PROJECT SUMMARY (F/S)

ASE MYS/S 313/87

Compiled Mar.1990
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
Computerised Area Traffic Control System in Penang

3.SECTOR
Transportation/Urban Transportaion

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Economic Planning Unit, and Engineering Dept. of the Municipal Council of Penang Island (MPPP)

7.OBJECTIVES OF STUDY
Formulation of a plan to improve the urban traffic control in Penang and design of the area traffic control system

8.DATE OF S/W Feb.1986

9.CONSULTANT(S)
Fukuyama Consultants International, Inc.
Central Consultant, Inc.

10.STUDY TEAM
No.of Members 8
Period Jul.1986~Jan.1988(19 months)

Total M/M	Japan	Field
43.87	2.40	41.47

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	164,764 (¥'000)
Contracted	155,803

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Penang Municipality

2.PROJECT COST
(US$1,000)
(US$1=2.71Rgt.)

	Total Cost	Local Cost	Foreign Cost
1)	106,553		
2)	19,741		
3)			

3.CONTENTS OF MAJOR PROJECT(S)
Preparation of traffic system management plan and expansion plan of area traffic control system in greater George Town Area for the year 2000.

The traffice system management plan includes
- Construction and improvement of road 25.1 km
- Bus transport system improvement
  - Introduction of new buses 140 vehicles
- Improvement of pedestrian way 10.8 km
- Construction of parking buildings 4 locations

The ATC system expansion plan includes
- Traffic signal system 149 sets
- CCTV camera 16 locations
- Signboard 7 locations

Imp. Period: Jan.1986~Dec.2000

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: Yes

EIRR1)	22.70	FIRR1)
EIRR2)		FIRR2)
EIRR3)		FIRR3)

Conditions and Development Impacts:
[Conditions]
- Project life of 15 years(1986~2000)
- The traffic signal system will be introduced in 4 phases, namely Phase I to Phase IV

[Development impacts]
The development impacts are expected to be as follows:
- Alleviation of traffic congestions
- Improvement of monitoring over mal-functioning equipment
- Provision of better respons to emwrgency vehicles
- Improvement of travel speed
- Increasing traffic volume at signalized intersections
- Reduction of traffic noise and air pollution

5.TECHNICAL TRANSFER
Training of the counterparts in Japan (JICA program) Joint undertaking of the study

III. PRESENT STATUS OF STUDIED PROJECT

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

(Description)
(FY1992 Overseas Survey)
The first phase of the project consisting of 16 junctions has been already implemented with some changes at the cost of RM 2.3 million. Although CCTV was recommended for all 16 junctions by the JICA study, it was installed only at two junctions (Dato Karamat and KOMTAR).
Phases 2 and 3 which would equip another 37 junctions throughout Georgetown cannot proceed because of financial costraints. However, the Penang Island Municipal Council (MPPP) is unlikely to implement the remaining phases without another feasibility study, in view of the new highways currently under construction (i.e. the Coastal Road and the Outer Ring Road), among others. The traffic situation will become more complex with the linking up of the North-South Highway (from Sungei Petani to Perai,and from Perai to Taiping), and additionally the linking up of the East-West Highway in the not too distant future. The MPPP feels it necessary to wait for the completion of the major road works before initiating a new study over traffic patterns.

(FY1993 Overseas Survey)
No additional information.

(FY1994 Domestic Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS
Financial constraints made it necessary to delay the implementation of the later phases.In addition,it is considered prudent to postpone the implementation,because compex changes in traffic patterns are expected from the construction of the major roads and other linkups,requiring another feasibility study.

3.PRINCIPAL SOURCE OF INFORMATION
①、② MPPP

和名 ペナン市都市交通コンピューター制御システム

(F/S,D/D)

PROJECT SUMMARY (F/S)

ASE MYS/A 302/87

Compiled Mar.1990
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
Tanjong Karang Irrigation Development Management Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Department of Irrigation and Drainage (DID)
Ministry of Agriculture

7.OBJECTIVES OF STUDY
The objectives of the study are to identify waterrelated problems faced in Tnjong Karang Irrigater Scheme, and to recommend solutins to these problens to stabilize and sustain rice production

8.DATE OF S/W Mar.1986

9.CONSULTANT(S)
Nippon Koei Co., Ltd.
Kyowa Engineering Consultants Co., Ltd.

10.STUDY TEAM
No.of Members 11
Period May.1986-Jun.1987(14 months)

Total M/M	Japan	Field
80.37	32.80	47.57

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	221,818 (¥'000)
Contracted	142,972

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Coastal area in northwest of Selangoal
(Area: 20,000ha, Farm household 19,500)

2.PROJECT COST
(US$1,000)
(US$1 = M$2.6)

	Total Cost	Local Cost	Foreign Cost
1)	10,384	10,384	
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
1. Irrigation area: 18,980ha
2. Rehabilitation/Improvement of the existing irrigation system
(1) Berunam head race: Heightening of regulation gate, electrical operation of gate, etc.
(2) Main canal: Widening of canal section, construction of water control facilities, etc.
(3) Secondary canal: Construction and heightening works.
(4) Distribution Canal: Concrete lining of canal, rehabilitaion of check gates and weir
(5) Farm road: Extension of farm road network (457 km)
3. Procurement of O/M Apparatus

Imp. Period: .1987~.1990

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: Yes

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

Conditions and Development Impacts:
Conditions:
The following recommendations need be implemented to ensure full benefits from the project.
1) Improement of facilities
2) Procurement of maintenance equipment
3) Institutional development
4) Establishment of a monitoring system
5) Water management pilot project
6) Training program and follow-up program

Development Impacts:
1) Double cropping of paddy
2) Cropping intensity will rise from 1.77 to 2.0.
3) Increase of the average yield from 6.3 tons/ha to 9.1 tons/ha
4) Annual paddy production will increase from 99,600 tons to 167,000 tons.

* IRRs are not calculated.

5.TECHNICAL TRANSFER
1.Invite 2 C/P
2.OJT

III. PRESENT STATUS OF STUDIED PROJECT

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

(Description)
(FY1992 Overseas Survey)
The detailed design study was undertaken by the Drainage and Irrigation Dept. (DID) during 1986-1992. The recommendations of the JICA study was utilized except for some minor modificatons. The Malaysian Government allocated RM 4,848 million, and the construction began in Oct 1986 and is scheduled to end in Jan.1995.

Notes:
1. The two automatic upstrem water level control structures had been constructed in the main canal at Sungai Leman and Sungai Haji Deraini as recommended by the JICA study, but they do not function as designed, either owing to the design itself or to insufficient water supply. At the moment, they are operated manually.
2. To date, 60 - 70% of the water supply problems in Kuala Selangor have been solved. Water shortfalls only occur during the drought, affecting farmers whose lands are located at the far end of the main canal.

(FY1993 Overseas Survey)
There were no changes in the present status of the study since last year except that there was a tender being called for the water sources study.
DID is proposing to upgrade the farmroad loading capacity from 3 ton to 7 ton by the government fund for the seventh Malaysian Plan.

(FY1994 Domestic Survey)
The Gov't of Malaysia has been implementing this Project by themselves.

2.MAJOR REASONS FOR PRESENT STATUS
(FY1992 Overseas Survey)
1. Socio-economic impact (reduction of rural poverty)
2. The National Agricultural Policy emphasizes the use of suitable land for intensive paddy production.

3.PRINCIPAL SOURCE OF INFORMATION
①、② DID

和名 タンジョンカラン灌漑計画

(F/S,D/D)

PROJECT SUMMARY (M/P+F/S)

ASE MYS/S 207B/88

Compiled Mar.1990
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
Flood Mitigation of the Klang River Basin

3.SECTOR
Social Infrastructures/River & Erosion Control

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Economic Planning Unit (Prime Min. Dept.)
Drainage and Irrigation Detp. (DID)

7.OBJECTIVES OF STUDY
Flood control

8.DATE OF S/W Mar.1987

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

10.STUDY TEAM
No.of Members 12
Period Sep.1987-Jan.1989(17 months)

Total M/M	Japan	Field
89.56	43.39	46.17

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
topographic survey
installation of water meters

12.EXPENDITURE

Total	272,978 (¥'000)
Contracted	264,888

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Klang Valley basin (1,288 sq.km)

2.PROJECT COST
(US$1,000)
US$1=130yen=M$2.55

		Local Cost	Foreign Cost	
M/P	1)	238,000		
	2)			
F/S	1)	75,729	60,332	15,397
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)
<M/P> Implementation of the master plan is devided into three phases, with a total period of fifteen years.
(1) Phase 1 (Urgent Project) River improvement of the main river and tributaries for 10.4km length, construction of retention pond with capcity of 2.7 million m3, construcion of diversion channel of 3.25 km in length and drainage facilities in low-lying area of the city (Pumping station Q=2m3, underground retention pond with 32,700 m3 capacity)
(2) Phase 2 (Mid-term plan) River improvement of downstream stretch of Klang River for 55.2km. Flood protection level after completion of these works will become about a 30-year return period for mid-stream stretch and 100-year for downstream stretch.
(3) Phase 3(Long term plan) River improvement works for Klang, Batu and Gombak rivers for total length of 60.1km. Flood protection level will become 100-year return period for whole stretch of the Project area.
<F/S>(1) River Improvement: Enlargement, deepening and embankment of Klang River(1.3 km in the dity area), Gombak River(2.5 km of mid-stream stretch)
and Batu River(6.6km of mid-stream strech).
(2) Diversion Channel: Construction of diversion channel connecting Gombak River with retention pond near Batu River(L=3.25km Design discharge 60 m3/s)
(3) Batu Retention Pond: Construction of multi-purpose retention pond using ex-minig pond, with flood control capacity of 2.7 million m3 and total area of 113.4 ha including park area.
(4) Drainage Facilities: Inner water drainage facilities in Kampung Baru area: (35 ha): Construction of pumping station of 2 m3/s, and underground

Imp. Period: .1993-.1997

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: Yes

EIRR1)	15.70	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
<M/P><Conditions>
1) The land use pattern projected of the year 2005.
2) Benefits will accrue in the 5th year and on.
3) Opportunity cost of 13%. 4) Project life of 50 years.
5) IRR of 19.5%; B/C ratio of 1.66; NPV of US$75.6 million
<Impacts><M/P,F/S> Approximately 100 sq.km will be protected from 100-year probable floods and the available land will be used for productive activities. The retention pond will be used for multi-purpose such as recreational park.
<F/S>
1) The land use pattern projected for the year 2005
2) Benefits will accrue in the 5th year and on.
3) Opportunity cost of 13%
4) Project life of 50 years
5) B/C ratio of 1.24; NPV of US$13 million

5.TECHNICAL TRANSFER
1) OJT for the counterparts
2) Training of 2 counterparts in Japan (JICA program) 3) A seminar

III. PRESENT STATUS OF STUDIED PROJECT

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

(Description)
(FY1992 Overseas Survey)
<M/P>
The structural measures of flood mitigation proposed in the Master Plan were accepted by the DID's Dept. of Flood Mitigation and many were integrated in the 6th Malaysia Plan. Some of the non-structural measures have also been accepted.

<F/S>
Most of the recommendations in the JICA Study are being implemented in stages with emphasis on the priority areas with frequent flooding.

1. Detailed design studies were conducted by local consultants on the Batu retention pond and the Gombak diversion channel. The two projects will be implemented in stages as and when funds are made available. The retention pond has been tendered out to a local contractor, while the diversion channel will soon be tendered out.

2. The proposed channel improvement for the Klang, Gombak and Batu Rivers is under inhouse implementation in stages by the DID.

3. The Federal Government is providing funds for implementation. The Economic Planning Unit is also negotiating with Asian Development Bank to finance some of the flood mitigation projects.

(FY1993 Overseas Survey)
According to the Master Plan, a part of the Project (River improvement works) is implementing smoothly.
Annual government funds has been made available. Additionally, Asian Development Bank has been approached.

(FY1994 Domestic Survey)
1. The construction of the Gombak diversion channel has been started in 1994 with the period of about 2 years.
2. In the negotiation with the Asian Development Bank, the target year of the Projects is set as 2000.

2.MAJOR REASONS FOR PRESENT STATUS
(FY1992 Overseas Survey)
Urgent needs to alleviate the flooding problms that presently affect the low-lying areas in the Klang Valley.

3.PRINCIPAL SOURCE OF INFORMATION
①, ② DID

和名 クラン川流域治水計画

{M/P+F/S}

PROJECT SUMMARY (F/S)

ASE MYS/S 314/88

Compiled Mar.1990
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
National Tourism Development Plan

3.SECTOR
Tourism/(Tourism in)General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Ministry of Culture Arts and Tourism
Tourism Promotion Corporation

7.OBJECTIVES OF STUDY
Formulation of a medium-term tourism development plan

8.DATE OF S/W Nov.1986

9.CONSULTANT(S)
Pacific Consultants International

10.STUDY TEAM

No.of Members 20
Period Mar.1987-Feb.1989(24 months)

Total M/M	Japan	Field
93.00	38.00	55.00

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Marine resource survey

12.EXPENDITURE

Total	295,306 (¥'000)
Contracted	283,884

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
International beach resort area in Desal Area in the southeastern part of Malay Peninsula

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
	1)	453,400	453,400	
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)
Construction of Desaru New Tourism Core:
1. Construction of infrastructure
 - road: 399m
 - jetty: 5 spots
 - water supply: 31,021 cu.m/day
 - sewage system: 11,028 cu.m/day
 - solid waste disposal system: 56.8 ton
 - power supply: 31,530KVA
 - telecommunication: 584 lines(up to May, 1995)

2. Middle class and high class resort hotels (total; 1,800 rooms)
3. Other tourism facilities such as sports and recreational facilities

Imp. Period: .1989~.1995

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	18.80	FIRR1)	16.10
EIRR2)		FIRR2)	20.70
EIRR3)		FIRR3)	19.30

Conditions and Development Impacts:
Total construction costs exclude the costs to be borne by the local inhabitants according to the users-pay principle.
The calculation of benefits is derived from the tourists expenditures and the revenue structure of the hotels in 1987/1988, and tourists projections are derived from the present structure of destinations after adjusting by the impact of the proposed Desal new tourism core. Development impacts:
1) Stimulation of the development in low-income areas
2) Creation of employment
3) Encouragement of population movement from the urban areas to the region.
4) Foreign exchange earnings

Note: FIRR 1) is for hotels, FIRR 2) for developers and FIRR 3) for joint ventures. EIRR is for the entire development.

5.TECHNICAL TRANSFER
On-the-job training

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
(FY1992 Overseas Survey)
The Ministry of Culture, Arts, and Tourism still adheres to the policy of dividing the country into six tourism regions (Central Peninsula, West Peninsula, South Peninsula, East Peninsula, Sabah and Sarawak). The JICA study evaluated the South Peninsula Tourism Region (South PTR) as the first priority region.
JICA proposals were accepted in principle by the Johor State Government and are now at various states of implementation. Detailed design studies for infrastructure development have been undertaken by the Public Works Dept., the Drainage and Irrigation Dept., or other relevant departments, and the projects have been implemented in stages with government funds under the 5th and 6th Malaysia Plans.
Hotels and recreational facilities have been developed by the private investers. A consortium of private developers which was awarded the contract to develop the Desaru area ran into financial difficulties in 1992, but the contract was reawarded to a new consortium of developers, and two hotels (each with about 600 rooms) will be completed by 1994, "Visit Malaysia Year II". The State Government is one of the shareholders of this redevelopment project, which is estimated to cost $300 million.

(FY1994 Domestic Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS
1. The land planned for tourism developmnt is governmnt-owned.
2. The existing infrastructure is managed by KEJORA,a statutory body.
3. Management of hotels and transportation means are increasingly privatized.
4. South PTR is close to Singapore to tap its thriving tourism market (both Singaporeans and visitors from other countries).
5. The project has positive socio-economic impacts in employment creation and economic activation.

3.PRINCIPAL SOURCE OF INFORMATION
①、②

和名 地域総合開発計画

(F/S,D/D)

PROJECT SUMMARY (M/P+F/S)

ASE MYS/S 209B/89

Compiled Mar.1991
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
Solid Waste Management for Pulau Pinang and Seberang Perai Municipalities

3.SECTOR
Public Utilities/Urban Sanitation

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Local Government Division of Ministry of Housing and Local Government, Health Service Dept. of Pulau Pinang and Seberang Perai Municipalities

7.OBJECTIVES OF STUDY
Planning solid waste Management of the Municipalities

8.DATE OF S/W Oct.1987

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

10.STUDY TEAM
No.of Members 13
Period Jan.1988-Aug.1989(20 months)

Total M/M	Japan	Field
84.30	32.10	52.20

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Land Use Survey
Study of Policy and Budget system in Malaysia Topographic Survey

12.EXPENDITURE

Total	267,199 (¥'000)
Contracted	235,971

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Pulau Pinang and Seberang Perai
Area 1030sq.km ,population 1,090,600 persons

2.PROJECT COST (US$1,000)

		Local Cost	Foreign Cost
M/P	1)	42,240	42,240
	2)		
F/S	1)	9,730	9,730
	2)		
	3)		

3.CONTENTS OF MAJOR PROJECT(S)
<M/P>(-2005)
Phase I: Introduction of large-size collection vehicles, more frequent collection, concession to private collectors/review of street sweepimg/semisanitary disposal, 1st stage construction of final disposal site
Phase II:Partial introduction of stational collection system/ sanitary disposal, 2nd stage construction of final disposal site
Phase III:Full operation of stational collection system/,2nd stage construction of final disposal site
<F/S>1. Improvement of soild waste collection
(1) Introducton of a three-times-a-week collection system in the housing area (2) Introduction of plastic bags (3) Change from side loaders to compact cars (10 cu.m.) (4) Transfer to a stational collection system (20P/station)
2. Implementation of sanitary landfill (Establishment of final disposal sites for sanitary landfill with drainage circulation system)
3. To strengthen management of project operation
(1) Establishment of "Department of Municipal Service"
(2) Specialization of technical staff
(3) Regional escalation of the project
4. To secure budget for sanitation project
(1) To secure tax income from the property tax
(2) Review of service change

Imp. Period: .1991-.1995

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No		
	EIRR1)	FIRR1)
	EIRR2)	FIRR2)
	EIRR3)	FIRR3)

Conditions and Development Impacts:
Planning Conditions:
1) Stronger financial basis of solid waste management by reviewing the assessment tax rates and introducing collection service charge
2) Grants or low-interest loans by the central government
3) Loan conditions are; for long-term, 3-year grace period, 20-year repayment period, 7% rate; for medium-term, 2 years, 10 years, 9%; for short-term, repayed next year, 13.5%
Development Impacts:
1) Sizable reduction in operation costs
2) Minimized negative impact on the environment of the landfill
3) Stronger financial base with service charge
4) Eatimates of cost reduction by 2005: M$ 95.3 million for Pinang City, M$ 16.5 million for seberang city

5.TECHNICAL TRANSFER
Training of counterpart 4 persons
Seminar and workshop 1 week

III. PRESENT STATUS OF STUDIED PROJECT

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

(Description)
(FY1992 Overseas Survey)
Only a few of the recommendations made in the JICA Study have been adopted.

