS**

- Good Coordination Among Concerned Agencies
- The project was commenced on good timing for adapting to the change of containerization in the world.

**3.PRINCIPAL SOURCE OF INFORMATION**

①②

和名 コロンボ港開発計画

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

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

ASO LKA/S 202B/89

Compiled Mar.1991
Revised Mar.1993

## I. OUTLINE OF STUDY

1.COUNTRY: Sri Lanka

2.NAME OF STUDY: Development of the Port of Colombo

3.SECTOR: Transportation/Port

4.REFERENCE NO.:

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

6.COUNTERPART AGENCY: Sri Lanka Ports Authority

7.OBJECTIVES OF STUDY: F/S, M/P, & ST/P

8.DATE OF S/W: Mar.1988

9.CONSULTANT(S): Overseas Coastal Area Development Institute of Ja
Japan Port Consultants Co., Ltd.

10.STUDY TEAM

No.of Members 10

Period Nov.1988-Nov.1989(13 months)

| Total M/M | Japan | Field |
|---|---|---|
| 52.66 | 28.19 | 24.47 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY: Boring, Topographic Survey
Bathymetric Survey

12.EXPENDITURE

| | |
|---|---|
| Total | 175,721 (¥'000) |
| Contracted | 176,480 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Colombo Port

2.PROJECT COST (US$1,000)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 257,849 | 42,117 | 215,732 |
| 2) | | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

1)Jaye Container Berth (JCT)
JCT No.3 Berth (length 330m, depth -13.5m, planned capacity 300,000TEUs, stacking yards 6,300TEUs)
JCT No.4 Berth (length 360m, depth -13.5m, planned capacity 300,000TEUs, stacking yards 6,150TEUs, feeder berth -9.0m x 170m)
Gantry cranes(Post Panamax):2 units, High speed transfer cranes:6units
2)New North Pier(NNP)
NNP No.1 Berth: -7.5m x 130m, Warehouse: 40m x 160m
NNP No.2 Berth: -11.0m x 210m, Warehouse: 40m x 160m
3)Pipe line for the new oil terminal: 700m
4)Rehabilitation of Queen Elizabeth Quay: No.4 and No. 5 Berths
5)Additional Transfer Cranes for JCT No.1 and No.2 Berths
6)Dredging: inside the port -13.5m, main channel -15.0m
7)Improvement of the telecommunication system

Imp. Period: .1989-.1995

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 21.40 | FIRR1) | 8.70 |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

Conditions and Development Impacts:

{Conditions}
The political stability of Sri Lanka will be improved and the implementation of the project will be assured.
A cost-benefit analysis is conducted on the difference between the with-case in which an investment is made and the without-case in which no investment is made, that is, the benefits and costs arising from the proposed investment are compared.

{Development impacts}
1) Increased handling of container cargo transshipments
2) Reduction of transport costs
3) Increased foreign exchange earnings
4) Activation of international trade in Sri Lanka and neighboring countries
5) Promotion of export processing industries around the Port of Colombo

5.TECHNICAL TRANSFER

On-the-Job training
JICA 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. 1989 OECF loan agreement on Jaya Container Terminal No.3 (6,200 million yen)
Mar. 1990 OECF loan agreement (Phase 1 6,329 million yen)
Oct. 1991 Construction work of JCT No.3 was commenced
Dec. 1991 Appraisal Mission for JCT No.4 berth will be dispatched

(FY 1991 Overseas Survey)
1991 Construction was commenced.
1993 Construction is planned to be completed.

(FY 1992 Overseas Survey)
1) JCT No.3 is scheduled to be completed in 1994. The other projects
are under progress as follows.
2) JCT No.4 and communications system: under construction
3) Rehabilitation of Queen Elizabeth Quay: completed
4) Pipe laying and dredging: scheduled to be implemented
5) New North Pier: in progress

2.MAJOR REASONS FOR PRESENT STATUS

The project was commenced on good timing for adapting to the change of containerization in the world

3.PRINCIPAL SOURCE OF INFORMATION

①②④

和名 コロンボ港開発計画

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

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

ASO LKA/A 201A/89

Compiled Mar.1991
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Sri Lanka

**2.NAME OF STUDY**
Extension of the Moragahakanda Agriculturul Development Project

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Ministry of Land, Irrigation and Mahaweli Development

**7.OBJECTIVES OF STUDY**
The most effective use of available water in the Mahaweli River System and priority projects

**8.DATE OF S/W** Oct.1987

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

**10.STUDY TEAM**

No.of Members 9

Period Jan.1988-Jul.1989(18 months)

| Total M/M | Japan | Field |
|---|---|---|
| 51.10 | 21.90 | 29.20 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 220,970 (¥'000) |
| Contracted | 213,902 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Amban Ganga and Mahaweli Gang Basins and NCRB area

**2.PROJECT COST**

| (US$1,000) | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 1,352,000 | | |
| 2) | | | |

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

Stage-wise agricultural land development is recommended in NCRB area.

