PROJECT SUMMARY (Basic Study)

CSA CHL/A 501/92

Compiled Mar.1994
Revised

I. OUTLINE OF STUDY

1.COUNTRY Chile

2.NAME OF STUDY
Forest Resources Management

3.SECTOR
Forestry/General

4.REFERENCE NO.

5.TYPE OF STUDY Basic Study

6.COUNTERPART AGENCY
CORFO (Corporacion de Fomento de la Produccion)

7.OBJECTIVES OF STUDY
Considering current wood demand increase and degradation of natural forests, the forest management plan should be formulated by harmonizing consernation and utilization of forest resources.

8.DATE OF S/W Apr.1990

9.CONSULTANT(S)
Japan Forest Technical Association

10.STUDY TEAM

No.of Members 13

Period Dec.1990-Mar.1993(28 months)

Total M/M	Japan	Field
42.00	22.00	20.00

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Preparation of topographic maps, land use/vegetation maps and forest type maps

12.EXPENDITURE

Total	367,163 (₩'000)
Contracted	347,016

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Forest area between the VIII Administration Region (BIO BIO) and the IX Administrative Region (Araucania)

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)
- Study Area : approx. 550,000 ha
- Model Area: approx. 64,000 ha

Forest areas in the Model Areas were classified into Protection Area and Production Area based on the land use plan prepared. Those two Areas were cataegorized according to the forest management criteria and the forest management plan was formulated. The management activities include cutting, regeneration, nursery practice, forest road establishment, site conservation and forest protection. In Production Area, Grazing Forest was proposed: while Experiment Forest was proposed in order to develop management system of natural forest and grazing forest.

4.CONDITIONS AND DEVELOPMENT IMPACTS
Considering the conformity with related laws & regulations in Chile and the applicability to other site, the forest management plan contributes to the sustainability and appropriate use of forest resources, rational land use, environmental conservation and regional development.

5.TECHNICAL TRANSFER
1. To accept three trainees
2. On the job training

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
The Government of Chile is promoting the embodiment of the project on this forest resources management plan.

2.MAJOR REASONS FOR PRESENT STATUS
The Government highly evaluates this plan.

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 森林資源管理計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (M/P)

CSA COL/S 101/81

Compiled Mar.1986
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY Colombia

2.NAME OF STUDY
Simon Bolivar Great Memorial Park Project

3.SECTOR
Social Infrastructures/Urben Planning & Land Development

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Inmuebles Nacionales, Ministerio de Obras Publicas y Transportes

7.OBJECTIVES OF STUDY
Comprehensive urban park development

8.DATE OF S/W Jun.1980

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

10.STUDY TEAM

No.of Members 9
Period Oct.1980-Sep.1981(12 months)

Total M/M	Japan	Field
	32.00	24.82

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	142,302 (¥'000)
Contracted	132,228

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Southern center (350 ha) of Bogota City

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
	1)	50,847		
(US$1=59pesos)	2)			

3.CONTENTS OF MAJOR PROJECT(S)
The study proposed to establish a large-scale park complex in the sourthern part of the central area of Bogota City.
Major components are as follows.
-Memorial park: national festival plaza, international communication center, convention hall, outdoor theater, etc.
-Athletic facilities: sports center
-Educational and amusement facilities: historical museum, transport museum, natural history museum, botanical garden, amusement park, etc.

4.CONDITIONS AND DEVELOPMENT IMPACTS
Development impacts:
-Expansion of park and green areas which function as social infrastructure servicing urban low-income strata
-Stimulation of urban development in the vicinity of the park complex
-Indirect impact on tourism promotion

5.TECHNICAL TRANSFER
1)OJT on park development
2)Acceptance of trainees (JICA counterpart training program)
3)Joint work with counterparts and local consultants.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
The recommendations of the study were incorporated into the city's master plan. A Japanese expert was dispatched to assist the planting of greenery in the park complex.