1. Of the three sites proposed for landfill, the Pulau Burong Solid Waste Sanitary Landfill will be developed and the Federal Government has allocated RM 1.2 million. Pantai Acheh and Kuala Muda sites have been rejected.

2. The barging concept proposed by the JICA Study has been also rejected, because there was no detailed study on the sea-wave conditions, the landing site was thought not possible and barging is too expensive. Experts who reviewed the JICA Study proposal proposed the use of the Penang Bridge for trucking solid wastes over to Pulau Burong.

Special note:
The authorities responsible for the project implementation answered that the JICA proposals were discontinued.

(FY1993 Overseas Survey)
No additional information.

(FY1994 Domestic Survey)
No additional infomation.

2.MAJOR REASONS FOR PRESENT STATUS
(FY1992 Overseas Survey)
The Federal Government of late emphasizes privatization alternatives in order to reduce additional government investments in infrastructure development. This is contrary to the JICA recommendation of obtaining a loan from Federal and State Governments. Financially-constrained municipal governments will not be able to implement and operate the project in total as proposed by the JICA Study.

3.PRINCIPAL SOURCE OF INFORMATION
①、② Penang State Economic Planning Unit

和名 ペナン廃棄物処理計画

(M/P+F/S)

PROJECT SUMMARY (M/P+F/S)

ASE MYS/S 208B/89

Compiled Mar.1991
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
Kelantan River Basin-Wide Flood Mitigation

3.SECTOR
Social Infrastructures/River & Erosion Control

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Drainage & Irrigation Department Ministry of Agriculture

7.OBJECTIVES OF STUDY
To formulate a basin-wide flood mitigation plan for Kelantan river bisin
To perform pre-feasibility sutyd for major structures selected in the basin-wide flood mitigation plan

8.DATE OF S/W Nov.1987

9.CONSULTANT(S)
Nippon Koei Co., Ltd.

10.STUDY TEAM
No.of Members 14
Period Mar.1988-Nov.1989(20 months)

Total M/M	Japan	Field
100.74	44.07	56.67

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	475,807 (¥'000)
Contracted	247,426

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Kelantan river basin having catchment area of 13,100 sq.km and population of 1.1 million

2.PROJECT COST (US$1,000)

	Local Cost	Foreign Cost
M/P 1)		
2)		
F/S 1)	482,220	324,810	157,410
2)		
3)		

3.CONTENTS OF MAJOR PROJECT(S)
<M/P>
The study formulated a master plan of flood control for the basin area extending 100 km upstream from the mouth of Kelantan River.
Major proposals are Lebir dam (about 70m high) at Lebir River (a branch of Kelantan River) and Kemubu dam (abour 45m high) at Garas River in order to prevent flood. Furthermore, a river channel improvement of the basin area extending 100km upstream from the mouth of the river increases water volume, which leads the flood water in question flow down safely.
<F/S>
1.Protection area: Lower Kelantan river basin
2.Flood mitigation method:
Construction of Lebir dam, Kemubu dam and river improvement
3.Design flood: 10,650 cu.m/ (50-year flood probability)
4.Lebir dam Flood control volume: 860 million cu.m
Type of dam :rockfill, Dam height 70m
Dam volume : 4.9 million cu.m
5.Kemubu Dam Flood control volume: 307 million cu.m
Type of dam :concrete gravity, Dam height 45m
Dam volume: 150,000 cu.m
6.River Improvement
Total levee: 164 km, Emb. vol. 13.2 million cu.m
Verge levee: height 4 m

Imp. Period: .1993-.2010

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No				
EIRR1)	2.20	FIRR1)
EIRR2)		FIRR2)
EIRR3)		FIRR3)

Conditions and Development Impacts:
1.Conditions<M/P,F/S>
1) For Lebir dam
-Relocation of 200 houses
-Land acquisition for plantation of 9,000ha
-Compensation for forest of 5,000ha
2) For Kemubu dam
-Relocation of 1,000 houses
-Land acquisition for plantation of 500ha
-Compensation for forest of 800ha
-Relocation of 26km long existing railway
2.Development Impacts<M/P,F/S>
-Increase in irrigation water in dry season
-Creation of employment opportunity
-Enhancement of land use
-Increase in agricultural crop productivity

5.TECHNICAL TRANSFER
Technical knowledge was transferred to counterpart in each field through analysis, planning and designing during the field works.

III. PRESENT STATUS OF STUDIED PROJECT

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

(Description)
(FY1992 Overseas Survey)
<M/P>
Suggestions of this study were utilized for Feasibility studies that were planned to carry out in the 6th Malaysia Plan (1993-1995).

<F/S>
1. DID requested that the river improvement component be included in the JICA Study to be taken up in the 6th Malaysia Plan (1991 - 1995).
2. The planning of a feasibility study began in Oct.1992 and 6 consultant teams were invited to visit Kelantan River, Lebir and Kembu dam sites. The consultants' proposals were submitted by 22 Jan.1993. The selection of a consultant is expected to be finalized by April 1993.
3. The feasibility study is scheduled from mid 1993 to the end of 1995 (18 months), with financing by the Federal Government (RM 7 million).
4. The implementation of the project is expected during the 7th Malaysia Plan with the Federal Government funds. The estimated cost is around RM 1.3 billion, including RM 600 million for two dams.

Special note:
For the improvement of Kelantan River, three projects are involved. They are (1) Sungai Golok Project (northern part of Kelantan), (2) ADB-financed Kemasin - Semarak Project (eastern part of Kelantan), and lastly (3) Improvement of the Kelantan River Bank (area along the Kelantan River).

(FY1993 Overseas Survey)
No additional information.

(FY1994 Domestic Survey)
It is informed that the F/S for River Development Works was carried out by using the local funds of the Gov't of Malaysia.

2.MAJOR REASONS FOR PRESENT STATUS
(FY1992 Overseas Survey)
Urgent needs to alleviate the flooding problems in the Kelantan River basin area.

3.PRINCIPAL SOURCE OF INFORMATION
①、② DID

和名 クランタン川流域治水計画

(M/P+F/S)

PROJECT SUMMARY (F/S)

ASE MYS/S 316/89

Compiled Mar.1991
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
Traffic Control and Management System of Malaysian Expressways and Toll Highways

3.SECTOR
Transportation/Road

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Malaysia Highway Authority(MHA)

7.OBJECTIVES OF STUDY
-Formulate Short and Long Term Expressway Traffic Conrtol and Management System Plans
-Prepare an Operation Manual

8.DATE OF S/W Jul.1988

9.CONSULTANT(S)
Fukuyama Consultants International, Inc.

10.STUDY TEAM

No.of Members 9
Period Nov.1988-Nov.1989(12 months)

Total M/M	Japan	Field
44.90	6.00	38.90

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Data collection and preparation of route base maps by local consultants

12.EXPENDITURE

Total	188,346 (¥'000)
Contracted	174,020

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
926km expressways and highways under the Malaysia Highway Authority in Peninsular Malaysia

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
	1)	139,540		
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)
1.Construction of a traffic control and management system for the Malaysian expressways with the length of 915km which is under construction.
1)Traffic informatoin collection
a.emergency telephones b. vehicle detectors
c.weather forecasting facilities d. CCTV comeras
2)Information analyzing system
a.traffic control center b. sub-centers
3)Information dissemination
a.changeable message boards b. changeable speed limit signs
c.highway radio
2.Establishment of the organization for traffic control

Imp. Period: .1990~.1995 .1990~.1995 .1990~.2005

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes

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

Conditions and Development Impacts:
The project is expected to bring about an efficient operation and management system to the expressways
-Provide counter-measures during emergencies accidents and disasters
-Ensure traffic safety and smooth traffic flow
-Provide efficient traffic operation, management and expressway maintenance

5.TECHNICAL TRANSFER
Two counterpart engineers from MHA have participated in the study in Malaysia and attended 3 months training courses in Japan. A post-study technical seminar was held for the Malaysian personnel involved in traffic control and management.

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
(FY1992 Overseas Survey)
Regarding the development of the traffic control and management system for 915km of Malaysian expressways, the concession company Perlembagaan Lebuhraya Utara Selatan (PLUS) is now responsible for the bulk of expressways and highways, excluding the Shah Alam Expressway, Penang Bridge and the Karak Highway which are managed by the Malayian Highway authority (MHA). Most of the on-going project components are under the PLUS. In the case of MHA, some budget allocations are approved under the 6th Malaysia Plan, but the project proposals are still under consideration.

1. Regarding the traffic information collection project, only the emergency telephones and vehicle detectors are being installed in the North-South Highway. The weather forecasting facilities and CCTVs are still under consideration, mainly owing to the financial constraints.
2. Regarding the information analyzing system project, both the traffic control center and the sub-centers are earmarked for implementation and the construction is likely to commence in the near furture.
3. Regarding the information dissemination project, no step has been taken toward implementation.

(FY1993 Overseas Survey)
No additional information.

(FY1994 Domestic Survey)
The concession company PLUS(Perlembagaan Lebuhraya Utara Selatan) that manages the Malaysia North-South Expressway is now looking into the installation of optical fiber cables along the North-South Expressway.When the optical fiber cables are in place,the proposed Traffic Control and Surveillance System is expected to be implemented in stages.

2.MAJOR REASONS FOR PRESENT STATUS
A major portion of the expressways and highways are still under construction and the total network is expected to be completed by the end of the 6th Malaysia Plan (1991-1995). The development of the traffic control and management system will be implemented in stages along with the construction of expressways and highways.

3.PRINCIPAL SOURCE OF INFORMATION
①、② MHA

和名 高速道路交通管理計画

{F/S,D/D}

PROJECT SUMMARY (F/S)

ASE MYS/S 315/89

Compiled Mar.1991
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
Transportation Facilities Projects in Klang Valley

3.SECTOR
Transportation/Urban Transportaion

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Klang Valley Planning Secretariat, Prime Minister's Department

7.OBJECTIVES OF STUDY
Feasibility Study on packeged Transportation Project

8.DATE OF S/W Mar.1987

9.CONSULTANT(S)
Fukuyama Consultants International, Inc.
Pacific Consultants International

10.STUDY TEAM

No.of Members 18
Period .1987-Jul.1989(18 months)

Total M/M	Japan	Field
112.20	7.81	104.39

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Topographic Survey

12.EXPENDITURE

Total	431,735 (¥'000)
Contracted	420,480

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Klang Valley Region

2.PROJECT COST
(US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	382,250		
2)	43,070		
3)	11,410		

3.CONTENTS OF MAJOR PROJECT(S)

	Budget	EIRR	FIRR
Highway Project:			
- Shah Alam Highway Project (47.7km)	249,440	25.7	-
- N-S Expressway Link (33.7km)	132,810	28.5	-
Traffic Control System Project:			
- Kuala Lumpur ATC System	22,260	69.1	-
- Petaling Jaya ATC System	5,110	84.6	-
- Highway Traffic Surveillance System	15,700	-	
Freight Terminal Project:			
- KL North Terminal	4,120	32	14.5
- KL South Terminal	3,410	22	13.7
- Klang Terminal	3,880	22	14.9

Imp. Period: .1991~.1999

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	21.30	FIRR1)	14.40
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

Highway Project
- -Alleviating traffic congestion
- -Development of Highway corridor
- -Reduction in Transport Costs

TC System Project
- -Alleviating traffic congestion
- -Traffic Control and Surveillance
- -Drivers Information

Freight Terminal Project
- -Modernization of Freight Transport Industry
- -Reduction in Transport Costs
- -Improvement of Living Environment

5.TECHNICAL TRANSFER
1.On-the-job-training
2.Holding Symposium
3.Counterpart training in Japan

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

(FY1992 Overseas Survey)
Only those project components for privatization have been completed or making progress, and the components for government financing are largely held back owing to the lack of funds.

1.Highway project
The Malaysian Highway Authority is engaged in a detailed design study of the Shah Alam Highway (47.7km), and a private company (PLUS) is expected to implement the project. The North-South Highway Project is privatized, to be implemented by PLUS.
2.Traffic Control System Project
The project is still under consideration, and no step has been taken toward its implementation.
3.Freight Terminal Project
A detailed design study of the Klang Terminal was undertaken by the Port Klang Authority and is under implementation by a private company (KCT Berhad). Kuala Lumpur North and South Terminals are still under consideration and no negotiations have been made so far.

(FY1993 Overseas Survey)
Based on the original plan which has been changed a little, the project is implementing by government funds.
In case it becoms necessary, consult with a consultant, naming by Transmart.

(FY1994 Domestic Survey)
1.Shah Alam Expressway
The Malaysian Highway Authority(MHA) has decided to implement the proposed Shah Alam Expressway under a BOT scheme.The concession under this scheme was awarded to the private company named GAMUDA.Implementation of this expressway has started and is expected to be completed by 1996.
2.Area Traffic Control System Project
The ATC System proposed for Kuala Lumpur City is being implemented by the City Hall using its own funding.
3.Freight Terminal Project
The detailed design for the proposed Klang Freight Terminal was undertaken by the Port Klang Authority and this terminal was subsequently implemented by a private company called KCT Berhad.The other two terminals namely the Kuala Lumpur North and South Terminals are still under consideration by the Government of Malaysia and so far no decision has been made on their implementation.

2.MAJOR REASONS FOR PRESENT STATUS

Privatized components are being implmented, because of the increasing demand for physical distribution (Freight Terminal Project), or of the state policy to provide better traffic mobility between major growth areas (Highway Project). The Government contribution to the project implementation was seriously constrained by the shortage of funds.

3.PRINCIPAL SOURCE OF INFORMATION

①, ② Klang Valley Planning Secretariat, Prime Ministers Dept.

和名 クランバレー地域都市交通施設計画

(F/S,D/D)

PROJECT SUMMARY (M/P)

ASE MYS/A 101/90

Compiled Mar.1992
Revised Oct.1994

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
Fish Marketing and Distribution System

3.SECTOR
Fisheries/Fisheries

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Ministry of Agriculture
LKIM

7.OBJECTIVES OF STUDY
To provide alternative plans for an efficient marketing and distribution system at the national and regional level.

8.DATE OF S/W Jul.1989

9.CONSULTANT(S)
System Science Consultants

10.STUDY TEAM

No.of Members 9
Period Nov.1989-Mar.1991(17 months)

Total M/M	Japan	Field
64.32	28.62	35.70

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
1. Fish marketing and consumption study
2. Fish quality inspecition

12.EXPENDITURE

Total	217,875 (¥'000)
Contracted	209,606

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Entire country

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)

The study proposed strategies for improving FMDS and suggested the alternative plans of improving FMDS's facilities and institutions for the national level and for six model areas (in Kedah, North Tereggnnu, East Johor, Sarawak and Sabah States) and six marketing centers elsewhere, covering the following basic components. East Johor was selected as the most effective area for the pilot project of FMDS improvement.
1. Fish landing to be shifted from private jetties to public LKIM complexes
2. Fish marketing:
-Facilities: expansion of the fish landing-supply jetties and market halls,
enlargement of the fuel pump, improvement of handling equipment, provision of a
mooring facility, the cold storage and processing facility
-Operation: systematic sorting/grading and improvement of fish handling on board,
and privatization of the part of port facilities
3. Quality control: to reinforce low temperature control of fish before landing
4. Marketing structure: to strengthen wholesale market functions of the LKIM complex
5. Fishermens' associations: improvement of the existing activities

4.CONDITIONS AND DEVELOPMENT IMPACTS

Increase of production and value added, time and cost saving of FMDS, upgrade of fishermen's living standard, and earning of foreign currency, etc., were estimated as its effects though improvements in organization and institution, facilities, and operation will be required.
East Johor has high development potential of fish resources, accessibility to the consumption area and fishermen with advantageous position to the fish dealers etc. In this respect, the effectiveness by implementation of the pilot project may be much higher.
The various methods in operation, maintenance, and management of a distribution facility which will evolve from this pilot project, can be diffused easily to other areas from this site. The fishing technique, and fish marketing and distribution system are not well developed at the present stage in this area. The improvement of fish marketing and distribution system as well as the development of unused resources and adequate management of fishery resources will have high impact on this area and connect to the uplift of income of fishermen.

5.TECHNICAL TRANSFER
1. Counterpart trainning in Japan was impremented in 1990.
2. Technology transfer was conducted through field survey and seminar.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

Based on the findings and recommendations of the master plan study, the Malaysian Government requested JICA to undertake a feasibility study on the East Johor pilot project. The study was duly conducted during April - May in 1992.