| | | |
|---|---|---|
| Package 1 | Joint Facilities | Kalu ganga dam |
| | | NCP canal |
| | New Irrigation Area | 23,900 ha |
| | Cashew Farm | 10,000 ha |
| | Rehabilitation | 25,500 ha |
| Package 2 | Joint Facilities | NCP canal |
| | | Minipe LB canal |
| | New Irrigation Area | 26,600 ha |
| | Rehabilitation | 38,600 ha |
| Package 3 | Joint Facilities | NCP canal |
| | | Minneriya Pump Station |
| | New Irrigation Area | 27,000 ha |
| | Cashew Farm | 10,000 ha |

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

-Continued Agricultural Development for Rice Self-Sufficiency
Constant development of agriculture, particularly for increased food production is essential, since the population of Sri Lanka is expected to increase as much as 1.5 times from 16.4 million in 1987 to about 24million in 2020.
-Primary and secondary Benefits, and favorable socio-economic impacts of the projects.
-Foreign exchange saving, increased employment opportunities, and improvement of living standard, etc.

Expansion of production:
- Paddy:1,033,000 ton
- Onion: 38,000 ton
- Chilli: 25,000 ton
- Maize: 17,000 ton
- Cashew: 20,000 ton

Increase in unit yields
- Paddy: 2.8-1.6 ton/ha
- Onion: 5.0 ton/ha
- Chilli: 0.4 ton/ha
- Sugar cane: 46 ton/ha

Population in the priority area in 1981 was about 3,370,000.

IRR: Phase 1: 9.3%
Phase 2: 9.2%
Phase 3: 3.0%

**5.TECHNICAL TRANSFER**
Technology transfer to the counterparts in the course of the study.

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**

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

(Description)

Followed by F/S.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②③

和名 モラガハカンダ農業開発計画

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

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

ASO LKA/A 201B/89

Compiled Mar.1991
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Sri Lanka

**2.NAME OF STUDY**
Extension of the Moragahakanda Agricultural Development Project

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Mahaweli Development Board

**7.OBJECTIVES OF STUDY**
Updating of the previous Feasibility Study made in 1979

**8.DATE OF S/W** Oct.1987

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

**10.STUDY TEAM**

No.of Members 9

Period Jan.1988-May.1988(5 months)

| Total M/M | Japan | Field |
|---|---|---|
| 21.33 | 6.45 | 14.88 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 220,970 (¥'000) |
| Contracted | 213,902 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Basin of Amban Ganga and Mahaweli Gang

**2.PROJECT COST**

(US$1,000)
US$1 = 15.0Rs

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 310,000 | 105,500 | 204,500 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Agricultural Development (62,000ha) in the Amban Ganga basin and hydro-power generation (25MW) by constructing the Moragahakanda dam with a height of 72m.
Principal feature of irrigation and drainage syarmm is as follows:

| | |
|---|---|
| - Rehabilitation of irrigation canal | 60km |
| - New Construction of irrigation canal | 120km |
| - New construction of O/M roads | 150km |
| - Downstream land development | 13,900ha |
| - Drainage canal | 90km |

Imp. Period:

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

| | | | |
|---|---|---|---|
| EIRR1) | 9.30 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Increasing agricultural production and creating employment opportunities in the Amban Ganga river basin.

Expansion of planted area:
- Paddy:38,130 ha
- Sweet potato, coarse cereals:1,550 ha
- Vegetables including onion:9,000 ha

Increase in unit yields
- Paddy: 2.8-1.6 ton/ha
- Onion: 5.0 ton/ha
- Chilli: 0.4 ton/ha
- Sugar cane: 46 ton/ha

Benefited Population would be about 180,000

**5.TECHNICAL TRANSFER**
Transfer technology to counterpart inthe course of the Study.

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

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

(Description)
The Government of Sri Lanka may request the project on loan basis to Japanese Government.

(FY1992 Overseas Survey)
Oct.1. 1992 Fund proposal to Ministry of Finance

**2.MAJOR REASONS FOR PRESENT STATUS**

1. Priority decreased:
   New government in 1989 placed Janasabia-Plan as significant task in policy.
   The content of plan: To give Rp 2,200 per month to poverty.
2. Since 1989 structual adjustment proposed by World Bank and IMF has been implemented.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②③

和名 モラガハカンダ農業開発計画

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

# PROJECT SUMMARY (M/P)

ASO LKA/S 102/91

Compiled Mar.1993
Revised

## I. OUTLINE OF STUDY

**1.COUNTRY** Sri Lanka

**2.NAME OF STUDY**
Development of the Port of Galle

**3.SECTOR**
Transportation/Port

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Sri Lanka Ports Authority

**7.OBJECTIVES OF STUDY**
1. F/S formulated with a target year of 1997
2. Technical transfer to the counterparts

**8.DATE OF S/W** Apr.1990

**9.CONSULTANT(S)**
Overseas Coastal Area Development Institute of Ja
Japan Port Consultants Co., Ltd.

**10.STUDY TEAM**

No.of Members 10

Period Sep.1990-Nov.1991(13 months)

| Total M/M | Japan | Field |
|---|---|---|
| 68.72 | 39.65 | 29.07 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 232,251 (¥'000) |
| Contracted | 226,013 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Port of Galle