(FY 1991 Overseas Survey)
1981: F/S was done by the state government.
1988: Construction began. Memorial park, groundwater system, and paths were completed.
In the end of 1990, the park complex was opened to public. Other facilities are planned to be constructed gradually.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 シモンボリバール公園造成計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (Basic Study)

CSA COL/A 501/81

Compiled Mar.1990
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY: Colombia

2.NAME OF STUDY
Fisheries Resources Survey

3.SECTOR
Fisheries/General

4.REFERENCE NO.

5.TYPE OF STUDY: Basic Study

6.COUNTERPART AGENCY
Bureau of Natural Resources, Agency of Natural Resources and Environment

7.OBJECTIVES OF STUDY

8.DATE OF S/W: .0

9.CONSULTANT(S)

10.STUDY TEAM

No.of Members 9

Period Apr.1979-Mar.1981(24 months)

Total M/M	Japan	Field

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	310,922 (¥'000)
Contracted	255,637

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Water Basin of Pacific Ocean, Caribbean Sea, and San Andres Islands, Basin at the depth of 10-1,000 fathon from Chirambira Point to the border with Panama, and at the depth of 10-200 fathon from Chirambira Point to the border with Ecuador

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)
- Resource survey of fish that live in continental shelves and slopes in Colombian waters, environmental survey around fishing places, experimental operation, methods to utilize fish by type
- Biological survey of main fish
- Meteorological observation

4.CONDITIONS AND DEVELOPMENT IMPACTS
- Development of available resources other than growing fishery by shrimp fishery in shallows
- Discovery of shrimps in the deep sea and potential fishing places near Gorgona Island good fishing place in Atlantic side, espacially south of Cartagena.

5.TECHNICAL TRANSFER
one trainee

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
The export of deep sea shrimps earns valuable foreign exchange and about 20 fishing boats (including seven Japanese boats) are in operation in the Pacific Ocean side of Colombia.
Colombian Government hopes to increase the number of fishing boats to increase the haul (current haul is about 1,500MT per year), and requested the Japanese cooperation to identify the maximum sustainable yields of fishery resources.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 水産資源調査

{M/P,Basic Study,Other}

PROJECT SUMMARY (F/S)

CSA COL/S 301/82

Compiled Mar.1986
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY: Colombia

2.NAME OF STUDY: Bogota-Buenaventura Road Project

3.SECTOR: Transportation/Fish Processing

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: Ministry of Public Works and Transportation

7.OBJECTIVES OF STUDY:
Formulation of road improvement between the capital and major cities on the east coast

8.DATE OF S/W: Feb.1979

9.CONSULTANT(S):
Kokusai Kougyo Co., Ltd.

10.STUDY TEAM

No.of Members 19

Period Jun.1979-Mar.1981(20 months)

Total M/M	Japan	Field
96.80	37.83	58.97

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:
Air photography
O/D survey

12.EXPENDITURE

Total	374,624 (¥'000)
Contracted	155,806

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA:
Road between Buenaventura and Bogota

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	2,809,900	1,334,500	
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
-Two-lane road improvement
widening 70 km
landslide protection 100 km
-New road
bypass shortcutting the crossing of Magdalena River

Imp. Period: Jun.1984-Jun.1991

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

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

Conditions and Development Impacts:
Net benefits were calculated 82.4 million Colombian pesos with an interest rate of 12 % per annum.
The B/C ratio would be 1.78.
Development impacts are the reduction of travel time between Buenaventura and Bogota and economic development in the surrounding areas.