(FY1992 Overseas Survey)
The Fisheries Department (LKIM) has approached the Works Department (JKR) regarding the implementation of the pilot projet in East Johor. Financing is to be borne by the EPU (Economic Planning Unit) an possibly by the Ministry of Agriculture, and the LKIM is in the process of negotiation with these agencies. The Government of Malaysia is considering to allocate a budget in the order of RM 35 million, but the amount is yet to be approved. Detailed design of the project has been passed to JKR. The implementation is expected from March 1993 to December 1995.

(FY1993 Overseas Survey)
It had been delayed because of the difficulty in raising the necessary finance. Now, that funds have been made available the remaining obstacle is the acquisition of some land required for the Project.
LKIM is going to build a public complex at East Johor with RM 23.9 million as for the first stage.
And improve existing complexes in Penang with 21.5 million RM, Tereggnnu with 19.5 million RM, and Pahang with 22 million RM, respectively. The works are expected to be completed by the end of 1995.
And to promote quality control, to encourage fishermen to use refrigerated sea-water system to store their catch in order to increase their revenue.

2.MAJOR REASONS FOR PRESENT STATUS
(FY1992 Overseas Survey)
1. Socio-economic impacts to fishermen and the fishing industry
2. Infrastructure needs of the present fishing industry

3.PRINCIPAL SOURCE OF INFORMATION
①、② LKIM

相名 水産物流通システム総合計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (M/P+F/S)

ASE MYS/S 210B/90

Compiled Mar.1992
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
Flood Mitigation and Drainage in Penang Island

3.SECTOR
Social Infrastructures/River & Erosion Control

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Drainage and Irrigation Department, Ministry of Agriculture

7.OBJECTIVES OF STUDY
-Flood Mitigation for 25 rivers in Penang Island
-Drainage in Georgetown

8.DATE OF S/W .1989

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

10.STUDY TEAM
No.of Members 13
Period Jun.1990-Mar.1991(10 months)

Total M/M	Japan	Field
44.17	16.17	28.00

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Survey
Water Quality
Geological EIA

12.EXPENDITURE

Total	343,426 (¥'000)
Contracted	167,604

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Penang Island<M/P>
Georgetown, Penang River, Keluang River<F/S>

2.PROJECT COST
(US$1,000)
1US$=140yen=2.7M$

		Local Cost	Foreign Cost	
M/P	1)	102,235		
	2)			
F/S	1)	79,120	56,926	22,194
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)
<M/P>
The Master Plan of river improvement is divided into three phases of implementation, totalling twenty years.
1) Phase 1(Urgent Project) River improvement of Pinang. Keluang, Gelugor and Dua Besar rivers for total length of 22.1km.
2) Phase 2(Mid-term Plan) River improvement works for four grade B rivers and remaining portion of Grade A rivers. Total length of 17.3 km.
3) Phase 3(Long term Plan) River improvement works for fourteen(14) Grade C rivers in the Island. Total length of 13.4km.
Drainage Master Plan
1)Improvement of main drains in Gorge town City Total length of 21.9km.
2)Construction of retention pond of 22,000 cu.m capacity with 6 cu.m/s capacity pumping station.
3)Retention pond of 56,000 cu.m capacity with 2 cu.m/s pumping station.
4)Improvement of drainage system in the Island outside of Georgetown City. Length of 4.48km.
<F/S>
1. River improvement of Penang and keluang river systems.
2. Construction of Dondang Retention Ponds.
3. Construction of Air Terjun and Relau diversion channels.
4. Improvement of drains and construction of the retention ponds with pumping facilities for drainage systems.(S-10, S-18, and N-12)

Imp. Period: .1991-.1995

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: Yes/No

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

Conditions and Development Impacts:
<M/P>1) To mitigate the flood damages in the areas developed.
2) To improve the drainage conditions which may be deteriorated by the proposed land reclaimation project. 3) To improve inundation by high tide. 4) To improve hyginic condition of under area.
<Conditions>
1) Annual operation and maintenance cost is 1.0% of economic construction cost.
2) The Project benefits are realized 5 year later after the commencement of the project implementation. 3) The social discount rate is 8.0%.
4) The opportunity cost of capital is 8.0%.
<Results>EIRR/ B/C 15.1%/1.9(Pinang river), 14.6%/2.15(Keluang river) below 9.0%(other rivers)
<F/S>Development Impacts:
1. Upgrading of land use value by mitigating the flood damages.
2. Improvement of environment.
Benefits: Area: 23 sq.km ; Population: 258000

5.TECHNICAL TRANSFER
<M/P>1. To accept a trainee. 2. Provision and instruction for instruments. 3. Cooperated works in collection and analysis of information.
<F/S>1. To accept two trainees 2. Workshop training 3. Seminar

III. PRESENT STATUS OF STUDIED PROJECT

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

(Description)
(FY1992 Overseas Survey)
The State Government applied for a budget for flood mitigation under the 6th Malaysia Plan. The Federal Government approved an allocation of RM 19.81 million for the preparation of detailed designs of four urgent projects and contract/tender documents and for the acquisition of land. A local consulting firm (MINCONSULT Sdn Bhd) was appointed to undertake a detailed design study, during the period from Feb.1993 to Aug.1994 (18 months). The first construction contract is expected to be called in Sept.1993.

(FY1993 Overseas Survey)
Detailed designed studies are being carried out by local Consultants funded by Federal Government and are expected to be completed by July,1994. Two local consultants has been designated.
Construction Works Will be commenced on July,1994 and to be expected to complete by the year of 2010.

(FY1994 Domestic Survey)
1) The D/D study has completed in 1994.
2) The implementation of the first construction (Phase 1 of the M/P) has been started in 1994 by using the local governmental fund.
3) The schedule of implementations of Phase 2 and 3 of the M/P have not planned yet.

2.MAJOR REASONS FOR PRESENT STATUS
(FY1992 Overseas Survey)
The principal reason is the need to reduce flooding problems that affect the local population.

3.PRINCIPAL SOURCE OF INFORMATION
①、② DID

和名 ペナン島洪水緩和排水計画

(M/P+F/S)

PROJECT SUMMARY (M/P+F/S)

ASE MYS/A 202B/90

Compiled Mar.1992
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
Rationalization and Crop Diversification in Non-granary Irrigated Areas

3.SECTOR
Agriculture/General

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Economic Planning Unit (EPU), Prime Minister's Department
Drainage and Irrigation Dept.

7.OBJECTIVES OF STUDY
Inventory resource survey of all non-granary irrigated schemes<M/P>
Formulation of Crop Diversification Plan<F/S>

8.DATE OF S/W Jul.1988

9.CONSULTANT(S)
Nippon Koei Co., Ltd.
Hokkaido Engineering Consultants Co., Ltd.

10.STUDY TEAM
No.of Members 20
Period Feb.1989-Oct.1990(20 months)

Total M/M	Japan	Field
70.73	30.17	40.56

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Detailed farmers' intention survey done by local consultant

12.EXPENDITURE

Total	231,375 (¥'000)
Contracted	227,613

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
924 non-granary irrigated schemes<M/P>
12 non-irrigated schemes selected in P.Pinang,Negri Sembiran and Kelantan States<F/S>

2.PROJECT COST
(US$1,000)
US$1=2.54M Ringgit

		Local Cost	Foreign Cost
M/P	1)		
	2)		
F/S	1)	10,576	
	2)		
	3)		

3.CONTENTS OF MAJOR PROJECT(S)
<M/P> 1.The nationwide inventory survey on 924 non-granary irrigation schemes was carried out to evaluate the present situation and to obtain the various information required for prepairing the crop diversification plan. 2.The crop diversification potential of each non-granary irrigation schemen was evaluated by category selecting 1st-4th priorities.
3. Non-granary irrigation schemes with 1st priority are as follows:
(1)Schemes to be converted to high value crop cultivation.144 (2)Schemes to be converted to tree crop cultivation ..334 (3) Schemes with double-cropping system (paddy during the main season and short-term annual crops during the off-season) ..46
(4)Schemes to be maintained for paddy cultivation (minigranary area)..74
(5)Schemes to be maintained for paddy cultivation for a while..172
(6) Schemes to be converted to housing/industrial and other uses ..154
<F/S>1. Kulim area (3,223ha) (1) A stepwise procedure to introduce crop diversification was proposed as follows;1st stage: Introduction of non-paddy crops during the off-season. Final stage:upland crop cultivation (300% cropping intensity) (2) Upgrading of infrastructures - On-farm development of 1,474 ha - Rehabilitation of the pump station,secondary canals,Jarac link canal -Construction of 3 tidal gates,Jalak river bond
2.Mampong area(517ha) (1) Present paddy fields will be converted to permanent crop fields (2)Upgrading of infrastructures Feeder drains (11,500m),farm roads(4,600m) and 46 drainage control structures
3. Kelantan area (930 ha) (1) A double-cropping system such as paddy during the main season and short-term annual crops during the off-season was proposed. (2) Provision of intensive on-farm facilities
- 50 m/ha of irrigation and drainage canals - 100 m/ha of farm roads

Imp. Period:

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)		FIRR1)	27.20
EIRR2)		FIRR2)	12.50
EIRR3)		FIRR3)	22.90

Conditions and Development Impacts:
<M/P>1. The promotion of crop diversification plan of a particular non-granary irrigation scheme can be achieved with provision of necessary actions.
2. An information management system for the non-granary irrigated areas can be used for monitoring future scheme performance.
3. The idle paddy fields will be gradually phased out and used for production of more remunerative crops than paddy.
<F/S>1. Kulim area(FIRR 1) (1) The net incremental benefits "with project" were estimated at 14,799 M$/ha.
2. Mampong area(EIRR 2)
(1) The incremental benefits for oil palm and cocoa were estimated at 1,252 M$/ha and 2,515 M$/ha, respectively.
(2) The FIRR is estimated by crop as follows: - Oil palm 12.5%
- Cocoa 23.0%
3. Kelantan area(FIRR 3)
(1) Annual net benefits "with project" were estimated at 4,157,000 M$.

5.TECHNICAL TRANSFER
-National seminar on crop diversification for 3 days with 170 participants.
-Final lecture and discussion with 18 State coordinators for 3 days.

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
(FY1992 Overseas Survey)
1. Following the master plan study, major recommendations therein were included under the 6th Malaysia Plan. The implementation is proceeding at a slow pace, because the proposed project involves large tracts of land throughout the peninsula, and requires large outlays of capital. Under the 6th Malaysia Plan, a total of RM 3.5 million has been allocated to promote the implementation.

2. The Drainage and Irrigation Dept.(DID) identified three schemes each with a model farm of approximately 20ha. The engineering surveys have been completed in 1992 on the model farms at the three schemes: namely, Kulim in Kedah, Rapek in Kelantan and Mampung in Negri Semibilan. The model farm at Kulim in under construction.

3. DID has applied to JICA for funds to implement a mini-project type scheme, and also requested for the assistance of a soil/irrigation and drainage expert.

(FY1993 Overseas Survey)
As proposed by the Master Plan, studies have been utilized for the implementation of the programs under the 6th Malaysian Plan. Detailed design for the indivisual project is being done and a number of projects have been carried out all over the country.
Solving the problems as recommended by the study in reviving the idle paddy land, due to unsuitable soil, shortage of labour and water, for useful cultivation of high value crops.

(FY1994 Domestic Survey)
The Gov't of Malaysia has been implementing this Project by them selves.

2.MAJOR REASONS FOR PRESENT STATUS
(FY1992 Overseas Survey)
The pace of project implementation is slow, owing to the shortage of government fund.
The progress of rationalization and diversification projects will depend on the positive response of the farmers concerned, the availability of good infrastructural facilities and farm management and marketing skills, and the establishment of detailed implementation strategies.

3.PRINCIPAL SOURCE OF INFORMATION
①、② DID

和名 非穀倉灌漑地区合理化・作付多様化計画

(M/P+F/S)

PROJECT SUMMARY (F/S)

ASE MYS/S 317/90

Compiled Mar.1992
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
Rail-Based Commuter Services in Klang Valley

3.SECTOR
Transportation/Railway

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Economic Planning Unit (EPU)

7.OBJECTIVES OF STUDY
F/S on a project for introducing a rail-based commuter service to the Klang Valley Region

8.DATE OF S/W May.1989

9.CONSULTANT(S)
Japan Railway Technical Service
Pacific Consultants International

10.STUDY TEAM

No.of Members 11
Period Jan.1990-Feb.1991(12 months)

Total M/M	Japan	Field
64.44	31.97	32.47

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	214,295 (¥'000)
Contracted	206,389

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
In and around Kuala Lumpur City and in the Klang Valley Region, Malaysia (Rawang - Kuala Lumpur - Seremban, about 106km)

2.PROJECT COST

(US$1,000) US$1=2.6949M$	Total Cost	Local Cost	Foreign Cost
1)	228,461	58,158	170,303
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

1. Improvement of railway facilities: Rawang-Kuala Lumpur-Seremban (106km)
   1) New construction of three halts, and new or additional construction of station buildings and passenger facilities.
   2) New signalling and telecommunications systems (automatic signal, automatic train protection system, etc.)
   3) Commuter train operation by diesel railcars (about 170 cars), and reinforcement of car inspection and storage facilities.
2. Integrated transport (intro. of feeder buses of about 860 cars)

In 1987, a JICA study proposed a Master Plan on transport for the regions concerned for the target year of 2005. The large-volume high-speed railway system to be used for commuter transport was one of the high-priority projects proposed in the Master Plan. In order to strengthen the railway passenger and freight transport capacities in the regions, the Malaysian Government decided moreover to implement the double tracking project (double tracking, modernization of signalling and telecommucications facilities, and introduction of DMUs) to be completed in 1993. In addition, monorail and LRT projects are about to start in order to alleviate the road traffic congestion in and around Kuala Lumpur City. The present Study proposes the reinforcement of railway-based commuter service(RBCS) between Rawang, Kuala Lumpur and Seremban, on the assumption that the Malaysian projects above be completed as scheduled.

Imp. Period: .1993~.2005

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	28.81	FIRR1)	2.84
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

Conditions:
1) The values of investments and maintenance and operation costs are calculated by deducting customs and taxes from commercial prices, and converted to economic prices by using the rates established by EPU (Economic Planning Unit). CIF prices are used for imported materials.
2) Initial investment costs are applied for the replacement of the assets.
3) Project life of 30 years (1993 - 2022)
4) Inflation is not considered
5) Foreign exchange rate of September 1990 (M$1 = 51.5yen)
6) Residual values of the assets to be depreciated are calculated as negative investment, by evaluating the length of remaining service life at the end of project life.

Development Impacts:
1) Alleviation of road traffic congestion by the transport capacity of 4.5 million passenger-km per day in 2005 and also by the train operation at 10 minute intervals during peak hours throughout the year
2) Development of satellite cities along the railway route, development of related industries, and increase in oppotunities of employment
3) Improvement of air pollution by alleviation of road traffic congestion

5.TECHNICAL TRANSFER
1) OJT in respect of railway technologies, methods of demand forecast, regional development planning, etc.
2) One counterpart training on demand forecast in Japan in Nov. 1990

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
(FY1992 Overseas Survey)
This JICA study was conducted simulataneously with another study (the Double Tracking Project) by te Malaysian Government. The programs and projections of the two studies which were deemed suitable were integrated for implementation. The Doubl Tracking Project (DTP) is under implementation, albeit somewhat behind the schedule. Financing was obtained from OECF of Japan and UK's ODA in addition to the Govt. funds. The Rawang - Seremban sections (106km), for which the JICA study proposed various improvements, is being implemented as part of DTP. DTP constitutes the first phase, and the major component, of the railway improvement program of Malaysia, and other programs and recommendations will be implemented after the completion of DTP in mid-1995.
(Related Information)
1. After the start of DTP implementation, the Malaysian Govt. decided on the electrification of the entire sections. Although the OECF loan has not been adjusted to date, the on-going project is being implemented so as to assimilte the electrification.
2. Some relevant proposals have beeen planned for the project area. Firstly, a suburban railway with 5 radial lines and 2 branch lines is proposed in the 25km-radius of KL. A private consortium was awarded the contract to build one of the lines (CBD to Ampang 12km). Secondly, it was decided in 1991 to include medium-volume guided ransport systems, in addition to monorails, as alternatives of private investment for the downtown people movers project.
3. The OECF loan (19,444 million yen) covers (1) double tracking from KL to Klang Port (43km), from KL to Sentul (2km) and the branch line to Subang Airport (7km), (2) doule tracking from Rawang to Seremban (105km), (3) singalling and telecommunication systems of the above, and (4) 18 sets of diesel railcars.

(FY1993 Overseas Survey)
The project has not been completed yet.

(FY1994 Domestic Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS
Malaysia is pursuing economic development to become a developed country by the year 2020. As part of their efforts, the Government aims to establish and operate an effective urban transport system in and around Kual Lumpur. The double tracking of national railways and the strengthening of urban and intra-city transport systems are being implemented to alleviate growing road traffic congestions and environmental hazards.

3.PRINCIPAL SOURCE OF INFORMATION
①、② EPU

和名 クランバレー地域鉄道改良計画

(F/S,D/D)

PROJECT SUMMARY (M/P+F/S)

ASE MYS/S 211B/91

Compiled Mar.1993
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
Development of Rajang Port

3.SECTOR
Transportation/Port

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Rajang Port Authority, Sarawak

7.OBJECTIVES OF STUDY
Short-term and Long-term Development Plan for the Rajang Port

8.DATE OF S/W Jan.1990

9.CONSULTANT(S)
Overseas Coastal Area Development Institute
Ocean Consultant Japan Co., Ltd.