**2.PROJECT COST**

| | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| (US$1,000) | 1) | 592,000 | | |
| (US$1=Rs41) | 2) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Master Plan:
(1) Southwest Breakwater: 1,500m (protection from SW Monscon)

(2) Container Terminal: 3 berths (-14m, 1,090m), container yard (2,200 slots) Cargo handling machinery (containner cranes, transtainers, tractor trailers), other related facilities and buildings

(3) General/Bulk Cargo: 2 berths (-14m x 270m, and -12m x 240m), storage sheds, handling machinery (unloaders, belt conveyors, forklifts)

(4) Bunker Oil Berth: 1 Dolphin-type berth (-7.5m x 120m)

**4.CONDITIONS AND DEVELOPMENT IMPACTS**
Development impacts:
1) It will enable the direct access to foreign markets from the southern region (e.g., Galle, Matara and Hambantota), contributing to the restructuring and rational functin arrangement of Sri Lanka Ports.
2) It will relieve the crowdedness of the Port of Colombo and meet future demands.
3) It will decrease the traffic load of the National Road A2 (from Colombo to Hambantota via Galle) and the coastal railroad, meeting the increase of traffic demands and motorization.
4) It will develop benefits fo contaniners with the improvement of service standards and cost conditions for the shippers and consigness in the hinterland of Galle.
5) The funcitons of international shipping base of the port of Galle will promote the regional economy.
6) It will be conductive to the development of Kegalla export processing district in the Galle region. The port development will increase the number and production of factories in the Kegalla region.
7) It will build a development core in the southern region, activating the economy through industrialization. Especially the development of cement factories in behind the port and milling factories close to the port will proceed in the future.
8) The agriculture in the southern region will be favorably influenced from the cost reduction of inland transportation compared with the case of using the Port of Colombo.
9) The port construction and management along with regional industrial development will increase employments and income level in the region.

**5.TECHNICAL TRANSFER**
Through discussion with counterparts, technical transfer was conducted by transmitting the method of development planning, calmness analysis and so on.

## III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

In this study, the rugent plan (breakwater 350m)a was formulated. After the completin of this study, the implementation of that was requested from Sri Lanka Government.
If the breakwaters are constructed, the SLPA says that a foreign shipping line will call at the Port of Galle.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 ゴール港整備計画

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

# PROJECT SUMMARY (F/S)

Compiled Mar.1988
Revised Mar.1992

ASE THA/S 301/76

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Project of Strengthening and / or Replacement of Steel Bridges on the State Railway

**3.SECTOR**
Transportation/Railway

**4.REFERENCE NO.**

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

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

**7.OBJECTIVES OF STUDY**
Investigation, from the aspects of design and work execution, of the existing 214 spans of steel bridges requiring strengthening and/or replacement

**8.DATE OF S/W** Oct.1975

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

**10.STUDY TEAM**

No.of Members 17
Period Jan.1976-Nov.1976(10 months)

| Total M/M | Japan | Field |
|---|---|---|
| 87.27 | 66.60 | 20.67 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 106,843 (¥'000) |
| Contracted | 108,230 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**

Southern line 1,159 km 110 bridges
Northern line 751 km 22 bridges
Northeastern line 1,205 km 45 bridges

**2.PROJECT COST**

| | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| (US$1,000) | 1) | 16,683 | | |
| (US$1=20Bahts) | 2) | | | |
| | 3) | | | |

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

Of the 214 spans:
197 spans are to be repaired and strengthened.
17 spans are to be replaced with the construction of new bridges

* Below implementation period is 5 years.

Imp. Period:

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes/No

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

**Conditions and Development Impacts:**
It was considered beneficial for SRT to receive a few advisors for its technical and financial needs for the initial one or two years.
Improvement of the existing 214 steel bridges was recommended.

**5.TECHNICAL TRANSFER**
Investigations were conducted with the cooperation of counterparts.
Methodology training for strengthening steel bridges in Japan (5 trainees).

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

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

(Description)
The project has been under implemetation by the government funds since 1979.
Based on the recommendations of the study, 104 bridges have been strengthened so far. 17 of them were replaced by steel bridges. Furthermore, additional 37 bridges have been under various stages of implementation by the national budgets during 1987 and 1991. The remaining 25 are expected to be built after 1992.

(FY 1991 Overseas Survey)
The strengthening works on the eastern line is not concluded yet, because the traffic density remains low. Construction of other parts will be finished in 1993.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 鉄道橋梁改良計画

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

# PROJECT SUMMARY (F/S)

ASE THA/A 301/77

Compiled Mar.1990
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Irrigated Agricultural Development Project in the West Bank Tract of the Greater Chao Phraya

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Agricultural Land Reform Office, Ministry of Agriculture and Cooperative

**7.OBJECTIVES OF STUDY**

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

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

**10.STUDY TEAM**

| | Total M/M | Japan | Field |
|---|---|---|---|
| No.of Members 10 | | | |
| Period Oct.1976-Jul.1977(10 months) | | | |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 86,198 (¥'000) |
| Contracted | 80,831 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
West bank tract of the Greater Chao Phraya, center of Ayutthaya Province

**2.PROJECT COST**
(US$1,000)
US$1=20B in 1985

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 36,200 | 17,640 | 18,560 |
| 2) | | | |
| 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Irrigation Area: 10,542 ha Circle Embankment : 114.5 km
Pump station for irrigation and drainage :3 station
Main irrigation canal/secondary, tertiary canal :36km/432km
Main drainage canal/secondary, tertiary canal:30km/494km
Main street/farm road : 177km/404km
Village water supply : 4 places

* Above project costs are in 1985 prices.