(FY 1993 Domestic Survey)

5.TECHNICAL TRANSFER
1)OJT on O/D survey
2)Participation of counterparts in the JICA counterpart 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)
(FY 1991 Overseas Survey)
The project implementation was postponed because of the shortage of finance. At present, an alternative route is proposed between Bogoda and Buenaventura, and the preliminary study is being undertaken.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 ベナベンツラ－ボゴタ間道路計画

(F/S,D/D)

PROJECT SUMMARY (M/P)

CSA COL/S 102/84

Compiled Mar.1988
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY Colombia

2.NAME OF STUDY
Comprehensive Urban Transport Study in Barranquilla Metropolitan Region

3.SECTOR
Transportation/Urban Transportaion

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Municipality of Barranquilla

7.OBJECTIVES OF STUDY
Formulation of a transport master plan for Barranquilla

8.DATE OF S/W Apr.1983

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

10.STUDY TEAM

No.of Members 16
Period Jul.1983-Mar.1985(19 months)

Total M/M	Japan	Field
103.35	6.70	96.65

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Person trip survey Cordon line survey
O/D survey

12.EXPENDITURE

Total	348,986 (¥'000)
Contracted	193,948

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Barranquilla metropolitan area

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)

As the major large scale projects, the following are identified through the master plan study.
a. Urban Renewal/Development of the Central Districtrt.
b. Road Network Development.
c. Development of Bus Transport System.
d. Development of Rail Transit System.
e. Development of South Subcenter Area.
f. Development of North Subcenter Area.
Among the above, the study related to the urban renewal/development of the Central District should be most urgently carried out since the Central District has numerous problems in its land use, transport, environment, etc., while it is expected to be the most important regional core of the Caribbean coast.

4.CONDITIONS AND DEVELOPMENT IMPACTS

[Condition]
forecast of traffic demand is carried out using the Framework of the future population size, industrial output, GDP, family income, future landuse of the citie of Barranquilla based on the person trip survey at 1983.

[Development Impacts]
(1) Revitalization of major urban activities.
(2) Development of rational transport systems
(3) Improvement of physical environment

(FY 1993 Domestic Survey)

5.TECHNICAL TRANSFER
1)OJT and a seminar on urban transport and development
2)Participation of counterparts in the JICA counterpart training program

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

Based of the recommendations of the study, the following actions have been taken.
1)Adoption of short-term measures(e.g. traffic control).
2)Endorsement by the city council of the land use plan
3)A feasibility study by JICA on the urban renewal of CBD
4)Establishment of a planning unit in the city government
5)Dispatch of a Japanese expert

(FY 1991 Overseas Survey)
30 million peso is budgeted for the duration of 10 years, and the related ministries are in the process of budget finalization. The state government is requesting the World Bank for financial assistance.

2.MAJOR REASONS FOR PRESENT STATUS
The city government has strong interest in urban renewal.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 バランキージャ総合都市交通計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (F/S)

CSA COL/A 301/84

Compiled Mar.1990
Revised Mar.1993

I. OUTLINE OF STUDY

1.COUNTRY Colombia

2.NAME OF STUDY
Pamplonita River Basin Agricultural Development Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Instituto Colombiano de hidrologia, Meteorologia Y adecuacion de tierras (HIMAT)

7.OBJECTIVES OF STUDY
The study area covers about 13,500ha located in the cacthment area of the down stream of the Pamplonita river Objectives of the study are:
1. To propose solution to drainage problems
2. To propose irrigation and the land

8.DATE OF S/W Feb.1983

9.CONSULTANT(S)
Pacific Consultants International

10.STUDY TEAM

No.of Members 12
Period Jun.1983-Jul.1984(14 months)

Total M/M	Japan	Field
60.52	19.63	40.89

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Geological Survey, water level observation station

12.EXPENDITURE

Total	198,322 (¥'000)
Contracted	167,796

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Norte de santander, 40km north of Cucuta, Pamplanita River Basin 13,500ha ,400,000 people

2.PROJECT COST

(US$1,000) US$1=80COl$ in 1984		Total Cost	Local Cost	Foreign Cost
	1)	38,731	22,336	16,395
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)