10.STUDY TEAM

No.of Members 11
Period Aug.1990-Feb.1992(19 months)

Total M/M	Japan	Field
71.55	35.95	35.60

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
- Cargo Flow Survey
- Natural Condition Survey

12.EXPENDITURE

Total	261,452 (¥'000)
Contracted	253,034

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Rajang Port Area and its surroundings, Sarawak State, Malaysia

2.PROJECT COST (US$1,000)

		Local Cost	Foreign Cost
M/P 1)	128,879		
2)			
F/S 1)	51,772	34,505	17,267
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

<M/P> (through 2010)

(1) Timber Products Terminal
- Wharves -10m 750m
- -5m 300m
- Yards 335,000m2

(2) Coal Terminal
- Wharves -10m 200m
- -5m 235m
- Yards 71,000m2

<F/S>Short-term Plan (through 1997)

(1) Timber Products Terminal
- Wharves -10m 300m
- -5m 180m
- Yards 100,000m2

(2) Coal Terminal
- Wharves -10m 165m
- -5m 150m
- Yards 32,000m2

Imp. Period: .1994-.1996

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	22.20	FIRR1)	10.60
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

Development Impacts:<M/P,F/S>
1.Construction of the timber products terminal will replace the presentoff-shore cargo handling with modernized cargo handling at the terminal.This will reduce the costs of cargo handling and operating tug boats and barges and save the waiting time of vessels.

2.The economic transportation service provided by the proposed terminals will attract sawmills and other relted industries to the Timber Processing Zone, and stimulate the regional development.

5.TECHNICAL TRANSFER
- Lecture on the method of demand forecast in Rajang Port Authority
- Counterpart training :RPAT, EPUI

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

(FY1992 Overseas Survey)
- A steering Committee has been formed by the State Government to consider the findings of the JICA Study. The 1st meeting was held in Jan. 28th 1993.

- Pending the deliberations of the Steering Committee over the submitted JICA Report, the Ministry of Infrastructure Development will prepare a Cabinet Paper for final approval by the State Government.

- At present, it appears likely that the Sarawak Timber Industry Development Corporation (STIDC) be proposed to take over the development of a timber complex at Tanjong Manis.

(FY1993 Overseas Survey)
According to JICA's feasibility report, appointment of consultant in carrying out detailed investigation, designing and supervision of Tanjung Manis Port Development Project.
Implementation works has been commenced since Nov.1993.
The implementation works will be carried out in two phases, i.e. the first phase will be up to the year of 2000 and the second up to the year of 2010.
The financing will be prepared by
1.Rajang Port Authority's Fund,
2.Capital Grant from the State Government and
3.Financial loan Obtained from several commercial banks.

(FY1994 Domestic Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①、② Rajang Port Authority, Sarawak

和名 ラジャン港開発計画

(M/P+F/S)

PROJECT SUMMARY (M/P)

ASE MYS/S 106/92

Compiled Mar.1994
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY

Highway Network Development Plan

3.SECTOR

Transportation/Road

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY

Economic Planning Unit (EPU), Prime Minister's Department

7.OBJECTIVES OF STUDY

To formulate a development plan of the national highway network targeted to 2010

8.DATE OF S/W Mar.1990

9.CONSULTANT(S)

Fukuyama Consultants International, Inc.
Pacific Consultants International

10.STUDY TEAM

No.of Members 13

Period Mar.1991-Mar.1993(25 months)

Total M/M	Japan	Field
92.10	4.90	87.20

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

Traffic Surveys include
Vehicle Owner Interview Survey, Roadside O-D Interview Survey, Traffic Count Survey

12.EXPENDITURE

Total	430,210 (¥'000)
Contracted	412,714

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA

Malaysia as a whole
Area 330,000 Km2
Population in 1990 18,010,200

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	20,884		
2)	138,329		

3.CONTENTS OF MAJOR PROJECT(S)

1.Master plan of the highway network development to the year 2010.
Total length 15,298km
- Expressway 1,349km
- Major highway 5,978km
- Minor & Primary Highway 7,926km

2.Proposed highway development projects are 72 in peninsula Malaysia, 13 in Sabah and 10 in Sarawak.

3.Devided the plan such as;
Phase I (1996-2000) Those II (2001-2005)
Phase III (2006-2010)
Formulated the action plan with priority decisions.

4.CONDITIONS AND DEVELOPMENT IMPACTS

1.Presumption
Malaysia intends to become an advanced Industrial Nation to the year 2020.In this context,socio-economic activities in the year 2010 are (1)population-27.5 million (2)GDP M$ 304.9 billion, (3)GDP yen capita M$11,100

2.Traffic Demands
It is expected to increase traffic demands as follows:
Passenger Traffic 1991 4,871 million pass 2010 13,017 million rass.
Freight Traffic 1991 639 million ton , 2010 2,392 million ton

5.TECHNICAL TRANSFER

Technology has transfered to the Malaysian Counterparts through studying with counterpart personnel. In addition, counterpart training in Japan was held two times and a workshop was held in Kuala Lumpur.

III. PRESENT STATUS OF STUDY RESULTS

1.PRESENT STATUS

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

(Description)

Among priority projects identified in this study, the following two projects are requested for conducting feasibility studies under JICA technical cooperation program:

(1)Outer Ring Road Project in Kuala Lumpur Metropolitan Area

(2)Sabah - Sarawak Linkage Project

(1993FY Overseas Survey)
The Highway Planning Unit is waiting for a reply on their request for assistance to conduct F/S for
1)Outer Ring Road Project in KL Metropolitan Area, and
2)Sabah-Sarawak Linkage Project
under the JICA's technical cooperation program.
Some recommendations made in the Master Plan,such as feasibility Studies for the East Coast Expressway and the East-West Expressway are being conducted.
The West Coast Expressway particularly from Selangor and down south has been given added emphasis in view of the proposed location of the new International Airport at Sepang.
Regard to the documentations given by JICA, such as manual books of supplied machineries, the standard of written English has room for improvement. However, Assistance to conduct F/S for some of the recommendations contained in the Master Plan will be most helphul.

(FY1994 Domestic Survey)
The road development projects proposed to be implemented until 1995 by this M/P were incorporated into the Mid-Term Review of the 6th Malaysian Plan(1991-1995) recently.Other road development projects proposed by the study to be implemented are expected to be included in up and coming 7th Malaysia Plan(1996-2000).

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION

①、② EPU, Prime Minister's Department

和名 全国道路網整備計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (M/P)

ASE MYS/S 212B/92

Compiled Mar.1994
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
Maintenance and Rehabilitation of Bridges

3.SECTOR
Transportation/Road

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Ministry of Works, Public Works Department, Road Branch, Bridge Unit

7.OBJECTIVES OF STUDY
- To develop a systematic maintenance and rehabilitatio program fo bridges in Peninsular
- To establish a manual of inspection, maintenance and rehabilitation work

8.DATE OF S/W Feb.1990

9.CONSULTANT(S)
Nippon Koei Co., Ltd.

10.STUDY TEAM

No.of Members 9

Period Aug.1990-Nov.1992(27 months)

Total M/M	Japan	Field
71.19	15.70	55.49

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Subsoil Investigation, Topographic Survey, Installation of Scaffolding, Bridge Measurement Survey, Loading Test

12.EXPENDITURE

Total	149,167 (¥'000)
Contracted	286,499

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Whole Malaysia
Total Area 330 thousand sq. km.
Total Population 18,000 thousand

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	21,282		
2)			

3.CONTENTS OF MAJOR PROJECT(S)
<M/P>
Bridge maintenance and rehabilitation covering a total of 203 bridges, out of 216 Study Bridges, with the following aspects
- the project shall be divided into five packages
- the construction of the first package shall be commenced in early 1994
- each pckage shall be completed within one Malaysian fisical year

4.CONDITIONS AND DEVELOPMENT IMPACTS
<M/P>
Condition:
1) Bridge Unit in Federal JKR is the executing agency for the Project Implementation in cluding undertaking detailed design.
2) State JKR and District JKR are responsible for construction management and monitoring the project and the direct construction supervision respectvely.

Impacts:
1) To prevent the adverse consequence such as a loss of traffic safety, a reduction of structural safety,
2) To decrease the Government expenditure for bridege replacement
3) To improve self-reliance for bridge inspection maintenance and rehabilitation

5.TECHNICAL TRANSFER
- Technical transfer for methods of bridge inventory, survey loading test
- C/P Training in Japan
- Holding Seminars

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
1. Status of Project Implementation and Materialization of the Study.

(i) Project Implementation: There is a slight delay as we have yet to write to EPU to request for founds to implement the Project.

(ii) Study Recommendation
- Need to Eliminate-Design const. Deticiencies in New Bridges. This is on going process.
- Need to strictly control overloadied trucks weighbridges are being installed.
- Need to establish bridge inspection : Maintenance organization already established.

2. Status of Manual
The manual has been circulated to all Districts. It is definitely being used key everyone in Bridge Maintenance.

(FY1993 Overseas Survey)
- JICA's study on the standardization of Bridge Design has been planned.
- Design and preparation of document contracts are implemented for maintenance and rehabilitation works on bridges at the average of 15-20 projects per year.

(FY1994 Domestic Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①、② Public Works Dept., Ministry of Works

和名 全国橋梁維持・修理計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (M/P)

ASE MYS/S 103/93

Compiled Mar.1995
Revised

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
Air Quality Management Study for Kelang Valley Region

3.SECTOR
Administration/Environmental Problems

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Department of Environment

7.OBJECTIVES OF STUDY
Preparation of guidelines for air quality management

8.DATE OF S/W Mar.1990

9.CONSULTANT(S)
Research, Analysis and Computing

10.STUDY TEAM

No.of Members 15

Period Dec.1991-Aug.1993(21 months)

Total M/M	Japan	Field
73.57	31.36	42.21

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Traffic survey, chassis dynomometer tests and fuel anslyses

12.EXPENDITURE

Total	559,780 (¥'000)
Contracted	254,152

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Kelang Valley Region

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)

1.Establishment of ambient air quality monitoring system
2.Establishment of comprehensive air pollution control center
- Ambient air quality central monitoring center
- Combustion training center
- Ambient air quality monitoring training center
- Pollution source monitoring center
3.Installation of chassis dynamometers
4.Introduction of car inspection system

4.CONDITIONS AND DEVELOPMENT IMPACTS

Condition:
1.Use of natural gas
2.Introduction of regulation for exhaust from petrol vehicle
3.Implementation of the Transportation Master Plan in Kelang Valley

Impact:
The ambient air quality standards will be satisfied in 2005 in the region.

5.TECHNICAL TRANSFER
Measurements,analysis and air dispersion simulation system

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

1. Enforcement of regulation for exhaust from motorcycles
2. Establishment of ambient air quality monitoring system
3. Malaysian Government organized several sub-committees to cope with air pollution according to the proposals of this project.

2.MAJOR REASONS FOR PRESENT STATUS
Environmental protection is one of the main policies.

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 首都圏大気汚染対策計画調査

{M/P,Basic Study,Other}

PROJECT SUMMARY (F/S)

ASE MYS/A 311/93

Compiled Mar.1995
Revised

I. OUTLINE OF STUDY

1.COUNTRY Malaysia

2.NAME OF STUDY
The Pilot Project for Improvement of Fish Marketing and Distribution System in East Johor

3.SECTOR
Fisheries/Fisheries

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Ministry of Agriculture
LKIM

7.OBJECTIVES OF STUDY
Impovement of institutional building and construction of marketing facilities in East Johor as a model case for impropvement of the existing fish marketing system.

8.DATE OF S/W Dec.1991

9.CONSULTANT(S)
System Science Consultants

10.STUDY TEAM
No.of Members
Period Mar.1992~Mar.1993(13 months)

Total M/M	Japan	Field
47.80	18.30	29.50

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
1.Fishermen village survey
2.Natural condition survey
3.Fish marketing survey in Singapore

12.EXPENDITURE

Total	195,965 (¥'000)
Contracted	191,083

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
East Johor

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	14,997	12,713	2,284
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
Endau was selected as an optimum site for the pilot project in East Johor. Major contents of the project proposed are as follows.
(1)Fisheries resources management
(2)Consolidation of fish marketing / distribution system.
(3)Improvement and inforcement of the organization of Area Fishermen Association.
(4)Construction of the fishing port facilities.
Basic facilities : Fish landing / supply jetties(Total 360m length) mooring jetties, rebetment.
Functional facilities : market hall, office, ice plant/cold storage, processing facility, fishing gear reparing area and storage, fuel supply facility, ship repearing yard, waste water treatment facility.

Imp. Period: .1993~.1995

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes/No

EIRR1)	12.00	FIRR1)	6.30
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
Increase of production and value added, time and cost saving of FMDS, up-grade of fishermen's living standard, and earning of foreign currency, etc., was estimated as its effect, though the improvement in organization and institution, facilities, and operation will be required. East Johor has high development potential of fish resources, accessibility to the consumption area and fishermen with advantageous position to the fish dealers etc. In this means, the effectiveness by implementation of the pilot project may be much higher. The various methods in operation, maintenance, and management of a destribution facility which will evolve from this pilot profect, can be diffused easily to other area from this site. The fishing technique, and fish marketing and distribution system are not well developed at present stage in this area. The improvement of fish marketing and distribution system as well as the development of unused resources and adequate management of fishery resources will give high efficiency

5.TECHNICAL TRANSFER
Counterpart trainning in Japan was condeucted in 1992

III. PRESENT STATUS OF STUDIED PROJECT

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

(Description)
Malaysia Government has allocated the fund (M$ 4,000,000) in 6th National Development Plan for preparatory expense for the pilot project. According to the results of this study, this project will be reviewed in the Medium Term Revised plan.

2.MAJOR REASONS FOR PRESENT STATUS
East Johor located at the site which is proper and effective for the pilot project on resource, relation between public and private sectors, market, situation of fishermen and communication with Government.
Malaysia Government has a plan to apply this project to the other model areas.

3.PRINCIPAL SOURCE OF INFORMATION
①

相名 東ジョホール水産物流通システム改善計画 {F/S,D/D}

PROJECT SUMMARY (M/P+F/S)

ASO MDV/S 201B/92

Compiled Mar.1994
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Maldive

2.NAME OF STUDY
Seawall Construction Project for Male' Island

3.SECTOR
Social Infrastructures/River & Erosion Control

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Ministry of Foreign Affairs
Ministry of Public Works and Labor

7.OBJECTIVES OF STUDY
To formulate the construction plan of the seawall for the prevention of high-tyde and high-wave at Male' Island.
To perform technology transfer for counterpart personnel

8.DATE OF S/W Jan.1991

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

10.STUDY TEAM
No.of Members 11
Period Aug.1991-Dec.1992(17 months)

Total M/M	Japan	Field
41.50	18.20	23.30

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Geological surey 8,184,000yen
Kiso-Jiban Consultants Co., Ltd.
Singapore Brach

12.EXPENDITURE

Total	166,830 (¥'000)
Contracted	179,206

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
The coast arround Male 'Island (about 4,700m)

2.PROJECT COST (US$1,000)

M/P 1)	51,422	Local Cost	Foreign Cost	51,422
2)				
F/S 1)				
2)				
3)				

3.CONTENTS OF MAJOR PROJECT(S)
Maldives has experienced inundation disaster by waves since the 1980s. For protection of disaster, the project will be conducted by the construction of seawall. The order of construction plan of seawall is made according to urgent. The length of seawalls and project cost each coasts is as follows;

West - Coast	774.00 m	US$.10,328,156.
East - Coast	1,009.22 m	US$.13,632,487.
South - Coast	1,508.83 m	US$.17,057,963.
North - Coast	1,441.00 m	US$.10,403,567.

Imp. Period: .1994-.1999

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

EIRR1)	24.00	FIRR1)	
EIRR2)	30.00	FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
EIRR 1) is with Northern Coast
2) is without Northern Coast

[Design Condition) of seawall
Design Wave

	offshore-wave, H(m).	T(sec)	Frontof Facility H(m)	T(sec)	D.H.W.L (D.L +m)	crown tyde (D.L.+m)
West-coast	1.2	4.6	---	---	1.34	North 3.00/ South 2.60
East-Coast	3.0	16	1.3	16	1.64	3.00
South-Coast	3.0	16	0.7	6	1.63	North 1.80/ South 2.4
North-Coast	0.6	4.6	---	---	1.34	2.10

[Impact]
Protection of human life in Island and keep of capital management by construction of disester provention.

5.TECHNICAL TRANSFER
Training at Japan 2 times 3 persons.
Lecture of coastal engineering.
Technical transfer of observation method of waves.

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
By the request of the Government of Republic of Maldives in February 1993 for a grant aid cooperation for the construction of seawalls along the West Coast of Male 'Island where the utmost urgency of the construction was indicated by the requests of the development study, the Government of Japan decided to carried out a basic design study in connection with the coastal disaster prevention plan for the Island of Male', and JICA dispatched a basic design study team between August and September, 1993 to investigate the necessary and propriety of the plan. After that the construction procedure and roughly cost estimation was crried out.
The Exchange Note (E/N) will be concluded between the Government of Japan and Government of Republic of Maldives in Journary 1994, and construction work will start 1994 by two years work periods.

(FY1993 Overseas Survey)
Feb. 1994 E/N was concluded.
Contents; 32 million yen (for D/D)
1,300 million yen (for Phase I 1994.10~1995.12)

(FY1994 Domestic Survey)
Jul.1994 E/N was concluded.
Contents; 87mil.Yen(for Supervision by the consultants firm)
1,249mil.Yen(for Construction)
Oct.1994 Tender of construction firm was executed.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①、②

和名 マレ島海岸防災計画

(M/P+F/S)

PROJECT SUMMARY (F/S)

ASO MNG/S 301/92

Compiled Mar.1994
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Mongolia

2.NAME OF STUDY
Improvement plan for transshipment facilities at Zamin-Uud Station

3.SECTOR
Transportation/Railway

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Ministry of Trade and Industry, Mongolia, and Mongolian Railway

7.OBJECTIVES OF STUDY
F/S on the construction of cargo transshipment facilities

8.DATE OF S/W Apr.1992

9.CONSULTANT(S)
Japan Railway Technical Service
Pacific Consultants International

10.STUDY TEAM

No.of Members 10
Period Aug.1992-Mar.1993(8 months)

Total M/M	Japan	Field
39.46	21.80	17.66

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	148,035 (¥'000)
Contracted	137,952

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Zamin-Uud Station

2.PROJECT COST
(US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	2,217	314	1,903
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

* Project costs are shown in " million yen" instead of US$1,000.