**Imp. Period:** Oct.1977-Sep.1983

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

| | | | |
|---|---|---|---|
| EIRR1) | 16.00 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Conditions:
1.Pilot farm of about 500ha to show intensive irrigated agriculture
2.Cultivation of double cropping of paddy (HYV) under the sufficient management of water
3.Dissemination of agricultural technology and establishment of training center
4.Establishment of farmers' organization such as maintenance management and agricultural cooperative
5.Implementation of village development plan including improvement of agricultural environment
Development Impacts:
Advancement of land use, Increase of agricultural production, Increase of farmers' income, Reduction of flood damage, Rise in living standards

**5.TECHNICAL TRANSFER**
OJT
Training in Japan (6 trainees)

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**
■ Completed or in Progress
● Completed
○ Implementing
○ Processing
☐ Promoting
☐ Delayed or Suspended
☐ Discontinued or Cancelled

(Description)

1979.6.14 OECF L/A signed (E/S, 150 million yen)
1979.6-1982.2 Detail design undertaken (Sanyu Consultants Inc.)
1982.7.16 9th OECF L/A signed (2.65 billion yen)
Of which, construction equipment 2.02 billion yen
consultation service 390 million yen
contingency 240 million yen
1982.6 Construction started
1988.7 Yen loan expired. Construction continued by ALRO.

(FY 1991 Overseas Survey)
Construction completed in 1990 by the OECF loan.

OECF Loan:
- Circle embankment
- Pump stations
- Irrigation and drainage canals
- On-farm development (tertiary irrigation and drainage canals and farm roads)
- Rehabilitation and improvement of rural roads and bridges.

**2.MAJOR REASONS FOR PRESENT STATUS**
A part of land for irrigation canal cannot be purchased due to rise in land price in and around Bangkok recently, and construction has not been completed.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②④

和名 チャオピヤ川西岸地区かんがい農業開発計画

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

# PROJECT SUMMARY (D/D)

Compiled Mar.1990
Revised Mar.1992

ASE THA/S 401/77

## I. OUTLINE OF STUDY

1.COUNTRY: Thailand

2.NAME OF STUDY: Bangkok Telephone Network Project : Junction Lines

3.SECTOR: Communications & Broadcasting/Telecommunication

4.REFERENCE NO.:

5.TYPE OF STUDY: D/D

6.COUNTERPART AGENCY: Telephone Organization of Thailand (TOT)

7.OBJECTIVES OF STUDY: D/D of junction cable network and five local cable networks

8.DATE OF S/W: Feb.1977

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

10.STUDY TEAM

No.of Members 13

Period May.1977-Feb.1978(9 months)

| Total M/M | Japan | Field |
|---|---|---|
| | 29.73 | 70.77 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

| | |
|---|---|
| Total | 260,588 (¥'000) |
| Contracted | 251,129 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Bangkok Metropolitan Area

2.PROJECT COST (US$1,000)

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

3.CONTENTS OF MAJOR PROJECT(S)

| Contents | Scale |
|---|---|
| Construction of Junction cable | 250,000 Pair-km |

Imp. Period:

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

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

Conditions and Development Impacts:
-To full of demand in site area
-This project come under construction of junction network for 3rd M/P Package 1, Phase 1

5.TECHNICAL TRANSFER: Many counterparts engineers participated in preparation of D/D

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

The project was completed with the OECF loan.

Jul. 1978 OECF loan agreement (1,464 million yen)

2.MAJOR REASONS FOR PRESENT STATUS: Telephone demand in the metropolitan area is urgent.

3.PRINCIPAL SOURCE OF INFORMATION: ①④

和名 バンコク市内線路網実施設計

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

# PROJECT SUMMARY (F/S)

ASE THA/S 303/78

Compiled Mar.1986
Revised Mar.1993

## I. OUTLINE OF STUDY

1.COUNTRY: Thailand

2.NAME OF STUDY: Separate System of Metropolitan Water Supply in Bangkok

3.SECTOR: Public Utilities/Water Supply

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: Metropolitan Water Works Authority

7.OBJECTIVES OF STUDY: Water Service plan

8.DATE OF S/W: Jan.1977

9.CONSULTANT(S): Pacific Consultants International

10.STUDY TEAM

No.of Members 14

Period May.1977-Jul.1978 (15 months)

| Total M/M | Japan | Field |
|---|---|---|
| 24.30 | 7.20 | 17.10 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

| | |
|---|---|
| Total | 143,869 (¥'000) |
| Contracted | 44,780 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Bangkok metropolitan area

2.PROJECT COST (US$1,000)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 73,121 | | |
| 2) | | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

1. Project: Separate System of Metropolitan Water Supply Project surrounding Bangkok
2. Area: The 9 Amephoes surrounding Bangkok city and the related housing and industrial project areas (168sq.km)
3. Target year: Completion set at 2000 (Start to work in 1982)
4. Water source: 8 Amphoes (excluding Nong Khaem) and Bang Chan from groundwater. The others from Central System.
5. Groundwater: 33 Deep Wells built in 9 areas.