1. Drainage improvement
   - Drainage improvement are :1,740 ha
   - Main canal : 50.5 km
   - Lateral canal : 84.1 km
   - Interception canal : 14.6 km
2. Irrigation facilities
   - Irrigable area :4,300 ha
   - Head race : 6.4 km
   - Main canal : 26.7 km
   - Lateral canal : 25.3 km
   - Lrated structure
3. Farm roads
   - Main road (construction) : 14.5 km
   - (improvement) : 6.2 km
   - Lateral road : 250 km
   - Bridge and others

Imp. Period:

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes

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

Conditions and Development Impacts:

[Conditions]
1. Interest rates : Foreign portion 8 percent/year
   Local portion 20 present/year
2. Price escalation: Foreign portion 8 persent/year
   Local portion 20 persent/year
3. Repayment : Interest rate 20 persent/year with 5 years grace period and 15 year term
4. Exchange rate : US$1.00=COL$80.00=Yen240
5. Project life : 50 years

Based on the above conditions, development plans were drawn up 1-3 levels, estimating respectively the difference in yield "with" and "without" project conditions.

[Development Impacts]
1. Increase in yield and pest control through improving drainage
2. Decrease of damage due to floods and improving land use by improving drainage
3. Increase in yield and introduction of new crops through irrigation plan
4. Increase in agricultural income and employment
5. Stabilitzation of the people's livelihood

(FY 1993 Domestic Survey)

5.TECHNICAL TRANSFER
1.Training of counterpart (2)
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)

(FY 1991 Overseas Survey)
A part of the projects in neighboring Suria area (downstream only) has been completed, through a loan from the American States Development Bank.
The upstream area has been suspended.

(FY1992 Overseas Survey)
The project was divided into two sectors by its climatological and soil conditions. HIMAT and CORPONOR, which are in charge of each sector, executed the D/D.
Construction of the first sector financed by the World Bank and HIMAT is scheduled to start this year. CORPONOR completed some works in the second sector with own funds. The Pamplonita Project is included within the National Program of Adaptation of Land.

2.MAJOR REASONS FOR PRESENT STATUS
This project is in the National Development Plan of 1991-2000.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 パンプロニータ川流域農業開発計画

{F/S,D/D}

PROJECT SUMMARY (F/S)

CSA COL/A 302/86

Compiled Mar.1990
Revised Mar.1993

I. OUTLINE OF STUDY

1.COUNTRY Colombia

2.NAME OF STUDY
Small Scale Irrigation Package Project in Slope Area

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Instituto Colombiano de hidrologia meteorologia y adecuacion de tierras

7.OBJECTIVES OF STUDY
Agricultural development

8.DATE OF S/W Jun.1985

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

10.STUDY TEAM

No.of Members 9
Period Jan.1986-Mar.1987(15 months)

Total M/M	Japan	Field
52.93	21.64	31.29

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	162,437 (¥'000)
Contracted	145,629

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Andes region among the Oriental Moutain Range

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
US$1 = 193.76 Peso in 1986	1)	960		
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)
Proposed Components in 4 areas

Sub-area	SanPedro de Iquaque	Santa Sofia	Caqueza	Tibacuy	Total
Irrigation area(ha)	162	239	417	258	1,076
Pond(site)	2	-	4	-	6
Intake facilities (site)	3	4	5	4	16
Main irrigation canal(km)	11	13	8	5	37

Imp. Period:

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

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

Conditions and Development Impacts:

Direct benefit

Sub Area	SanPedro de Iquaque	Santa Sofia	Caqueza	Tibacuy	Total
Improvement Benefit (1,000US$/year)	87	341	412	198	1,037

Indirect benefit:
Acceleration of the farm land development in the sloping area of the Andes region

5.TECHNICAL TRANSFER
1. Acceptance of 2 trainees
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)

Agricultural development of these area is being carried out by the government with the three stages. The F/S study executed by JICA is the model plan to proceed the agricultural development in the sloping area.
Santa Sofia area project whichthe F/S study has been completed by JICA is implemented as one of the Stage 1 project. In addition, Stage 1 and 2 programs are completed and/or being implemented with the loan assistance of the IBRD. To implement the Stage 3 program, Colombia government is requested verbally the loan assistance to the Japanese government.
Following is the transitional status of the project after completion of the F/S study.