Since the track gauge of Mongolia is different from that of China, Mongolia necessitates a cargo transshipment facilities at its border station of Zamin-Uud. Thus, the following structures, facilities and equipment are to be constructed or introduced at the station.
Embankments, tracks, platforms, equipment of signal, telecommunication, lighting and powering, acess road main office buildings, site office buildings, signal equipment room, signal cabin, cargo storage houses, garages antitheft fences, residential houses and cargo handling equipment(reach stacker, forklift and conveyor).

Imp. Period: Jun.1993~Mar.1996

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

EIRR1)	26.28	FIRR1)	1.91
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

Conditon for Economic Analysis
*Saving of cargo transshipment fees being paid to China
*Acqisition of cargo transshipment fees Russia is paying to China
*Saving of investment costs for facilities and equipment necessary for cross-border cargo transport by truck

Conditions for Financial Analysis
*Two-fold increase of cargo transshipment fees
*Triennial 25% increases cargo transshipment fees
*Introduction of loans with low-rates

Development Inpacts
Shorten cargo delivery time,Cutting of foreign exchange drain,creation of employment opportunities,vitalization of economy and industries,stabilization of prices and enhancement of Mongolian position in the international relations.

5.TECHNICAL TRANSFER
Technology transfer was made on the methods of demand estimate economic and financial analysis and planning.

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
In June 1993, Notes Exchanged (E/N) between the Mongolian and Japanese government were signed for implementing this project with free financial assistance from the Japanese government. Afterward, Pacific Consultant International was selected as the consultant and conducted the detailed design (D/D). On September 13, 1993, Kohnoike Gumi was appointed as the constractor throgh bidding. Following the authorization of the Japanese government on October 21, full-fledged construction work started. At present, work is in progress in surveying, well boring transport of earth and sand for embankments, and construction of temporary offices and houses for workers.
The 1st-stage construction (construction of facilities for transshipment of freight carried by wagons) is scheduled to be completed by March 1995. The 2nd stage construction (construction of facilities for container cars) will start after the signing of E/N expected in 1994. The entire project is scheduled to be completed in 1996

(FY1993 Overseas Survey)
The Government expects further cooperation for the second stage of the project.

(FY1994 Domestic Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①、②

和名 ザミンウード駅貨物積替施設整備計画

{F/S,D/D}

PROJECT SUMMARY (M/P)

ASO MYN/A 101/79

Compiled Mar.1990
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Myanmar

2.NAME OF STUDY
Irrawaddy Basin Integrated Agricultural Development Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Ministry of Agriculture and Forestries

7.OBJECTIVES OF STUDY
Establishment of agricultural development plan for 2.9 million ha along the middle Iramaddy basin.

8.DATE OF S/W Oct.1977

9.CONSULTANT(S)
Sanyu Consultants Inc.

10.STUDY TEAM

No.of Members 14
Period Feb.1978-Mar.1980 (26 months)

Total M/M	Japan	Field
55.36	31.73	23.63

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	293,115 (¥'000)
Contracted	243,519

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
2,900,000ha in the mid-stream basin of Irrawaddy River

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	2,020,000		
2)			

3.CONTENTS OF MAJOR PROJECT(S)

- The five (5) Irrigation projects with a wet paddy cropping area of 114,800ha, a dry paddy cropping area of 9,500ha and a dry season upland crops of 69,600ha, out of it proposed irrigation projects, are selected as a priority project. The total irrigation area of a wet paddy is 391,400ha.
- Damp ground areas of 78,000ha along the irrawaddy river will be reclaimed by flood protection dikes. The proposed dike length of 86km, the proposed drainage canal of 48.3km with gates, are planned.
- As a rural development, village water supply village roads are proposed. The road development project contains about 1,227km of the national road development and about 10,454 of regional roads development.
- The 24 hydro power stations with a total out put of 38,000 km and a total generating power of 130 MWH are proposed.
- Out of the above development plans, agricultural development, fisheing development, forestry development, animal husbundary development are included in this study.

4.CONDITIONS AND DEVELOPMENT IMPACTS

[Conditions]
It is difficult to develop all lthe project area at sometime. Prior to implementation, the basic concept of development shall be established, and the priority project shall be selected. The development with a harmony of verious fields and areas shall be carried out under the total development frame work. By this development procedure, a smooth and effective development will be expected.

[Impacts]
Expansion of food crop production centering on rice is planned by irrigation through constructing dams in 26 sites.
Rise in living standard and income of farmers faminly is planned by promoting agriculture with husbandry and introducing fishery in reservoir ponds.

Total Production and lincremental production of major crops.

(unit:1000ton)

crops	Present	Proposed			incremental
Paddy	1,872	2,197	1,743	3,940	2,068
Jute	16	19	35	54	38
Grandnut	46	141	50	191	64
Sesame	4	63	5	68	121
Beans	44	125	40	165	

5.TECHNICAL TRANSFER

1. Acceptance of two trainees
2. Establishing observation equipment of weather and water condition, and training of how to use them

III. PRESENT STATUS OF STUDY RESULTS

1.PRESENT STATUS

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

(Description)

Based on the recommendations of the study, F/S and D/D were conducted on the following projects.

South Nawin Irrigation Project:
F/S completed in 1979; D/D completed in 1984; since late 1986, project implementation by OECF funding has been in considerable delay. The detailed design was started on the mini-hydropower plant, but suspended owing to the political destabilization.

Okkan Irrigation Project
F/S completed in 1981; given the funding constraints, the implementation will come after the comletion of the South Nawin project.

(FY1991 Overseas Survey)
The Myanmar Government has named 1992 as the year of economy, and aims to increase the country's agricultural production and exports. Because of the suspension of external assistance on new projects and the shortage of foreign exchange, however, it is unlikely to realize the objectives. The South Nawin project is under constructin with OECF fund, because it was already on-going when the suspension took effect. With regard to the Okkan project and other proposals, there is no definite prospect of implementation because of the suspension.
However, the proposals of the JICA study are integrated into the national plan, and their implementation will be eventually taken up in the future.

(FY1994 Domestic Survey)
In accordance with the resume of foreign assistance, the remaining part of this project is expected to be implemented.

2.MAJOR REASONS FOR PRESENT STATUS

The projects proposed by the JICA study are considered essential for agricultural stabilization in the Irrawady Basin. The Government plans to implement them step by step. Due to political and economic destabilization in recent years, however, the implementation will be inevitably delayed.

3.PRINCIPAL SOURCE OF INFORMATION

①、②、④

和名 イラワジ川流域農業総合開発計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (F/S)

ASO MYN/A 301/79

Compiled Mar.1990
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Myanmar

2.NAME OF STUDY
Rice Mill Project

3.SECTOR
Agriculture/Agricultural Processing

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Ministry of Trade

7.OBJECTIVES OF STUDY
F/S on construction of Rice Mills (8 factories)

8.DATE OF S/W .0

9.CONSULTANT(S)
Overseas Merchandise Inspection Co., Ltd.

10.STUDY TEAM

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

Total M/M	Japan	Field
28.17	17.94	10.23

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	72,813 (¥'000)
Contracted	70,733

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA

Kanaungtoe, Bassein, Kyduktaga, Kawa, Hlegu, Danubyu, Einme, Deddye

2.PROJECT COST

(US$1,000)
US$1=6.5K.=200Yen

	Total Cost	Local Cost	Foreign Cost
1)	43,715	21,950	21,765
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

(1)Rice Mills: Output 100 tons/24H, Input 7 tph (6 rice mills)
Output 150 tons/24H, Input 10 tph (2 rice mills)
(2)Power generating facilities (2 r.mills)
(3)Electrical Equipment:
receiving cubicles(6 r.mills), control board(8 r. mills), lighting and power control cabling(8 r. mills)
(4)Power Transmission Facilities: cable 33KV/11KV, transformer 33/11KV(5 r. mills), Insulator(6 r.mills), etc.
(5)Paddy Warehouse(Cap. 1,000 tons) (8 warehouses)
(6)Spare Parts Factories for manufacturing: rubber roll factory (1 r.mills), abrasive roll factory(1 r.mills)
(7)Paddy Landing and Conveying Facilities: conveyors connected with 3 portable augers.(4 r.mills)
(8)Grain inspection and testing room, machine shops and telephone service facilities.(8 r.mills)

Imp. Period: Dec.1979~Oct.1981

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	21.40	FIRR1)
EIRR2)		FIRR2)
EIRR3)		FIRR3)

Conditions and Development Impacts:

[Preconditions] Benefits are computed by taking difference between outputs of new rice mills with-project and old ones without-project, on the assumption of putting the same total amount and quality of paddy into each of them.

Benefits Unit:1,000K

Output From	1982	1983	1984	1985
New Rice Mill	290,561	336,270	406,895	489,391
Old Rice Mill	256,924	278,377	309,694	342,054
Benefits	33,637	57,893	97,201	147,337

[Development Impacts] Newly built rice mills improve quality and quantity of milled rice. It has the profound meaning to the country like Myanmar, where rice is the mainstay of her national economy, and the national finance relies greatly on rice exports.

5.TECHNICAL TRANSFER

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

Dec. 1979 OECF L/A signed (No.BP-14, 4.35 billion yen)
Jan.1981 - Feb.1982 Detailed Design undertaken by OMIC
Dec.1982 Construction started
Dec.1984 Construction completed

Facilities completed by the OECF loan:
- 6 Rice mills of 7 tph capacity
  2 Rice mills of 10 tph capacity
- Parts manufacturing plant
  Rubber roll manufacturing facility, one unit
  Abrasive roll manufacturing facility, one unit
- Power generating unit utilizing husk, paddy warehouse and paddy unloading equipment were installed at rice mills.

After completion of construction, the project was judged very effective, and the Myanmar Government proposed to use the remaining balance of the OECF loan for the construction of three large-scale rice mills which will process export-quality rice. The detailed design was duly completed, but implementation was suspended after the coup d'etat in 1988.

(FY1991 Overseas Survey)
The suspension still remains in force in early 1992.

(FY1994 Domestic Survey)
No information.

2.MAJOR REASONS FOR PRESENT STATUS

1. Increase in output and improvement of quality of milled rice are very important in the national economy, and the government assigned high priority to the proposed project.
2. Political destabilization makes it difficult to implement the construction of three large-scale rice mills. In addition, the Myanmar Government reportedly has decided to implement them with their own funds. (FY1991 Overseas Survey)

3.PRINCIPAL SOURCE OF INFORMATION

①、②、④

相名 ライスミル建設計画

(F/S,D/D)

PROJECT SUMMARY (F/S)

ASO MYN/S 301/80

Compiled Mar.1986
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Myanmar

2.NAME OF STUDY
Rangoon International Airport Development

3.SECTOR
Transportation/Air Transportaion & Airport

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Dept. of Civil Aviation, Min. of Transport and Communications

7.OBJECTIVES OF STUDY
Plan facility upgrading : study of economic/financial feasibility and socio-economic effects; recommendation on administrative organization

8.DATE OF S/W Jun.1979

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

10.STUDY TEAM

No.of Members 10
Period Oct.1979-Mar.1980(6 months)

Total M/M	Japan	Field
28.93	20.23	8.70

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Topographic survey

12.EXPENDITURE

Total	67,402 (¥'000)
Contracted	63,466

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Yangon

2.PROJECT COST

(US$1,000) (US$1=240Yen=6.35Kyat)	Total Cost	Local Cost	Foreign Cost
1)	127,134	38,156	88,978
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

Components	Target year 1995 (Phase I)	Target year 2005 (Phase II)
- Runway (Existing 2,500m x 60m)	3,330m x 60m	3,700m x 60m
- Apron (Existing 175m x 424m)	110,529sq.m	137,529sq.m
- Int'l Terminal Bldg.	9,270sq.m	17,600sq.m
- Control Tower, Administrative Bldg.(Existing 490 m2)	2,800sq.m	2,800sq.m
- Navaids	Renewed for CAT-I	-
- Radio Navigation Aids		
- Meterological Service Facilities		
- Car Parking		
- Fuel Storage		
- Utilities,etc.		

Imp. Period: .1980~.2005

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	12.10	FIRR1)	2.40
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

Feasibility Conditional upon:
1) development of tourism resources, hotel capacity, and domestic transportation system to enhance convenience and amenity to tourists;
2) simplification of visa issuance procedures and extension of tourist visa period.

Development Impacts:
1) Enhancement of economic/cultural exchange with foreign countries
2) Enhancement of inter-regional exchange within Myanmar
3) Increase in employment opportunities
4) Increase in fresh foodstuffs exports
5) Time saving increment by overseas direct flights
6) Net increase in tourish income and fuel supply revenue
7) Saved maintenance costs of existing facilities.

5.TECHNICAL TRANSFER
1) OJT; 2) JICA counterpart training; 3) joint work with local consultants; 4) Subcontracting of topographic survey to the local firm

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

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

Apr.1981 OECF E/S loan agreement (500 million yen)
Jan.1984 D/D completed
Aug.1984 OECF loan agreement (14,370 million yen)
May 1985 OECF loan agreement (8,350 million yen)
May 1986 OECF loan agreement (4,450 million yen)

Construction works were suspended in the aftermath of coup d'etat in September 1988.

(FY1991 Overseas Survey)
At the time of the coup d'etat in 1988, two OECF loans had been in the process of implementation. The construction works still remain suspended after three years. In view of the rapid inflation, it will be necessary to redo the costing before resuming construction.

(FY1994 Domestic Survey)
All foreign ODA has been concelled since 1988. JTCA(Japan Transport Consultants Association) dispatched its Project formation and promotion mission to Myanmar in Sep.1994. A new airport project is being constructed so as to activate the domestic economy. The exsisting one will play a role as domestic airport. A comprehensive M/P is needed for airports and aviation development in Myanmer.

2.MAJOR REASONS FOR PRESENT STATUS
1)Large impact of long-haul service by large jets: 2) reasonable project scale for finance; 3) high priority(requested by Myanmar Communist Party Chairman Ne Win)

3.PRINCIPAL SOURCE OF INFORMATION
①、②、④

和名 ラングーン国際空港拡張計画

{F/S,D/D}

PROJECT SUMMARY (F/S)

ASO MYN/A 302/80

Compiled Mar.1990
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Myanmar

2.NAME OF STUDY
South Nawin Irrigation Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Ministry of Agriculture & Forests, Irrigation Department

7.OBJECTIVES OF STUDY

8.DATE OF S/W Dec.1978

9.CONSULTANT(S)
Sanyu Consultants Inc.
Chuo Kaihatsu International Corp.

10.STUDY TEAM

No.of Members 12
Period Jan.1979-Mar.1980(15 months)

Total M/M	Japan	Field
260.00	8.00	252.00

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	163,131 (¥'000)
Contracted	130,809

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA

74,000acre southwest of Prome City, left bank of Irrawaddy River, 160 miles north northwest of Rangoon, population 96000

2.PROJECT COST

(US$1,000)
US$1=6.44kyats

	Total Cost	Local Cost	Foreign Cost
1)	7,900	2,900	5,000
2)	88,000	36,600	51,400
3)			

3.CONTENTS OF MAJOR PROJECT(S)

Irrigation : first crop (paddy) 24,000ha
second crop (farm) 22,660ha, total 46,660ha
1)Main dam ; Zoned type filldam, height 41.5m, length 5,120m, volume 5.10million cu.m capacity
2)Diversion dam: Zoned type filldam, height 30.2m, length 1,224m, volume 1.03million cu.m capacity
3)Power station : Kaplan type 2,300 KVA x 1 unit
4)Irrigation canal (main 51.5km, branch 41.1km, distributor 205.6, main water course 233.9km,supplimental water course 1,309.8km)
5)Drainage canal (main 37km, sub 86.3km, ditch 266.7km)
6)Road 597km
7)Field improvement
Note: The project costl) above is for the pilot project, and 2) is for the whole projects.

Imp. Period: .1979~.1988

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	13.50	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

[Conditions]
Economic benefits consist of agricultural benefits and benefits from electric power generation. Net benefits per acre are used as agricultural benefits.

Net Benefits(KS/ac)	Paddy	Peanuts	Sesami	Gram
Without project	1,951	139	429	293
With project	2,200	404	520	249

[Development Impacts]
(1)Increased agricultural productivity
(2)Improved living standard of people in rural areas
(3)Increased all year employment opportunities

5.TECHNICAL TRANSFER

(1)Acceptance of one trainee
(2)Supply of equipments and training of how to use them
(3)Cooperation in writing a report

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

The proposed project has been under implementation with the OECF loan and the Japanese grant aid.
OECF Loan:
Jan.1981 Loan agreement signed for E/S (250 million yen)
Apr.1983 - Apr.1984 Detailed design undertaken (Sanyu Consultants, Inc. and Chuo Kaihatsu)
May 1985 Loan agreement signed (8,150 million yen) for the construction of the Main Dam and irrigation and drainage canals
Nov.1986 S/V started
Jun.1988 - Oct.1989 Construction suspended owing to the domestic problem of Myanmar.
Construction was subsequently resumed, and is scheduled to be completed in March 1994.
Grant aid:
Aug.1980 E/N signed (873 million yen) for on-farm development
1980 B/D and D/D undertaken
1981 - 1982 Construction undertaken

(FY1991 Overseas Survey)
Because of the shortage of diesel oil and construction materials, the progress of construction has slowed down sharply.

(FY1992 Overseas Survey)
Scheduled to be completed by May 1995.