Imp. Period: .1981-.2000

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

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

Conditions and Development Impacts:

Conditions:
1. Population density in served area: 1,500/sq.km (minimum)
2. Population in served area: 363,900 (in 2000)
3. House connecton ratio: 75% (in 2000)
4. Daily max. demand: 77,800cu.m

Development impacts
1. Supply of clean water
2. Rational system realized
   This plan was independent system; but will be advanced in connection with existing Central Water Supply System in Bangkok city.

5.TECHNICAL TRANSFER

- Overseas training for counterpart staff
- Inspection of water purification plant

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

The project was completed by the OECF financing.

Jun.1979 OECF L/A signed (8,400 million yen)
Sep.1984 OECF L/A signed (10,710 million yen)
Completed in 1989
Oct.1985 OECF L/A signed (2,985 million yen)
Completed in 1989
Nov.1988 OECF L/A signed (4,380 million yen)
To be completed in June 1993
Sep.1991 OECF L/A signed (8,638 million yen)
Scheduled to be completed in Aug. 1995

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION

①④

和名 首都圏周辺市街地区水道拡張計画

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

# PROJECT SUMMARY (F/S)

ASE THA/S 305/78

Compiled Mar.1986
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Phetchabun - Chai Badan Highway Project

**3.SECTOR**
Transportation/Road

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Department of Highway

**7.OBJECTIVES OF STUDY**
Road Construction

**8.DATE OF S/W** Feb.1978

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

**10.STUDY TEAM**

| No.of Members | | 12 |
|---|---|---|
| Period | Mar.1978-Mar.1979(9 months) | |
| **Total M/M** | **Japan** | **Field** |
| 44.33 | 26.33 | 18.00 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 108,742 (¥'000) |
| Contracted | 101,688 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Phetchanbun - Chai Badan. Northern Region

**2.PROJECT COST**

| (US$1,000) (US$1=20Bahts) | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 16,600 | 9,400 | 7,200 |
| | 2) | | | |
| | 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
Three Alternatives of route: I Improvement of local community II New land development III Improvement of transportation

1. Optimal route (I+II)
   Tha Maduk - Ranq Yoi - Si Thep - Wichian Buri - Sap Bon - Nonq Daenq - Pak Bot - Noen Sadao - Khok Charoen - Yanq Lat - Tham Nam Banq - Nam Ron - Phetchabun
2. Road lenqth

| | | | |
|---|---|---|---|
| 1) | Improvement | 130.1 km | (85%) |
| 2) | New construction | 21.2 km | (15%) |
| | Total | 151.3 km | |

3. Pavement type

| | | | |
|---|---|---|---|
| 1) | SBST (asphalt) | 94.2 km | (62%) |
| 2) | Laterite | 57.1 km | (38%) |
| | Total | 151.3 km | |

4. Road width

| | | |
|---|---|---|
| 1) | Formation width | 9.0 m |
| 2) | Pavement width | 5.5 m |

**Imp. Period:** Apr.1980-Dec.1982

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 20.40 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**

Conditions:
Traffic forecast
1) Passenger traffic forecasted by trip rates obtained from a home interview survey and projected population increase.
2) Freight traffic forecasted by transportation demand of agricultural products.

Development impacts:

| | | 1983 | 1989 | 1997 |
|---|---|---|---|---|
| 1. | Benefits (million baht) | | | |
| 1) | Road users' cost saving | 47.8 | 55.3 | 62.4 |
| 2) | Incremental net added value of agricultural products | 15.2 | 51.0 | 46.3 |
| 2. | Improvement of reqional communication | | | |
| 3. | Saving transportation cost | | | |
| 4. | Increase in farmers' income | | | |
| 5. | Development of better transportation | | | |
| 6. | Reductiom of running cost | | | |

**5.TECHNICAL TRANSFER**
(1) OJB
(2) JICA training
(3) Joint reporting

## 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) D/D completed by DOH
2) OECF loan(E/N 1980 July; 8,160 million yen)
3) Construction from June 1981 to September 1983

(FY 1991 Overseas Survey)
No additional information.

(FY 1992 Overseas Survey)
1,366 million yen was appropriated for this project from the OECF loan. The total cost for the project was 171.42 million bahts. The construction was started in June 1981 for the Yang Lat-Phechabum route and was completed in September 1981 for Sithep-Wichian Buri route. The total length was 149.2 km.