1988 Completion of Santa Sofia area project
1989 Mar. Completion of the Stage 1 program
1989 Jan. Commencement of the Stage 2 program (completion will be 1992)
1993 Stage 3 program will be commenced

(FY 1991 Overseas Survey)
All projects are suspended. From 1991, Integrated Development Project in slope area has started in five year period.

(FY1992 Overseas Survey)
Projects are delayed or suspended.

2.MAJOR REASONS FOR PRESENT STATUS

60% of the farmers in the nation is the small scale farmers who carry out their agricultural activities in mid-slope of mountainous areas.
To promote the eradication of poverty, relief of these small scale farmers and elevation of agricultural productivity are the most urgent policy of the nation.
(FY1992 Overseas Survey)
-Internal problems and problems at the project site
-Very high estimated cost of construction

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 傾斜地小規模かんがい計画

{F/S,D/D}

PROJECT SUMMARY (F/S)

CSA COL/S 302/87

Compiled Mar.1990
Revised Mar.1993

I. OUTLINE OF STUDY

1.COUNTRY Colombia

2.NAME OF STUDY
Urban Development of the Central District of Barranquilla

3.SECTOR
Social Infrastructures/Urben Planning & Land Development

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
National Dept. of Planning, Municipality of Barranquilla

7.OBJECTIVES OF STUDY
Urban renewal for Barranquillita and Boriche in Barranquilla City

8.DATE OF S/W Dec.1985

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

10.STUDY TEAM

No.of Members 12
Period Jul.1986-Feb.1988(20 months)

Total M/M	Japan	Field
62.50	4.30	58.20

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	243,846 (¥'000)
Contracted	224,253

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Central Area(150 ha) of Barranquilla

2.PROJECT COST

(US$1,000) (US$1=150Yen)		Total Cost	Local Cost	Foreign Cost
	1)	78,000	50,200	27,800
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)
The following six projects are in connection with the urban development of the Central District:
1) Construction of the Bus Terminal.
- Intermunicipal bus terminal
- Urban bus terminal
- Urban bus routing to and from Barranquillita
2) Reorganization of the Existing Public Market in Barranquillita.
3) Provision of an Urban Park to Replace the Mrcado Canal.
4) Improvement of Calle 30.
5) Construction of the Riverside Bypass.
6) Arrangement of Infrastructures.

Imp. Period: Jul.1988-Dec.1989

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes

EIRR1)	17.20	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
[Conditions]
(1) Economical and industrial development for city of Barranquilla
(2) Up-granding of living stadard for establishment of social security
(3) Institutional arrangement for tintentional and orderly development

[Development Impacts]
The proposed renewal will revitalize the urban functions of the provincial capital, stimulate the growth of the surrounding areas, establish an efficient transport system, integration of inter-city and intra-city bus services, and create employment opportunities.

(FY 1993 Domestic Survey)

5.TECHNICAL TRANSFER
1)OJT on urban transport development and urban redevelopment
2)Participation of counterparts in the 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 Colombian Government established EDUBAR(Empresa Desarollo Urbano de Barranquilla, government 51%, private sector 49%) in April 1990. This development corporation has acquired 11% of land in Barranquillita and been promoting renewal projects. The corporation is taking steps to apply to the OECF finance for foreign currency portion, while negotiating with the National Dept. of Planning and one of the domestic banks(BCH) for local currency finance.

(FY 1991 Overseas Survey)
The F/S on the expansion of roads and bus terminals was done by EDUBAR, and the project has started. One of the terminal was completed in March, 1992 , and the other one is scheduled to be completed in June, 1992 . The construction of extended road was completed in Nov.1991.

(FY1992 Overseas Survey)
1993 2nd half Construction began
1999 2nd half Construction is scheduled to end
Total investment costs $79,500 million pesos (US$103.5 million)
The projects is implemented according to the F/S.