(FY1993 Overseas Survey)
Mar. 1995 scheduled to be completed.
Construction cost:

Foreign Currency	291.2
Local Currency	585.1
Total	876.3

(unit: million kyats)

(FY1994 Domestic Survey)
The construction is progressing well aiming at its completion on March 1995.

2.MAJOR REASONS FOR PRESENT STATUS

1. The project is integrated into the national development plan and high in priority.
2. In recent years, extreme foreign exchange constraint has made it difficult to import necessary construciton materials and equipment.
(FY1992 Overseas Survey)
The Myanmar economy is based on agriculture, and the national economy can be developed after the completion of this project, which is a key project of the country.

3.PRINCIPAL SOURCE OF INFORMATION

①、②、④

和名 南ナウインかんがい計画

{F/S,D/D}

PROJECT SUMMARY (F/S)

ASO MYN/A 303/81

Compiled Mar.1990
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Myanmar

2.NAME OF STUDY
Okkan Dam Irrigation Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Minstry of Agriculture and Forestry,
Department of Irrigation

7.OBJECTIVES OF STUDY
Increase of rice production

8.DATE OF S/W Nov.1980

9.CONSULTANT(S)
Sanyu Consultants Inc.

10.STUDY TEAM

No.of Members 10
Period Jan.1981-Nov.1981(11 months)

Total M/M	Japan	Field
37.85	19.46	18.39

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	105,200 (¥'000)
Contracted	94,376

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
About 21,000ha in Myitmaka River left bank
(80km north northwest of the capital, Rangoon)

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
	1)	54,000	29,000	25,000
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)
Irrigation area: 21,000ha
Water resource facility : Okkan Dam(pondage 240 X 1,000,000 cu.m)
Diversion weir : height 9m, bank length 44m,
max. intake discharge Q=22.5cu.m/sec
Irrigation and drainage canals : irrigation 225.6km
drainage 135.5km
Terminal facilities : irrigation canal 1,426 km,
drainage canal 236.9km
Waterpower generation : water mill 2,450kw, 1 unit, electric
transmission wire 33kv, 32.6km

Imp. Period: .1981~.1989

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes

EIRR1)	26.15	FIRR1)
EIRR2)	10.53	FIRR2)
EIRR3)		FIRR3)

Conditions and Development Impacts:
Condition:
Opportunity cost of capital 11%
Development Impacts:
The increase of farms' profit will be planned through water resource development, building of irrigation and drainage facilities, completion of terminal facilities, improvement of road network and introduction of two kinds of planting in one field and HYV.

*EIRR 2) above is only for water power project.

5.TECHNICAL TRANSFER
Through assisting engineers and specialists in Myanmar Government in the fields of final decision, construction supervision and extension services.

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
After completion of the study, the Myanmar Government planned to apply for OECF funding, but because of the subsequent economic and political destabilization, the attempt fell through.

(FY1991 Overseas Survey)
The Myanmar Government retains an interest in the implementation of the proposed project, and continues to expect Japanese technical and financial assistance on its detailed design and construction.
The master plan prepared by the JICA study (Irrawaddy Basin Integrated Agricultural Development Project) indicated that this Okkan dam irrigation project would be more feasible than the on-going South Nawin irrigation project. However, the South Nawin project was first requested for, and approved of, OECF funding for a political reason (South Nawin being the birthplace of Ne Win). The request for OECF funding on the Okkan project was in the pipeline after the approval and implementation of the South Nawin project, but the subsequent action has been suspended due to the continued political and economic instability since the coup d'etat in 1988.

(FY1994 Domestic Survey)
In accordance with the resume of foreign aid, it seems to increase the possibility to implement the project.

2.MAJOR REASONS FOR PRESENT STATUS
Continuing political and economic destabilization makes it difficult to resume the loan application.

3.PRINCIPAL SOURCE OF INFORMATION
①、②

和名 オカンダムかんがい計画

(F/S,D/D)

PROJECT SUMMARY (F/S)

ASO MYN/S 303/84

Compiled Mar.1988
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Myanmar

2.NAME OF STUDY
Electrification of Rangoon Circular Railway Line

3.SECTOR
Transportation/Railway

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Burma Railway Corporation

7.OBJECTIVES OF STUDY
Electrification project to strengthen transport capacity and modernize the national railway in the Rangoon city area

8.DATE OF S/W Aug.1983

9.CONSULTANT(S)
Japan Railway Technical Service

10.STUDY TEAM

No.of Members 12

Period Feb.1984~Mar.1985(13 months)

Total M/M	Japan	Field
44.12	29.52	14.60

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
None

12.EXPENDITURE

Total	124,018 (¥'000)
Contracted	123,136

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Rangoon city area

2.PROJECT COST
(US$1,000)
(US$1= 229Yen)

	Total Cost	Local Cost	Foreign Cost
1)	79,480	25,410	54,070
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
- Power transmission wire: 5.95km, 2 circuits
- One substation(for power source and feeding)
- Catenary (25KV, simple system): 176km in length
- Track(including civil works): 2km of new construction, 1.7km relocated, 15.5km of roadbed
- Rolling stock: Introduction of electric locomotives and passenger cars
- Other improvements: Repair of facilities, etc.

Imp. Period: Oct.1986~Jan.1990

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: Yes

EIRR1)	15.40	FIRR1)	5.10
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

1. Preconditions
The project period was set to last until 2019, with the start of construction to begin in Oct.1986 and electrified service to be offered in 1990. Traffic volume in Rangoon was forecasted for 1990, 2000, 2010, and 2020 for the "with" and "without" cases. Based on the results, the feasibility was studied by applying cost-benefit analysis. The cost-benefit items taken up were travel time saving , railway investment, railway operation cost, and road investment.

2. Development impacts
1) Restoration of the railway's role as a mass transport mode, which will contribute to smooth urban traffic; 2) alleviation of road traffic congestion; 3) reduction of air pollution; 4) fuel savings; 5) Creation of employment opportunities; 6) stimulus to technical development; and 7) Promotion of development around Rangoon

5.TECHNICAL TRANSFER
1. One JICA counterpart training; 2. OJT

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

After the completion of the study, no progress has been made. The Myanmar Government once tried to include the project in the application list for OECF yen credit, but because of the growing arrears in loan repayment, new projects were not accepted.

(FY1991 Overseas Survey)
No action has been taken since the coup d'etat in 1988. Even if the suspension of assistance by the donor countries is to be lifted some time in the future, the electrification of the circular railway would not be effective, given the extremely poor status of power supply in Rangoon. The project scale will have to be reduced with more emphasis on track improvement and other modifications.
The priority of this project is considered lower than "Track, Telecommunication and Signalling Improvement Project," on which the JICA study was undertaken in 1986-87.

(FY1994 Domestic Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS
Due to the delay of the loan repayment, Myanmar has been classified as LLDC.

3.PRINCIPAL SOURCE OF INFORMATION
①、②

和名 ラングーン鉄道環状線電化計画

(F/S,D/D)

PROJECT SUMMARY (F/S)

ASO MYN/S 302/84

Compiled Mar.1986
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY Myanmar

2.NAME OF STUDY
Construction of Dry - Dock Project

3.SECTOR
Transportation/Marine Transportation & Ships

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Burma Dockyards Corporation

7.OBJECTIVES OF STUDY
Feasibility study of a dock yard

8.DATE OF S/W Apr.1983

9.CONSULTANT(S)
Overseas Ships Building Cooperation Center

10.STUDY TEAM

No.of Members 8
Period Aug.1983-Jul.1984(12 months)

Total M/M	Japan	Field
39.00	24.70	14.30

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
None

12.EXPENDITURE

Total	111,982 (¥'000)
Contracted	92,466

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Chilawa in Rangoon

2.PROJECT COST
(US$1.000)
(US$1=150Yen)

	Total Cost	Local Cost	Foreign Cost
1)	145,000	33,000	112,000
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
Dry Dock for 20,000 DWT-class ships
(200m x 30m x 10.5m depth)

Type of Dock : Graving Type
Mooring Quay : 200M x 2
Other facilities necessary for ship repairing work
Progress planning : Start of construction April 1986
: Start of operation April 1989
: Completion of construction April 1990

Imp. Period: Apr.1986~Apr.1990

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	13.50	FIRR1)	8.70
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
The future demand is projected for the period of 1989 - 2018, based on the performance during the 3rd and 4th Development Plans.
The project will expand the repair capacity from the present 1,500 DWT to 20,000 DWT.

To up-grade own technology for shiprepairing through the services for domestic fleet so as to prevent the foregin currencies flowing-out stems from repairing works at foreign shipyards at present. In future, to earn foreign arrencies by reparing services to foreign-flag ships.

(FY 1993 Domestic Survey)

5.TECHNICAL TRANSFER
OJT for counterparts

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

1985 May OECF E/S loan agreement (533 million yen) and the budget allocation of 1 million Kyats
1985 Sept. E/S started
1986 Sept. E/S completed

(Fy1991 Overseas Survey)
The Myanmar Government applied for an OECF loan in 1989, but failed to get the approval. No action has been taken since then.

2.MAJOR REASONS FOR PRESENT STATUS
Political destabilization since the coup d'etat of 1988 precludes the resumption of ODA.

3.PRINCIPAL SOURCE OF INFORMATION
①②

相名 船舶修理ドックヤード

(F/S,D/D)

PROJECT SUMMARY (F/S)

ASO MYN/S 304/86

Compiled Mar.1990
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Myanmar

2.NAME OF STUDY
Irrawaddy River Bridge Construction Project

3.SECTOR
Transportation/(Transportation in)General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Construction Corporation

7.OBJECTIVES OF STUDY
Economic analysis Planning of bridge construction

8.DATE OF S/W Jun.1985

9.CONSULTANT(S)
Pacific Consultants International

10.STUDY TEAM

No.of Members 12
Period Nov.1985-Mar.1987(17 months)

Total M/M	Japan	Field
62.09	19.74	42.35

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Topographie survey
Geolcgical survey

12.EXPENDITURE

Total	206,045 (¥'000)
Contracted	194,957

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Vicinity of Prome City, approx.400km from Rangoon, the middle of the Irrawaddy River

2.PROJECT COST
(US$1,000)
(US$1=7.5Kyat)

	Total Cost	Local Cost	Foreign Cost
1)	81,200	21,467	59,733
2)	101,200	20,533	80,667
3)			

3.CONTENTS OF MAJOR PROJECT(S)
The feasibility study for the construction of Irrawaddy River Bridge, which would be constructed as a RAILWAY-CUM-ROAD Bridge or ROAD BRIDGE near Myawaddy in order to stimulate the social and economic activities of the area lying on the Western Bank of the Irrawaddy River.
The cost 1) is for the road bridge, and the cost 2) for is the road and railway bridge.
- Road bridge
  Bridge Length : 1,149.5m
  Bridge Type : Cast-in-situ prestressed concrete box girder (maximum span length = 132m)
  Bridge Sections : Width 12.3m
- Rail-cum-road bridge
  Bridge Length : 1,149.5m
  Bridge Type : Single deck steel truss with the railway on one-side (maximum span length = 132m)
  Bridge Sections : Total width 17.40m

Imp. Period: .1987~.1992

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: No

EIRR1)	2.00	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
Assumption:
1) Target years are 1993 and 2022.
2) Development benefit of the regional economy attributable to the bridge project was estimated from the GRP of DIA assuming the bridge completion in 1992.

Development Impact:
The proposed bridge can serve as a key east-west linkage for the formation of a national transport network and increase efficiency of the movement of pasengers and cargos crossing the Irrawaddy River. With this linkage, the network can have the first and direct land transport approach to the Bay of Bengal and Bassein Port.

5.TECHNICAL TRANSFER
Traffic demand forecast

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
Based on the trend projection of future growth in the surrounding areas to be serviced by the proposed bridge, the study concluded that the project would be low in economic feasibility. The Government of Japan formally notified the Myanmar Government in June 1987 that it would not consider the project funding for the time being, allowing a possibility of reconsideration in the future if and when the surrounding areas grow sufficiently to justify the project.

(FY1991 Overseas Study)
The Myanmar Government retains a continued interest in the project, but is unable to implement without external assistance. The growth of the surrounding areas still remains inadequate.
Given the current political conditions, early resumption of external assistance appears unlikely.
The president of the construction Corporation was appointed Minister of Construction in January 1992. He has been a strong supporter for the Japanese cooperation in the sphere of bridge construction, and if external assistance be resumed at a future date, the proposed project is likely to be included in the application list.

(FY1994 Domestic Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①、②

和名 イラワジ河橋梁建設計画

{F/S,D/D}

PROJECT SUMMARY (F/S)

ASO MYN/S 305/86

Compiled Mar.1990
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Myanmar

2.NAME OF STUDY
Track, Telecommunication and Signalling Improvement Project

3.SECTOR
Transportation/Railway

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Burma Railway Corporation

7.OBJECTIVES OF STUDY
Formulation of a long-term and short-term development plan for tracks, signalling and telecommunication equipment

8.DATE OF S/W Aug.1985

9.CONSULTANT(S)
Japan Railway Technical Service
Pacific Consultants International

10.STUDY TEAM

No.of Members 12
Period Jan.1986-Feb.1987(14 months)

Total M/M	Japan	Field
90.40	53.34	37.06

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
None

12.EXPENDITURE

Total	247,477 (¥'000)
Contracted	242,970

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Rangoon - Mandalay, Pegu-Martaban, Rangoon - Prome, Myohaung Junction - Minati

2.PROJECT COST

(US$1,000) (US$1=199Yen)	Total Cost	Local Cost	Foreign Cost
1)	163,000	57,000	106,000
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
The master plan study on 4 lines.
The feasibility study on Rangoon - Mandalay line, with following components:
- Track improvement (800 km)
- Signal improvement (4 stations, signal replacement, 20 crossings)
- Telecommunication improvement (transmission 620 km, exchange and relay equipment)
- Other related facilities

Imp. Period: .1986-.2001

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes

EIRR1)	10.70	FIRR1)	2.80
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
Benefits:
1) Saving of the investment in rolling stock
2) Time saving of passengers
3) Saving of railway operating costs
4) Saving of road investment

Impacts:
1) Restoration of the railway's role as a mass transport mode
2) Reduction of railway accidents
3) Saving of fuel costs
4) Reduction of manpower requirements

5.TECHNICAL TRANSFER
Participation of a counterpart in JICA training program

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
After the completion of the study, the Myanmar Government considered the possiblity of applying for yen credit, but the attempt was suspended because of the accumulated debt problems and political destabilization.

(FY1991 Overseas Survey)
No progress has been made since the coup d'etat in 1988. Priority of the proposed project remains high. However, the road conditions have been improved considerably since 1988, and it will be necessary to revise the framework of assumptions used in the JICA study, as well as updating the relevant data.
As a result of administrative reorganization, the Ministry of Railways was newly created in January 1992, separating from the Ministry of Transport and Communications. The Myanmar Government retains strong commitment to railway improvement, as evidenced in their continued imports of rolling stock and rails under the extreme foreign exchange constraints. Upon resumption of external assistance, the proposed project (especially the section between Yanglo and Mandalay) would be given high priority for funding application.

(FY1994 Domestic Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS
1) Political destabilization;
2) designation as an LLDC country;
3) under the military regime, all projects except the on-going projects are suspended

3.PRINCIPAL SOURCE OF INFORMATION
①、②

和名 幹線鉄道整備計画

(F/S,D/D)

PROJECT SUMMARY (F/S)

ASO NPL/S 301/83

Compiled Mar.1986
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Nepal

2.NAME OF STUDY
Rural Telecommunications Network Projct

3.SECTOR
Communications & Broadcasting/Telecommunication

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Nepal Telecommunicating Corporation(NTC)

7.OBJECTIVES OF STUDY
To determine the technical and economic feasibilities of the project to improve the Rural Telecouununications

8.DATE OF S/W Sep.1982

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

10.STUDY TEAM
No.of Members 13
Period Nov.1982-Oct.1983(12 months)

Total M/M	Japan	Field
24.20	11.50	12.70

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	81,960 (¥'000)
Contracted	48,007

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Whole country

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

	Total Cost	Local Cost	Foreign Cost
1)	34,963		34,963
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
Contents
-Construction of the National Radio Telecommunications Network with 53 Radio Stations.

Nepal Telecommunications Corporation(NIT) had established the basic plan for telephone network as for the indicators and standards in order to settle the domestic telecommunication network plan in 1978.
The basic plan is consisted of:
1.Switching Plan,
2.Numbering Plan,
3.charging Plan, and
4.Transmission Plan.
These plans should be the foundation to settle the telecommunication network paln.
Based on above mentioned matters, this Project has been planned.

Imp. Period: Jan.1986-Mar.1989

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: Yes

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

Conditions and Development Impacts:
The National Radio Telecommunications Network is to be constructed under the 6th national development plan(1980-85), in order to increase productivity and employment opportunity and to improve the economic infrastructure.
The project may have impacts on not only communications but also on education,medical treatment,agriculture,and tourism.

5.TECHNICAL TRANSFER
OJT was conducted for the counterpart staff.

III. PRESENT STATUS OF STUDIED PROJECT

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

(Description)
The project was implemente with Japanese grant aid.

Jun.1984 E/N of grant aid signed (154 million yen)
Mar.1985 D/D completed
Oct.1985 E/N of grant aid signed (4,376 million yen)

(FY1991 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS
- large impacts
- high priority

3.PRINCIPAL SOURCE OF INFORMATION
①、②

和名 地方電気通信網整備計画

{F/S,D/D}

PROJECT SUMMARY (M/P)

ASO NPL/S 101/84

Compiled Mar.1988
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Nepal

2.NAME OF STUDY
Kosi River Water Resources Development

3.SECTOR
Social Infrastructures/Water Resource Development

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Department of Electricity
Ministry of Water Resources

7.OBJECTIVES OF STUDY
Hydropower;irrigation

8.DATE OF S/W Feb.1983

9.CONSULTANT(S)
Chuo Kaihatsu Cor.

Kokusai Kougyo Co., Ltd.