**2.MAJOR REASONS FOR PRESENT STATUS**
(1) Big Development effects
(2) Favorable financial status
(3) High priority
(4) Strong promotion by department of Highway

**3.PRINCIPAL SOURCE OF INFORMATION**
①②③④

和名 ペチャブン～チャイバダン道路建設計画

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

# PROJECT SUMMARY (F/S)

ASE THA/S 304/78

Compiled Mar.1986
Revised Mar.1993

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Rural Long Distance Public Telephone Service

**3.SECTOR**
Communications & Broadcasting/Telecommunication

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Telephone Organization of Thailand

**7.OBJECTIVES OF STUDY**
To recommend the optimum transmission system to TOT.

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

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

**10.STUDY TEAM**

No.of Members 6

Period Aug.1978-Mar.1979(8 months)

| Total M/M | Japan | Field |
|---|---|---|
| | | 27.03 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 75,078 (¥'000) |
| Contracted | 79,180 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Each place of the country

**2.PROJECT COST**
(US$1,000)
(US$1=180Yen)

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 385,008 | 54,618 | 330,390 |
| 2) | | | |
| 3) | | | |

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

1. Installation of telephones
   Long distance telephone circuits, including public telephones, in major rural districts without telephones for the purpose of improving the telephone service in 469 rural areas. Telephone exchanges in 18 districts in 1989, and in 187 more districts in 1994.
2. Transmission system: Terrestrial transmission system UHF (900 MHz band)
3. Modulation system
   No much difference between FDM and PCM system from technical and economic viewpoints
4. Equipment shelter
   Communication equipment Staton inclusive of power plant: This is to reduce construction cost and civil work period to the possible minimum.
5. System maintenance
   The existing maintenance organization and practices can be applied to each Maintenance Center by increasing maintenance staffs to some extent when this project is completed. At the same time, it is desirable to introduce centralized supervisory system at each Maintenance Center so that it can have troubles at supervised stations under its control automatically recorded.

Imp. Period: .1981-.1982

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

| | | | |
|---|---|---|---|
| EIRR1) | 11.30 | FIRR1) | 18.22 |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**

Conditions:
1. Forecasted circuit requirements

| 1984 | 1989 | 1994 |
|---|---|---|
| 2,513 | 3,763 | 8,218 |

2. Alternative proposal
1) Two terrestrial radio system
2) One domestic satellite system

Development impacts:
1. Connection to the national network
2. Increase in the quality of telecommunication
3. Public telecommunication services for 469 sites where telephone service is unavailable.

**5.TECHNICAL TRANSFER**
(1) Trainee acceptance:
2 engineer(TOT) invited to Japan
(2) On the Job Training(TOT counterparts)

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

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

(Description)

Sep. 1984 OECF loan agreement (3,090 million yen)
Dec. 1986 Contract on construction
Sep. 1999 Construction completed

**2.MAJOR REASONS FOR PRESENT STATUS**
High priority: The project was realized by the strong request from the King.

**3.PRINCIPAL SOURCE OF INFORMATION**
①④

和名 長距離市外電話網

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

# PROJECT SUMMARY (F/S)

Compiled Mar.1986
Revised Mar.1992

ASE THA/S 302/78

## I. OUTLINE OF STUDY

1.COUNTRY: Thailand

2.NAME OF STUDY
Pattaya Tourism Development

3.SECTOR
Tourism/General

4.REFERENCE NO.

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY
Dept. of Tourism

7.OBJECTIVES OF STUDY
Establishment plan of infrastructure for tourism

8.DATE OF S/W: Nov.1976

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

10.STUDY TEAM

No.of Members 12
Period Dec.1976-Dec.1977(12 months)

| Total M/M | Japan | Field |
|---|---|---|
| 118.13 | 88.73 | 29.40 |

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

| | |
|---|---|
| Total | 335,524 (¥'000) |
| Contracted | 206,380 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Pattaya, Ko lan Island

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

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 368,000 | 193,000 | |
| 2) | | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)
-Infrastructure
-Water supply and sewerage
-Water drainage system
-Solid waste management
-Road, power, communication
-Port

Imp. Period: .1977~.1996

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: No

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

Conditions and Development Impacts:
Private investment has been made in tourism industry while public sector has not invested; therefore, inappropriate development continues and tourism resource has not been utilized. This project aims to utilize this resource and contribute to tourism development.

5.TECHNICAL TRANSFER
Overseas training for 6 trainees

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
The project is under construction with government funds.

(FY 1991 Overseas Survey)
The Thai Government (National Economic and Social Development Board) applied for an OECF Loan in 1979 but was no accepted. A new local administrative office was established according to the new development plan and the new detailed design prepared by the Department of Town and Country Planning.

The project has been revived in a new JICA study "Pattaya Tourism Development."

2.MAJOR REASONS FOR PRESENT STATUS
- Good financial condition
- High priority

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 パタヤ地区基盤整備計画

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

# PROJECT SUMMARY (M/P)

Compiled Mar.1986
Revised Mar.1992

ASE THA/S 101/79

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Bangkok Suburban Transportation Project

**3.SECTOR**
Transportation/Railway

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Expressway and Rapid Transit Authority(ETA), Royal State Railway of Thailand(SRT)

**7.OBJECTIVES OF STUDY**
Transportation Plan

**8.DATE OF S/W** Jul.1978

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

**10.STUDY TEAM**

No.of Members 7
Period Oct.1978-Aug.1979(11 months)

| Total M/M | Japan | Field |
|---|---|---|
| 46.57 | 35.50 | 11.07 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 90,378 (¥'000) |
| Contracted | 85,377 |

## II. SUMMARY OF STUDY RESULTS

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

**2.PROJECT COST**

| (US$1,000) | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 834,400 | | |
| (US$1=260Yen) | 2) | | | |

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

Formulation of Master Plan for large scale transportation for Bangkok and its surrounding areas.
Basic policy is to make the utmost use of existing railway system as the transportation means for people commuting to work.