2.MAJOR REASONS FOR PRESENT STATUS
Central and local governments and the private sector have strong interest in activating the functions of the provincial capital to stimulate the growth of the Caribbean coast.

(FY1992 Overseas Survey)
Support from the National government

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 バランキージャ市中心地区再開発計画

{F/S,D/D}

PROJECT SUMMARY (M/P)

CSA COL/A 101/88

Compiled Mar.1990
Revised Mar.1993

I. OUTLINE OF STUDY

1.COUNTRY Colombia

2.NAME OF STUDY
Quindio Basin Integrated Agricultural Development Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Regional Autonomous Corporation of Quindio

7.OBJECTIVES OF STUDY
The present study has the objectives to formulate an integrated agricultural development project in the area covering a total of 200,m000ha of the Department of Quindio.

8.DATE OF S/W Jul.1986

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

10.STUDY TEAM

No.of Members 13
Period Jan.1987-Jun.1988(18 months)

Total M/M	Japan	Field
97.54	29.99	67.55

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Remote sensing (Pasco) Water and soil analysis
Construction of water observation station

12.EXPENDITURE

Total	368,817 (¥'000)
Contracted	281,208

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Quindio (20,000,000 sq.km) population 400,000

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
US$1 = 250 Peso in 1987	1)	90,492	33,716	56,776
	2)	299,240	119,700	179,540

3.CONTENTS OF MAJOR PROJECT(S)
In order to correct regional differences within Quindio a long term plan has been set for the year 2005.
Priority projects were selected and pre F/S was conducted as short term plans.
Long term plan :
-Agricultural development plan (6 areas 9000ha)
-Disaster prevention plan (6 areas)
-Improvement of water (7 areas)
-Infrastructure(197km road, 3 generators, 2 water supply)

Short term plan :
-Agricultural development plan (9 areas 7000ha)
-Disaster prevention plan(emergency flood control in 2 places)
-Water quality improvement (1 area)
-Infrastructure (113km road, 2 power stations)

4.CONDITIONS AND DEVELOPMENT IMPACTS
Development Impacts:
To increase agricultural production and farmers' icome, to rectify imbalanced productivity among the various sub-regions, to outgrow from economic structure of coffee monoculture, to improve self-supply food in the Department, to preserve the natural environment, to improve the living condition, to promote the active economic condition of the Department.

5.TECHNICAL TRANSFER
1.Acceptance of trainees(2)
2.Provision of machinery and instruction
3.Cooperation regarding field survey and preparation of reports

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
A request was made to the Japanese government by the DNP in August 1988 regarding technical assistance on the F/S of this project.
An S/W was concluded in September 1989, and the F/S was carried out from March 1990. The final report will be made in January 1991.
In the F/S, the model plants of coffee waste water treatment were constructed.

(FY1992 Overseas Survey)
1992.11 Asemblea Departamental del Quindio approved the Integrated Agricultural Development Project at the state level by the No. 5 order. The investment plans of the First Phase are as follows:
1993 $23.1 million, 1994 $43.6 million, 1995 $68.2 million,
1996 $123.9 million, 1997 $23.1 million
The maps of the study were incorporated with the following development plans.
-National integrated agricultural development
-Disaster prevention projects
-Water supply management etc.
The project is in progress according to the M/P.

2.MAJOR REASONS FOR PRESENT STATUS
The agricultural development project which includes measures for small farms corresponds with the national policy for improving regional differences.
The change from the coffee monoculture also has been proved important in activating the area's agriculture, leading to the development of the area.