10.STUDY TEAM

No.of Members 22

Period Jun.1983-Mar.1985(21 months)

Total M/M	Japan	Field
57.50	37.50	20.00

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	491,986 (¥'000)
Contracted	181,019

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA

42,000 sq.km in eastern Nepal

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)

1) Arun III Hydropower Development Project
This project (240 MW) represented the most economical all 53 hydropower sites (total of 11,000MW) located within the Kosi river system. Under the project as set out in the master plan study, catchment area is 32,332 km2, maximum discharge is 156 m3/s, total head is 194m, facility output is 240 MW, and annual generated energy is 1,965 GWh.
Subsequent to this master plan study, the project was the subject of a JICA funded feasibility study, and detailed design (402 MW output) has been completed by a German and Japanese consortium. Development of half the foregoing capacity is in progress with funding by the World Bank.

2) Sun Kosi Diversion Project
This is a multipurpose development project omprising diversion of 72 m3/s of discharge from the Kosi river by 16 km long tunnel to the Terai plain for irrigation, as well as hydropower generation utilizing the head available along the diversion route. This diverted discharge will enable perennial irrigation of farm land in the broad Terai plain (175,000ha), anticipated to raise farm productivity from the current 350,000 tons/year to 100,000 tons/year. Power would be generated utilizing head along the induction canal from the Sum Kosi (61,000kW) as well as at Kamla dam (32,000kW).

4.CONDITIONS AND DEVELOPMENT IMPACTS

(Development impacts)
(1) supply of abundant, low cost power
(2) large scale irrigated Agricultural development and increased farm productivity through large scale irrigation
(3) regional development through access road construction

*1 Access road construction is scheduled to begin in 1994.
*2 In 1993, funding arrangements were settled upon for implementation of Arun III (prime funding agency. World Bank). Tender was completed for access road construction at the end of 1993, with project completion scheduled for 2003.

5.TECHNICAL TRANSFER

1) Training of 4 counterparts personnel on power development planning; 2) Supply and training in use of drilling equipment

III. PRESENT STATUS OF STUDY RESULTS

1.PRESENT STATUS

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

(Description)

This is the first integrated development study in the region. In particular, the Arun III project has been the focus of attention owing to the large potential for cheap power supply.
At the request of the Nepalese government, an F/S for the Arun 3 project(Arun III Hydropower Development Project) was carried out by JICA.
D/D of the Arun III was undertaken jointly by West Germany(Lahmeyer/Energy Engineering) and Japan (EPDC/ CKC) during Oct.1988-Apri.1991

(FY1991 Overseas Survey)
The Nepalese Government has requested external funding from ADB, Germany (KEW) and Japan (OECF) for the implemntation of the Arun 3 project. Construction is to start in 1992 and to be completed in 2001.
The Nepalese Government has repeatedly requested a JICA F/S on the Sun Kosi Diversion Project, but has been unsuccessful, partly because the expected cost of construction could be as large as US$500 million.

(FY1993 Overseas Survey)
- Arun III Hydroelectric Project
  Although the F/S planned 402 MW, the Project is to be divided into 2 stages of 201 MW.
- Khimti Khola Hydroelectric Project
  60MW class was planed. A private company is implementing the project.

(FY1994 Domestic Survey)
NEA is going to implement a plan for Bhote Kosi Project as one of the best sites for hydropower development among many sites studied under the Basic Study.

2.MAJOR REASONS FOR PRESENT STATUS

1) The Arun III hydropower project is the most economically viable project among projects surveyed in Nepal; 2) Implementation of Arun 3 will promote the development of other hydropower projects; 3) Sun Kosi: Diversion Project is important partly for its impact on food production and partly for environmental conservation in the Himalayas.

3.PRINCIPAL SOURCE OF INFORMATION

①、②

和名 コシ河流域水資源開発基本計画

(M/P,Basic Study,Other)

PROJECT SUMMARY (M/P+F/S)

ASO NPL/S 201B/87

Compiled Mar.1990
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Nepal

2.NAME OF STUDY
Development Plan of Television Network

3.SECTOR
Communications & Broadcasting/Broadcasting

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Nepal Television Corporation

7.OBJECTIVES OF STUDY
Formation of a development plan of TV broadcasting network

8.DATE OF S/W Feb.1987

9.CONSULTANT(S)
Integrated Technology Inc.

10.STUDY TEAM

No.of Members 24
Period Jun.1987-Mar.1988(10 months)

Total M/M	Japan	Field
33.68	17.53	16.15

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	128,937 (¥'000)
Contracted	99,420

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Kathmandu and east and west Terai

2.PROJECT COST (US$1,000)

		Local Cost	Foreign Cost	
M/P	1)			
	2)			
F/S	1)	41,700	5,900	35,800
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)
<M/P> Some of the HMG of Nepal wants to deal with at once through television
broadcasting are outlined as follows; (1) Prompt transmission of information to the people (2) Reinforced means of effictive communication to the entire nation (3) Substantial and efficient school education (4) Improvement of agricultural techniques (5) Popularization of the idea of family planning (6) Popularization of the idea of health and hygiene (7) Reinforced campaign for conservation of forcests (8) Promotion of understanding amoung races and amoung communities with different regions
<F/S> Phase 1: - TV Broadcasting Centre including 3 studios is built in the capital, Kathmandu-Main transmitting station is built on Mt. Phulchowki.
- 1 transposer station is built in the east Terai region as the 1st step towards service expansio in that region. Phase 2:-Construction of 1 transmitting station and 2 transposer stations in the east terai region= 1 transposer station in the west Terai region - 1 studio is added to the Broadcasting Centre - Correspondent offices in the Terai region are each equipped with 3 sets of news gathering equipment.
Phase 3: - Construction of 8 transposer stations in the west Terai and 1 transposer station in the east Terai - 1 outdoor broadcasting van is introduced. - Correspondent offices in the Terai and each equipped with 2 sets of news gathering equipment Phase 4: - 3 transposer stations and built in the west Terai - Correspondent offices are equipped with the necessary sets of new gathering equipment.

Imp. Period: .1989-.1995

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)		FIRR1)	18.60
EIRR2)		FIRR2)	-4.90
EIRR3)		FIRR3)	

Conditions and Development Impacts:

FIRR will be 18.6% if grant aid is used for investment, and -4.9% if a loan is used.

Development impacts:
- Speedy dissemination of information and strengthening of effective communication means
- Improvement of school education
- Improvement of agricultural extension services
- Diffusion of family planning, health care and hygiene
- Integration of different ethnic and cultural communities

5.TECHNICAL TRANSFER
1)OJT
2)Participation of counterparts in JICA training program

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

The Government of Nepal (GON) requested a Japanese grant, but was notified by the Japanese Government that the project would not be funded immediately.
The GON then requested a grant aid from France, which subsequently agreed to undertake an F/S on TV broadcasting network. The GON is expecting a Japanese aid on studio equipment.

(FY1993 Overseas Survey)
Sep.-Oct.1990 Installation of Pokhara and Harauda transmission stations total cost of 1.40 million NER. Nepalese Government budgeted.
Nov.1993-Jan.1994 Installation of Namji, Sarangkot, Juleshor and Daunne transmission stations. French Government assisted total cost of 14 million French Frane.

(FY1994 Domestic Survey)
Jul.1994 The application for the Japan's Grant Aid with regard to the Project for the equipment supply for TV studios and regional transmitting stations was submitted.

2.MAJOR REASONS FOR PRESENT STATUS
The Nepalese side is very eager to implement the project, but the Japanese grant aid program for Nepal is already fully committed to the other projects for the next three years.

3.PRINCIPAL SOURCE OF INFORMATION
①、②

和名 テレビジョン放送網開発計画

{M/P+F/S}

PROJECT SUMMARY (F/S)

ASO NPL/S 302/88

Compiled Mar.1986
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Nepal

2.NAME OF STUDY
Sindhuli Road Construction Project

3.SECTOR
Transportation/Road

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Dept. of Road, Ministry of Works and Transport

7.OBJECTIVES OF STUDY
Road improvement and construction

8.DATE OF S/W Jul.1986

9.CONSULTANT(S)
Nippon Koei Co., Ltd.
Kokusai Kougyo Co., Ltd.

10.STUDY TEAM
No.of Members 21
Period Nov.1986-Jun.1988 (20 months)

Total M/M	Japan	Field
98.80	40.20	58.60

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

12.EXPENDITURE

Total	406,657 (¥'000)
Contracted	414,063

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Between Bardibas and Dhulikhel in the Central Development Region

2.PROJECT COST
(US$1,000)
(US$1=130Yen=21.0Rps.)

	Total Cost	Local Cost	Foreign Cost
1)	207,000	29,000	178,000
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
- Construction of trunk road (155 km, two-lane, paved) connecting the East-West Highway in the Terai Plains and the Kathmandu region
- The project is divided into two sections
  Section I: From Bardibas of the East-West Highway Bazar to Shindhuli
  Section II: Shindhuli Bazar - Khurkot - Nepalthok - Dhulikeli of Kodari Road
- A operation & maintenance training center

Imp. Period: .1989~.2000

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: Yes

EIRR1)	9.60	FIRR1)
EIRR2)		FIRR2)
EIRR3)		FIRR3)

Conditions and Development Impacts:
- The project will contribute to the improvement of marketing agricultural products, especially increased producer price in Terai and decreased consumer price in Kathmandu concerning rice.
- The project will provide the link from Kathmandu to Calcutta, promoting trade, and reduce the travel time.
- The project will promote the development efforts along the way (e.g. construction of dams)
- The indirect effects of the project are estimated to be US$78 million.

5.TECHNICAL TRANSFER
OJT on traffic survey and analysis, road engineering technology, etc.

III. PRESENT STATUS OF STUDIED PROJECT

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

(Description)
The Government of Nepal assigns top priority to this project among various trunk road projects, and is requesting Japanese grant aid.

(FY1991 Overseas Survey)
No additional information.

(FY1994 Domestic Survey)
Although the torrential rain attacked Nepal in Jul.1993 just after the Aftercare Survey, the rain did not make heavy damage on the road of this Project which was surveyed by the Dept. of Road in Jan.1994. Tha Basic Design Study for Section I was conducted in Aug.1994. The Draft Final Report was submitted to HMG in Oct.1994.

2.MAJOR REASONS FOR PRESENT STATUS
New government of Nepal has given high priorities to the development of road transport and drinking water facilities.

3.PRINCIPAL SOURCE OF INFORMATION
①、②

和名 シンズリ道路建設計画

{F/S,D/D}

PROJECT SUMMARY (M/P)

ASO NPL/A 101/89

Compiled Mar.1991
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Nepal

2.NAME OF STUDY
Integrated Rural Development Project in the Lumbini Zone

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Ministry of Development of Planning Local Development

7.OBJECTIVES OF STUDY
Formulation of the Master Plan for the Integrated Rural Development Project in the Lumbini Zone

8.DATE OF S/W Jun.1988

9.CONSULTANT(S)
Nippon Koei Co., Ltd.
Hokkaido Engineering Consultants Co., Ltd.

10.STUDY TEAM
No.of Members 10
Period Sep.1988-Nov.1989(15 months)

Total M/M	Japan	Field
52.91	21.32	31.59

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Rural socio-economy.
Groundwater survey.

12.EXPENDITURE

Total	193,376 (¥'000)
Contracted	180,337

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Gulmi, Arghakhanchi, Kapilvatsu and Marchawar area of Rupandehi disctict

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	136,000		
2)			

3.CONTENTS OF MAJOR PROJECT(S)

The master paln was formulated for 15 years from 1990 to 2005, and 33 projects of central government level and 137 projects of local government level were included in the plan.The proposed high priority development projects are as follows:
Irrigation rehabilitaion project : Rajikdwa:2,400 ha
Rural road rehabilitation project : Tansen to Tangas:75 km
East-west highway to Sandikharka:69 km
Rural water supply : Banganga and Gajeda:for 11,900 population
Material supply program:for two districts of hill area
Agriculture production promotion :
Improvement of agri.:3-distrit extension services offices
Ilaka service centre:22 Ilakas
Veterinary service centre:1-Regional centre
3-District centre
27-Ilaka centre
Improvement of plan implementation :
Institutional improvement:Central and caacity district government
Capacity improvement of staff:3-district,villages
Improvement of budgetary:System in situation of local government central

4.CONDITIONS AND DEVELOPMENT IMPACTS

M/P is formulated for 15 years from 1990 to 2005 in three stages. Basic concepts of M/P are Improvement of Agricultural Production, Improvement of Living Standard, Improvement of Infrastructures and Strengthening of Rural Development Support System and Institutions.
The development plan is formulated to follow the stagewise development process based on not only yearly order but to fulfil the following targets at all administration levels:
1)Consolidation of development infrastructure provision and training,
2)Intitiation of the induced development-gradual shiffs to autonomous development, and
3)Realization of self-sustaining development.

Project impacts;
Farmers income will be increased twice of the present level by the projects,Rural road development will improve not only marketing of agricutural inputs and out puts but also to improve communication in culture and information, and to contribute to improve social welfare. Living standard, especially in hygienic condition will be improved by supplying clean domestic water. Strengthening plan implementation capacity of local government will realize self-sustaining continuous development.

5.TECHNICAL TRANSFER
Technology transfer to counterpart in the course of the study by OJT.
Acceptance of trainee (1)

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
F/S on Rajikduma Project is being conducted under Japanese technical assistace (1992.6-1993.9).

(FY1991 Overseas Survey)
The Government of Nepal plans to incorporate the proposals of the present study into the forthcoming 8th five-year plan, and hopes for a small team of JICA experts who will advise on the annual planning of the proposals. The Government plans to request the grant commitment for the project implementation.

(FY1994 Domestic Survey)
The Basic Design has been undertaken for the Japan's Grant Aid in terms of the Rajikduma irrigation project and under discussion.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①、②

相名 ルンビニ県農村総合開発計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (M/P+F/S)

ASO NPL/S 202B/89

Compiled Mar.1991
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Nepal

2.NAME OF STUDY
Development of Civil Aviation

3.SECTOR
Transportation/Air Transportaion & Airport

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Department of Civil Aviation, Ministry of Tourism

7.OBJECTIVES OF STUDY
Over-all development of air transport system. Examination of the feasibility on the priority plans.

8.DATE OF S/W Feb.1988

9.CONSULTANT(S)
Pacific Consultants International

10.STUDY TEAM

No.of Members 8
Period Aug.1988-Sep.1989(14 months)

Total M/M	Japan	Field
50.14	31.49	18.65

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	167,332 (¥'000)
Contracted	155,142

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA

The whole area of Nepal<M/P>
Kathmandu, Pokhara, Jomsom, Simikot, Lukla, and Syangboche airports<F/S>

2.PROJECT COST (US$1,000)

		Local Cost	Foreign Cost	
M/P	1)	888,000	192,000	696,000
	2)			
F/S	1)	246,300	55,600	190,700
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)

<M/P>1.Kathmandu International Airport Development Project:
Construction of Domestic Passenger Terminal Building (3,200 sq.m)
Expansion of Apron (B747 class x 4 spots, B757 class x 5 spots, etc.)
Installation of Air Navigation System (MLS, etc)
Construction of Cargo Terminal Building (27,000 sq.m)
Construction of Maintenance Hangar (B767 calss)
2.New Pokhara Airport Development Project:
Runway 1,900m, Apron (B757 class x 1 spot, HS748 class x 1 spot)
Terminal Building (1,000 sq.m), Air Navigation System (VOR/DME, etc.)
3. Runway extension at Jomson and Simikot Airports
Runway pavement and Apron expansion at Lukla Airport
Runway relocation at Syangboche Airport
<F/S>1. Kathmandu International Airport Project:
a. Total floor area 3,200 sq.m, One and half level concept
Annual passenger handling capacity 330 thousand
b. DC10 class x 2 spots, B767 class x 1 spot, and B757 calss x 5 spots for international flight HS748 class x 2 spots and DHC6 class x 1 spot
c. Installation of LLZ/DME, renewal of DVOR/DME, Renewal of Aeronautical ground lights.
2. New Pokhara Airport
Runway length 1,900m Apron(HS748 x 2 spots and DHC6 x 1 spot),
Terminal building 800sq.m, Air navigation system VOR/DME,NDB etc.
3. Runway extension at Jomson and Simikot Airports
Runway pavement and apron expansion at Lukla Airport, and Runway relocation at Syangboche Airport.

Imp. Period: .1989-.1994 .1990-.1994 .1990-.1993

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

EIRR1)	19.70	FIRR1)	3.00
EIRR2)	2.10	FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

<Conditions><M/P,F/S> 1)Future Traffic Demand

		Annual passenger (1000)		Annual cargo(ton)	
athmangu	2000	1,234	333	69,000	2,400
	2010	1,346	444	138,000	2,900
New Pokhara	2000	-	80	-	330
	2010	-	108	-	440

2) Financial assistance, Land acquisition are required.
3)Conditions for EIRR calculation:
Evaluation period: 25 years Life time of investment: 40 years
Standard conversion factor: 0.88 Exchange rate: US$1.00= NRs25.0
Note: EIRR (%),Jomsom 13.1, Lukla 19.0, Simikot 9.6, and Syangboche 5.0
<Impacts><M/P,F/S>
- Improvement of the functions and capacity of the airport facilities
- Improvement of safety and punctuality of aircraft operations

5.TECHNICAL TRANSFER

Counterpart training from Aug. to Oct.1989 which consists of lectures on airport plannings, discussion on the study, and inspection of the airport in Japan

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)

(FY1991 Overseas Survey)
The Government of Nepal requested for Japanese financial assistance on several occasions, but has failed to elicit a favorable response. The Government plans to submit funding proposals to possible donor agencies.

In response to the request of the Nepalese Government, JICA agreed to undertake studies (M/P, F/S and B/D) on the development of the Kathmandu Airport.