Main components are:
Suburban lines(new construction)
6 lines(11 segments) total length 102.8km
Improvement of existing lines
(double track,new stations, signal and communication) total length 151 km
Rolling stock(Year 2000)
Suburban line 756 or 478 (depending on fare)
Existing national railway 318

**4.CONDITIONS AND DEVELOPMENT IMPACTS**
Beneficial effect: alleviation of traffic congestion in downtown and surrounding areas

**5.TECHNICAL TRANSFER**
Training in Japan

## III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
The project proposed by the study was not included in the Sixth National Development Plan.
No progress was made in upgrading the railway service in downtown Bangkok.

(FY 1991 Overseas Survey)
The project was integrated in the Infrastructure Section of the Seventh National Economic and Social Development Plan.

**2.MAJOR REASONS FOR PRESENT STATUS**
This project is an extension from downtown to suburban areas. Therefore, F/S is unlikely to be conducted unless progress is made on projects for the downtown area.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 首都圏交通計画

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

# PROJECT SUMMARY (M/P)

Compiled Mar.1990
Revised Mar.1993

ASE THA/A 101/79

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Irrigated Agricultural Development in the Greater Mae Klong River

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

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

**6.COUNTERPART AGENCY**
Ministry of Agriculture and Cooperatives

**7.OBJECTIVES OF STUDY**

**8.DATE OF S/W** Jul.1977

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

**10.STUDY TEAM**

No.of Members 20
Period Dec.1977-Mar.1980(28 months)

| Total M/M | Japan | Field |
|---|---|---|
| 130.19 | 45.83 | 84.36 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 346,684 (¥'000) |
| Contracted | 242,550 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Mid and down stream of Mae Klong River Basin : area 490,000ha

**2.PROJECT COST**

| (US$1,000) | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 441,300 | 264,780 | 176,520 |
| 2) | 285,300 | 171,180 | 114,120 |

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

1.Short-term development plan
 1) Improvement of field of 185,900ha
 2) Repair of irrigation and drainage canals of 1,082km
2.Long-term development plan
 1) Improvement of field of 174,200ha
 2) Repair of irrigation and drainage canals of 56km
 3) Construction of irrigation and drainage canals of 345 km

* Cost 1) is for the short-term development plan and cost 2) is for the long-term development plan excluding the short-term development plan.

**4.CONDITIONS AND DEVELOPMENT IMPACTS**

1.The production of rice will be 1.7 times in 30 years (total amount 2,400,000t)
2.The production of Sugarcane will be 1.3 times in 30 years (total amount 1,400,000t)
 * Of 2,400,000t of rice production, 1,000,000t will be possible to be exported.
3.EIRR 26.5%

**5.TECHNICAL TRANSFER**
OJT

## III. PRESENT STATUS OF STUDY RESULTS

**1.PRESENT STATUS**

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

(Description)

A feasibility study was conducted in 1979 on Kamphaeng Saen irrigation and agricultural development, but the project was not implemented, partly owing to the change of government policy.

(FY 1991 Overseas Survey)
The Phase II Development Program is being undertaken and will be finished in 1994. A review study may be necessary in the near future.

**2.MAJOR REASONS FOR PRESENT STATUS**

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 メクロン川マスタープラン

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

# PROJECT SUMMARY (F/S)

Compiled Mar.1986
Revised Mar.1993

ASE THA/S 306/79

## I. OUTLINE OF STUDY

1.COUNTRY: Thailand

2.NAME OF STUDY: Nong Bua - Ban Lam Chi Bon Highway Project

3.SECTOR: Transportation/Road

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: Department of Road Ministry of communication

7.OBJECTIVES OF STUDY: Provincial road improvement

8.DATE OF S/W: Jul.1978

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

10.STUDY TEAM

No.of Members 11

Period Jun.1979-Feb.1980(8 months)

| Total M/M | Japan | Field |
|---|---|---|
| 43.40 | 18.50 | 24.90 |

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

12.EXPENDITURE

| | |
|---|---|
| Total | 104,520 (¥'000) |
| Contracted | 103,547 |

## II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Nakkon Sawan Prefecture, Chiyaphum Prefecture

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

| | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|
| 1) | 30,600 | 17,300 | 13,300 |
| 2) | | | |
| 3) | | | |

3.CONTENTS OF MAJOR PROJECT(S)

Three alternatives of route: I Nonq Bua-Wanq Wat II Wanq Wat-Tha Pong III Tha Ponq-Lup Pho

1. Objective: The project aims at accelerating socio-economic development in rural areas and, at the same time, at providing an inter-provincial road, in an east-west direction, to supplement the existing highway network which are mainly of radial type connection with Bangkok.
2. Optimal route: Nonq Bua-Nonq Nqu Luam-Sap Bon-Wanq Wat-Tha Ponq-Nonq Bua Rave-Lup Pho
3. Road length
1) Improvement: 41.9km
2) Newconstruction: 112.8km total 154.7km
4. Road width
1) Formation width: 9.0-10.0m
2) Pavement width (SBST): 5.5-6.0m
5. Surface treatment
1) SBST: 105.0km (68%)
2) Soil aggregate surface: 49.7km (32%)