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 キンディオ盆地農業総合開発計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (F/S)

CSA COL/A 303/89

Compiled Mar.1991
Revised Mar.1993

I. OUTLINE OF STUDY

1.COUNTRY Colombia

2.NAME OF STUDY
ARIARI River Basin Integrated Agricultural Development Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Instituto Colombiano de hirologia, meteorologia y adecuacion de tierras (HIMAT)

7.OBJECTIVES OF STUDY
(1) to formulate an optimum integrated agricultural development plan in the study area; (2) to verify technical and socio-economic feasibility of the selected project in the study area; and (3) to transfer the relevant

8.DATE OF S/W Feb.1988

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

10.STUDY TEAM

No.of Members 10
Period Aug.1988-Nov.1989(16 months)

Total M/M	Japan	Field
51.90	19.60	32.30

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Topographical survey
Soil analysis
Geological survey

12.EXPENDITURE

Total	190,452 (¥'000)
Contracted	177,515

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Meta, Ariari upper river basin (150km southeast of the capital Boqota) study area 41,000ha

2.PROJECT COST (US$1,000)
US$1=332.6Col$ in 1988

	Total Cost	Local Cost	Foreign Cost
1)	55,500,000	24,151,000	31,349,000
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
- Irrigation Area: 23,815 ha
- Headworks: 1
  (Fixed weir: width 187m x hight 3m)
  (Movable weir: width 27m x hight 10m)
- Main Irrigation canal (Concrete and earth lining): 95km
- Main drainage Canal (Earth lining): 5km
- Lateral Irrigation Canal (Concrete and earth lining): 113km
- Road (Asphalt and aggregate paved): 235km
- Diversion works: 6
- Bridges: 138
- Siphones: 161

In addition of above facilities, tertiary irrigation canals and on-farm development were included.

Imp. Period: .1990-.1996 .1993-.1998

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes

EIRR1)	11.30	FIRR1)	16.00
EIRR2)	20.50	FIRR2)	30.70
EIRR3)		FIRR3)	

Conditions and Development Impacts:

Conditions:
Increase in productivity of crops especially rice, improvement of soil and production management leading to an increase in livestock. Alternative landuse(rice/farm/ livestock) is assumed, and benefit is estimated as the difference in profits between with and without project conditions.
The effects of road construction(improvement) will be evaluated as the improvement of agricultural products, and the effects of shortening labor hours will be evaluated as the effective use of the remaining(surplus) hours.

Impacts:
Increase in crop yield, improved landuse, increased agricultural income, stable social life, irrigation of neighboring areas, spreading of agriculture.

5.TECHNICAL TRANSFER
1.Acceptance of trainees(2)
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)
The implementation of this project was officially requested by the Government of Colombia to the Japanese Embassy in Feb. 1991. It was proposed to dispatch the OECF mission in July or August 1991. However, the mission is not yet dispatched because of the delay of official procedure in Japan.

<FY1991 Overseas Survey>
Although in 1993, the OECF project appraisal mission was scheduled to dispatch, it was postponed due to disorder of the country (terrorism by drug syndicate).

(FY1992 Overseas Survey)
The HIMAT is waiting for OECF's reply concerning the viability of the loan. The Ariari Project is incorporated in the National Program of Adaptation of Land. Adaptation of 535,000ha of land during the decade from 1991 to 2000 is expected.

2.MAJOR REASONS FOR PRESENT STATUS
This project was considered carefully by the Government of Colombia after the Feasibility Study, and consequently it was planned to implement this project with high priority. The condition of official procedure in Japan is being investigated now.

(FY1992 Overseas Survey)
The government assigns this project as high priority.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 アリアリ川農業総合開発計画

(F/S,D/D)

PROJECT SUMMARY (M/P)

CSA COL/S 103/91

Compiled Mar.1993
Revised

I. OUTLINE OF STUDY

1.COUNTRY Colombia

2.NAME OF STUDY
Air Pollution Control Plan in Santafe de Bogota City Area

3.SECTOR
Administration/Livestock Processing

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Jefe Section Protection Ambiente, La Secretaria Distrital de Salud Santafe de Bogota D.C.