(FY1993 Overseas Survey)
JICA has been conducting a study, "Kathumandu Airport Development Plan", since 1993.

(FY1994 Domestic Survey)
Jul. 1994 : Japan's Grant Aid, E/N was concluded, Total 3,453mil. Yen, Items, for FY1994 876mil. Yen, for FY1995 2,371mil. Yen, for FY1996 206mil. Yen)

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION

①、②

和名 国内航空網整備計画

{M/P+F/S}

PROJECT SUMMARY (Basic Study)

ASO NPL/S 501/90

Compiled Mar.1992
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Nepal

2.NAME OF STUDY
Groundwater Management Project in the Kathmandu Valley

3.SECTOR
Social Infrastructures/Water Resource Development

4.REFERENCE NO.

5.TYPE OF STUDY Basic Study

6.COUNTERPART AGENCY
Nepal Water Supply Corporation (NWSC)

7.OBJECTIVES OF STUDY
To evaluate the groundwater and other water resources for domestic use.
To prepare optimum management of water resources.

8.DATE OF S/W Sep.1988

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

10.STUDY TEAM
No.of Members 13
Period Dec.1988-Nov.1990(24 months)

Total M/M	Japan	Field
95.54	44.41	51.13

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Topographic survey; Geological borings; Waterwell drillings; Installation of water level gauges and rainfall gauges

12.EXPENDITURE

Total	359,969 (¥'000)
Contracted	344,544

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Kathmandu valley

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
	1)	106,491	29,717	76,774
	2)			

3.CONTENTS OF MAJOR PROJECT(S)

Master Plan : 1994 - 2030
Stepwise implementation of systems for water supply facilities are summarized below in the order of an optimum implementation of schemes.

Optimum Implementation Order	Name of Scheme	Project Cost (million US$ in 1990)
1st	Mahankal Chaur scheme	18.3
2nd	Bansbari - Maharajganj scheme	15.4
3rd	Shaibhu scheme	4.9
4th	Balaju scheme	5.2
5th	Lambagar scheme	11.3
6th	Sundarijal scheme	15.6
7th	Manohara scheme	18.7
8th	Balkhu scheme	17.0 Total 106.5

The above schemes are classified into three categories according to the following basic concept which requires similar facilities for the schemes in the same category.

Basic Concept	Scheme
1) Water quality improvement	Mahankal Chaur scheme, Bansbari - Maharajganj scheme
2) Rehabilitation of water treatment plant	Shaibhu scheme, Balaju scheme, Lambagar scheme, Sundarijal scheme
3) New scheme	Manohara scheme, Balkhu scheme

4.CONDITIONS AND DEVELOPMENT IMPACTS

Condition:
-The additional water resources from outside of the valley will become available after the year 2001.
-Abstruction of groundwater will be reduced from the current production amount, and the level of the groundwater shall not be allowed to be lower than the yield computed by sumulation.
-The available capacity of the surface water will have a high level of monthly variation so the water supply facilities to be established shall be coordinated with the planned monthly water supply.
-The groundwater shall, without exception, be treated with bio-filters to remove ammonia and iron.
Development Impacts:
-The development plan for water resources to meet future water demand by constructing new facilities to supply safe and potable water.

5.TECHNICAL TRANSFER
Technical transfer was performed by the study team through field works such as field reconnaissance, purification experiment and water quality analysis.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
The basic design study on the construction of two new treatment plants (at Mahankal Chaur and Bansbari) was conducted in 1991 as part of the Japanese grant aid program.

(FY1992 Overseas Suuvey)
Conducted under Groundwater Management Project, the implementation of the Mahankel Chaur Project has already been started under Japanese Government grant aid and an action is being taken to start the Bansbari/Maharajgunj Project in the fiscal year of 1993.

(FY1993 Overseas Survey)
Phase I of the M/P ended. Phase II is under construction now and Phase III needs reviewing.
Projects whose implementation order are from 3 to 8 requires revision.
The Government proposed new projects, namely Kodkhu, Roshi and Melanchi, for JICA.

(FY1994 Domestic Survey)
Since this project was conducted as part of the Japan's Grant Aid, Japan Engineering Consultants Co.,Ltd. has been following this project.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①、②

和名 カトマンズ盆地地下水開発計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (M/P+F/S)

ASO NPL/S 203B/92

Compiled Mar.1994
Revised Mar.1995

I. OUTLINE OF STUDY

1.COUNTRY Nepal

2.NAME OF STUDY
Kathomandu Valley Urban Road Developement

3.SECTOR
Transportation/Air Transportaion & Airport

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Ministry of Works, Department of Road

7.OBJECTIVES OF STUDY
Urban Transport Study

8.DATE OF S/W Mar.1991

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

10.STUDY TEAM
No.of Members 8
Period Jul.1992-Mar.1993(0 months)

Total M/M	Japan	Field
27.30	13.40	13.90

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
- Traffic Survey
- Hydrological Survey

12.EXPENDITURE

Total	201,065 (¥'000)
Contracted	187,876

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Kathmandu Valley

2.PROJECT COST (US$1,000)

M/P 1)	71,600 Local	25,000 Foreign	88,600
2)	196,500 Cost	46,600 Cost	107,900
F/S 1)	39,720	3,250	480
2)	2,500	36,470	2,070
3)			

3.CONTENTS OF MAJOR PROJECT(S)

<M/P>
1) Short-term Plan
- Shuttle bus service of New Bus Terminal
- Construction of Inner Rign Road (Bagmati, Bishnumoiti Corridors)
- Bus access road improve
- Construction of new bagmati Bridge
2) Long-term Plan
- Inner Ring Road (North & South Sections)
- Outer Ring Road

<F/S>
1) Construction of Bagmati corridor road including New Bagmati bridge
2) Improvement of Newbus terminal access road

Imp. Period: .1993-.1997 .1993-.1997

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

EIRR1)	11.50	FIRR1)
EIRR2)	18.80	FIRR2)
EIRR3)		FIRR3)

Conditions and Development Impacts:

<M/P>
- Production of through-traffic in the Central Area of Kathmandu
- Improvement of bottleneck points in urban traffic
- Relief of transportation-poor
- Planned development of urban area

<F/S>
- Reduction of through-traffic in the central Area of Kathmandu
- Accommodatin of Kathmandu-Patan traffic
- Better access service to new bus terminal

5.TECHNICAL TRANSFER
<M/P> Method of Person Trip Survey in middle sized capital city.
<F/S> Road/Bridge designing

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
- B/D of New Bagmati Bridge was done by JICA in 1993. Construction works will begin in Aug. 1994.

(FY1993 Overseas Survey)
No progress.

(FY1994 Domestic Survey)
The Detail Design Work for "Bagmati Bridge Reconstruction Project", which was one of the high-priority projects proposed in this "Urban Transport Master Plan Study" was completed. The reconstruction work has just begun in October.1994. The Bagmati Corridor Road, which is one of the sections of the proposed Middle Ring Road and road which links to the bridge, needs to be implemented by the Government of Japan as soon as possible, hopefully as a grant aid project. However, some adjustment of domestic budget should be done beforehand in conjunction with the envisioned Sindhuli Road Construction Project, which is the greatest grand aid project ever undertaten by the Japanese Government.

2.MAJOR REASONS FOR PRESENT STATUS
- New Bagmati bridge construction project wil be implemented as Phase III works of Kathmandu Valley Bridge Improvement Plans.

3.PRINCIPAL SOURCE OF INFORMATION
①, ② Dept. of Road. Ministry of Works

PROJECT SUMMARY (M/P)

ASO NPL/S 105/93

Compiled Mar.1995
Revised

I. OUTLINE OF STUDY

1.COUNTRY Nepal

2.NAME OF STUDY
National Hydro-meteorological Data Management Project

3.SECTOR
Social Infrastructures/River & Erosion Control

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Department of Hydrology and Meteorology, Ministry of Water Resources

7.OBJECTIVES OF STUDY
To foumulate improvement plans for nationwide hydro-meteorological data management system

8.DATE OF S/W Mar.1991

9.CONSULTANT(S)
Nippon Koei Co., Ltd.

10.STUDY TEAM
No.of Members 9
Period Jun.1991-Jul.1993(26 months)

Total M/M	Japan	Field
71.63	28.90	42.73

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Installation of rain and stream gauges

12.EXPENDITURE

Total	326,250 (¥'000)
Contracted	259,475

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
The entire area of Nepal territory

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	7,867	1,951	5,916
2)			

3.CONTENTS OF MAJOR PROJECT(S)
The Immediate Programme intends to strengthen the meteo-hydrological observation system by improving the quality of data gained from the existing meteo-hydrological stations.

4.CONDITIONS AND DEVELOPMENT IMPACTS
It is highly expected that the implementation of the Immediate Programme will contribute to the improvement of quality of water resource development planning such as hydropower generation, irrigation development and so on.

5.TECHNICAL TRANSFER
Two Nepali counterparts visited Japan as a JICA trainee through the course of the study.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
The Nepali Government intends to implement the Immediate Programme by applying the Japanese grant aid programme and in fact has already submitted the application to the Government of Japan.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
① Ministry of Water Resources

和名 国内水文資料整備計画調査

{M/P,Basic Study,Other}

PROJECT SUMMARY (M/P)

ASO NPL/S 104/93

Compiled Mar.1995
Revised

I. OUTLINE OF STUDY

1.COUNTRY Nepal

2.NAME OF STUDY
Water Resources Development of the Upper Karnali and Mahakali River

3.SECTOR
Social Infrastructures/Water Resource Development

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Ministry of Water Resources

7.OBJECTIVES OF STUDY
To formulate a master plan for water resources development of the said study area

8.DATE OF S/W Aug.1990

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

10.STUDY TEAM
No.of Members 14
Period Nov.1991-Oct.1993(24 months)

Total M/M	Japan	Field
80.54	45.07	35.47

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Boring work

12.EXPENDITURE
Total 528,462 (¥'000)
Contracted

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Upper Karnali and Mahakali River Basins in the Nepal Territory

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)
The Bheri-Babai,which is a hydropower project to generate a power of 82.9MW by diverting the Bheri River water to the Babai River, has another merit of irrigation development by supplying diverted water to a command area of 74,270 ha extending in the lower area.

4.CONDITIONS AND DEVELOPMENT IMPACTS
The Mid-Western and Far Western Regions,where the project lies, are left behind in terms of development compared with the Central and Eastern Regions. Realization of the project will trigger the development of the Mid-Western and Far Western Regions.

5.TECHNICAL TRANSFER
Well performed through working together and training in Japan. Actually four Nepali counterparts visited Japan as a JICA trainee.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
A request to carry out the feasibility study of the Bheri-Babai project, which is one of the top priority projects of the study, has been conveyed to the Government of Japan from the Nepali Government.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 カルナリ川上流及びマハカリ川流域水資源開発計画調査

{M/P,Basic Study,Other}

PROJECT SUMMARY (F/S)

ASO NPL/S 302/93

Compiled Mar.1995
Revised

I. OUTLINE OF STUDY

1.COUNTRY Nepal

2.NAME OF STUDY
Aftercare Study for Sindhuli Road Construction Project

3.SECTOR
Transportation/Road

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Department of Roads, Ministry of Works and Transport

7.OBJECTIVES OF STUDY
To formulate practical and realistic development schemes as well as implementation program of the Project based on the review of the previous F/S Study.

8.DATE OF S/W Sep.1992

9.CONSULTANT(S)
Nippon Koei Co., Ltd.

10.STUDY TEAM
No.of Members 9
Period Dec.1992-Jul.1993(8 months)

Total M/M	Japan	Field
23.14	13.35	9.79

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Traffic Count 1,680(Yen 1,000)

12.EXPENDITURE

Total	95,572 (¥'000)
Contracted	84,733

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Nepal, Central Development Region from Bardibas to Dhalikhel

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	106,408	23,091	83,317
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
Construction of Sindhuli Road having a length of 158km, and connecting Bardibas on East-West Highway with Dhulikel on Kodari Road.
Stage wise construction of minimal development scheme was proposed.

Single lane with gravel surface and minimal slope protection, and minimal one lane bridge and causeway in the first stage. Widening to double lane with installation of bituminous pavement and full slope protection, and adding one lane bridge and replacement of causeway by bridges in the second stage after 10 years of the completion of first stage construction.

Imp. Period: .1993~.2001

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

EIRR1)	8.08	FIRR1)
EIRR2)		FIRR2)
EIRR3)		FIRR3)

Conditions and Development Impacts:
Evaluation was carried out including second stage road construction and with 25 years of project life after opening.
1)providing an alternative trunk road connecting East Terai Plain and Kathmandu.
2)Promotion of integrated regional development plan.
3)Promotion of agricultural development.
4)Satisfaction of Basic Human Need(easy access to hospital, education, etc.) to the villagers.

5.TECHNICAL TRANSFER
C/P training, 1 person(Planning of Mountainous Road)

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
HMG has given high priority to Sindhuli Road Construction Project as stressed in Eighth Plan(1992-1997).

After submission of Final Report on A/C Study on July 1993, exceptional heavy rainfall hit the southern part of the Central and Eastern Regions including the Project area on 20th July 1993.
This heavy rainfall has caused many disasters/damages to various infrastructures including trunk roads linking Kathmandu and Terai.
Resulting from those damages, Kathmandu was totally isolated over about 20 consecutive days.
Under the above situation, it was recognized that the necessity to assess the disaster/damages along the proposed alignment before proceeding the Project into the further stage. DOR organized a reconnaissance team and carrid out the field reconnaissance.
By the reconnaissance, it was confirmed that the damages along the alignment is not serious.
The Basic Design Study for Section I(Bardibas to Sindhuli Bazar) of the Road is scheduled on August, 1994.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 シンズリ道路建設計画アフターケア調査

(F/S,D/D)

PROJECT SUMMARY (F/S)

ASO NPL/A 308/93

Compiled Mar.1995
Revised

I. OUTLINE OF STUDY

1.COUNTRY Nepal

2.NAME OF STUDY
Rajkudwa Irrigation Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Department of Irrigation,
Ministry of Water Resources

7.OBJECTIVES OF STUDY
(1)to formulate an agricultural development plan for irrigation of the project area, selected from the study area.
(2)to transfer technical and engineering knowledge to the Nepalese counterpart personnel

8.DATE OF S/W Feb.1992

9.CONSULTANT(S)
Nippon Koei Co., Ltd.
Hokkaido Engineering Consultants Co., Ltd.

10.STUDY TEAM
No.of Members 8
Period Jun.1992-Oct.1993(17 months)

Total M/M	Japan	Field
45.20	14.30	30.90

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
-Farm Survey
-Geological and Soil Mechanical Survey

12.EXPENDITURE

Total	239,962 (¥'000)
Contracted	186,361

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Existing farm land of 1,800ha lying between Gudurnng and Kondre river, Kapilvastu district, Lumbini Zone

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
	1)	13,637	7,388	6,249
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)
Headworks : 1 no.
Headrace : 0.45km
Feeder canal : 26.9km
Irrigation canal : 88.3km
Drainage canal : 69.2km
Irrigation pand : 5 nos.
Major village and farm road : 49.5km
Agricultural support facilities : 6 nos.

Imp. Period: .1993~.1996

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

EIRR1)	11.40	FIRR1)
EIRR2)		FIRR2)
EIRR3)		FIRR3)

Conditions and Development Impacts:
[Assumptions]
(1)Benefitiary irrigated area = 1,800ha
(2)Implementation period : Aug.1993-Jul.1996
(3)Economic effective life of the profect : 50 years
(4)Price level : 1993
(5)Exchange rate : US$1.0=NRs.50.0=115Yen

5.TECHNICAL TRANSFER
The technology transfer to the counterpart personnel was carried out through course of the site study.

III. PRESENT STATUS OF STUDIED PROJECT

1.PRESENT STATUS

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

(Description)
-The project was short-listed at the time of Annual Meeting held in May,1993.
-Basic design study team was dispatched end of March, 1993. Now it is under the study.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 ラジクドゥワ灌漑計画

(F/S,D/D)

PROJECT SUMMARY (Basic Study)

ASO NPL/S 501/93

Compiled Mar.1995
Revised

I. OUTLINE OF STUDY

1.COUNTRY Nepal

2.NAME OF STUDY
Topographic Mapping of Lumbini Zone

3.SECTOR
Social Infrastructures/Survey & Mapping

4.REFERENCE NO.

5.TYPE OF STUDY Basic Study

6.COUNTERPART AGENCY
Survey Dept.,Ministry of Land Reform and Management

7.OBJECTIVES OF STUDY
To prepare the Lumbini Zone topographic map on a scale of 1:25,000, and to transfer technology on aerial photogrammetry.

8.DATE OF S/W Feb.1990

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

10.STUDY TEAM
No.of Members 22
Period Oct.1990-Nov.1993(38 months)

Total M/M	Japan	Field
126.24	17.31	108.93

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
N/A

12.EXPENDITURE

Total	1,040,174 (¥'000)
Contracted	1,007,776

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Southern and Central area of Nepal bordering with India

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	10,000	10,000	
2)			

3.CONTENTS OF MAJOR PROJECT(S)
1. Aerial photography 1:50,000, 9,000 km2
2. Topographic mapping 1:25,000, 9,000 km2, 81 sheets
3. Printing 1,000 copies for each 81 sheets

4.CONDITIONS AND DEVELOPMENT IMPACTS
The completion of the topographic map will enable the Government of Nepal to carry out various development plans such as:

1.Irrigation plans
2.Groundwater development
3.Development of rural infrastructures (transportation, communication, drinking water, education, etc.)
4.Construction of roads and bridges
5.Major urban development plans

5.TECHNICAL TRANSFER
The counterpart staff,32 in Nepal and 6 in Japan, were trained in the field of photogrammetric techniques.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
Printed topograhic maps are used for the promotion of various government policies and rural development plans.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 ルンビニ県地形図作成調査

{M/P,Basic Study,Other}

JICA