Imp. Period: Apr.1981-Dec.1983

4.FEASIBILITY AND ITS ASSUMPTIONS — Feasibility: Yes

| | | | |
|---|---|---|---|
| EIRR1) | 21.70 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

Conditions and Development Impacts:

Conditions:
1. The method of optimum route selection
Evaluation of the alternatives was made mainly according to the following three factors; 1) Construction cost 2) Route length which reflects on the road users' costs 3) Availability of newly cultivatable land along the route which reflects the magnitude of agricultural benefits.
2. Uncultivated land available for future development: 286,000 rai
3. Estimation of passenger traffic was based on the projected population and the person trip rate model derived from the home interview survey.

Development impacts:

| | | 1984 | 1990 | 1998 |
|---|---|---|---|---|
| 1. | Benefits (million Baht) | | | |
| | Road users' cost saving | 113.6 | 130.7 | 161.6 |
| | Agricultural development benefit | 1.2 | 58.8 | 55.4 |

2. Agricultural development
1) Increase of productivity (paddy)
2) Acceleration of rate of opening of new land
3) Increase of farm gate price
4) Increase of crop yield by the improved farming

5.TECHNICAL TRANSFER

(1) OJT: Discussion about route selection.
Traffic forecast and development benefits.
(2) Trainee: 1 engineer

## III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
1983 Sep. OECF loan agreement (5,770 million yen)
1984 Dec. D/D completed
1986 Feb. Construction commenced
1988 Aug. Construction completed

(FY 1991 Overseas Survey)
No additional information.

(FY 1992 Overseas Survey)
2,517 million yen was appropriated for the project from the OECF loan. The total cost for the project was 348.70 million bahts.
The total length was 162.2 km.

2.MAJOR REASONS FOR PRESENT STATUS
- large development impact
- good linkage with other major road
- high priority
- effective administration

3.PRINCIPAL SOURCE OF INFORMATION
①②③④

和名 ノンブアーバンラムチボン道路建設計画

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

# PROJECT SUMMARY (F/S)

ASE THA/A 302/79

Compiled Mar.1990
Revised Mar.1992

## I. OUTLINE OF STUDY

**1.COUNTRY** Thailand

**2.NAME OF STUDY**
Kamphaeng Saen Irrigated Agriculture Development Project in the Mae Klong River Basin

**3.SECTOR**
Agriculture/General

**4.REFERENCE NO.**

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

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

**7.OBJECTIVES OF STUDY**

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

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

**10.STUDY TEAM**

No.of Members 10
Period Jan.1979-Oct.1979(10 months)

| Total M/M | Japan | Field |
|---|---|---|
| 23.87 | 19.50 | 4.37 |

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

**12.EXPENDITURE**

| | |
|---|---|
| Total | 94,709 (¥'000) |
| Contracted | 88,926 |

## II. SUMMARY OF STUDY RESULTS

**1.SITE OR AREA**
Kamphaeng Saen District, Mae Klang River Basin, western part of Central Thailand, area 28,000ha, population 65,500

**2.PROJECT COST**

| (US$1,000) US$1=230Yen | | Total Cost | Local Cost | Foreign Cost |
|---|---|---|---|---|
| | 1) | 32,705 | 18,710 | 13,995 |
| | 2) | | | |
| | 3) | | | |

**3.CONTENTS OF MAJOR PROJECT(S)**
- Improvement of irrigation and drainage facilities constructed under the development project in Mae Klong River Basin.: 16,380 ha
- Improvement of terminal facilities such as irrigation and drainage ditches, farm roads, etc. : 16,380 ha

Imp. Period: .1981-.1986

**4.FEASIBILITY AND ITS ASSUMPTIONS**

Feasibility: Yes/No

| | | | |
|---|---|---|---|
| EIRR1) | 27.00 | FIRR1) | |
| EIRR2) | | FIRR2) | |
| EIRR3) | | FIRR3) | |

**Conditions and Development Impacts:**
Cultivated land area will be increased from 13,400 ha to 16,380ha by improving irrigation facilities.

The land use rate will be heightened to 195% (currently 120%) by flood prevention of paddy field of 5,300ha through construction of flood prevention embankment, and improvement of terminal facilities.

**5.TECHNICAL TRANSFER**
cooperation in writing a report

## III. PRESENT STATUS OF STUDIED PROJECT

**1.PRESENT STATUS**

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

(Description)

The proposed project was suspended owing to the policy change of the Thai Government.

(FY 1991 Overseas Survey)
No additional information.

**2.MAJOR REASONS FOR PRESENT STATUS**

(FY 1991 Overseas Survey)
The improvement of the existing irrigation facilities continues to be one of the national develoment strategies, but the project in question is not ranked high in priority.

**3.PRINCIPAL SOURCE OF INFORMATION**
①②

和名 メクロン川流域カンパンセンかんがい農業開発

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