7.OBJECTIVES OF STUDY
To investigate and analyze air pollution, meteorology, air pollutant sources, socio-economic conditions and air pollution control measure in Santafe de Bogota City, on the basis of which to propose a guideline for the air

8.DATE OF S/W Jan.1989

9.CONSULTANT(S)
Research, Analysis and Computing
Pacific Consultants International

10.STUDY TEAM

No.of Members 13
Period Jul.1990-Feb.1992(20 months)

Total M/M	Japan	Field
66.10	28.10	38.00

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Survey on traffic volume and analysis of fuel component

12.EXPENDITURE

Total	446,425 (¥'000)
Contracted	225,726

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
The area under the juridication of the Sectetaria Distetaria Distrital de Saludde Santafe de Bogota D.C.

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	156,420		
2)			

3.CONTENTS OF MAJOR PROJECT(S)
(1) Countermeasure for the whole area
(a)Institutional: 1)Revision of emission standards 2)Education of operator of stationary sources 3)Reinforcement of regulation on stationary sources 4)Revision of motor vehicle inspection and refistration system 5)Establishment of type approval system of motor vehicle about exhaust gas 6)General instruciton of drivers on motor vehicle operation 7)Treatment of diesel motor vehicles 8)Reviews of the tax imposing system on vehicles 9)Establishment of prevention system against hydrocarbon evaporation from stationary sources
10)Establishment of subsidy system for private investment on air pollution control
11)Deliberate Reorganization of laud use in the city.
(b)For short term: 1)Improvement of combustion 2)Fuel Improvement or conversion 3)Installation of dust collector 4)Reduction of heat radiation loss 5)Prevention of soil dust dispersion from soil mining or asphalt mixing plant
(c) For Medium to Long Term: 1)Improvement of combustion of oil boilers. 2)Fuel Improvement or Conversion 3)Installation of dust collector
4)Reform of used gasoline motor vehicle 5)Reconstruction of trolley bus network
6)Construction of passenger railway lines. 7)Improvement of public bus system.
(2) Countermeasure for specific area
(a)Large Intersections:1)Prevention of tall buildings 2)Open space as buffer area
3)To keep the distance from residential areas
(b) Specific Stationary Source:
Raising of chimney height to lower the concentration of pollution.

4.CONDITIONS AND DEVELOPMENT IMPACTS
Conditions:
The pollutant reduction target is calculated as follows, taking 40% growth of pollutant generation in the year of 2001 into consideration.

Target of the Air Pollutant Emission Amount

Air Pollutant	Present situation	future	targe
CO	288	398	193
HC	20	29	12
SOx	7.8	11.2	8.7
NOx	11	16	15
Dust	2.2	3.2	1.8

Development Impacts:
The target level is fundamentally defined as the same level to the ambient air quality standard now in power.

The level of Ambient Air Quality

Item	Target(average)
SO2	38.2ppb
NO2	53.2ppb
SP	100ug/m3
CO	3.6ppm
NMHC	0.5ppmc

5.TECHNICAL TRANSFER
Analysis on meteorology, air quality and emission sources; Measurement and maintenance of instruments; Emission source control

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
Air Pollution Control
1) Requlation of exhaust gas (CO, HC concentration by car type): Implemented
2) Improvement of public bus system: Implemented
3) Peconstruction of trolley bus system: Delayed
4) Construction of passenger train system: Delayed
5) Others: Unknown

(FY1992 Overseas Survey)
- Attain good combustion: Implemented
- Installation of mechanical coal-feeder: Implemented
- Fuel improvement: Implemented
- Installation of dust collector: Implemented

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 ボゴタ市大気汚染対策計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (F/S)

CSA COL/A 304/91

Compiled Mar.1993
Revised

I. OUTLINE OF STUDY

1.COUNTRY Colombia

2.NAME OF STUDY
Quindio Basin Integrated Agricultural Development Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Regional Autonomous Corporation of Quindio (CRQ)

7.OBJECTIVES OF STUDY
To implement the F/S for the Miority areas selected in the M/P conducted in 1988.

8.DATE OF S/W Sep.1989

9.CONSULTANT(S)
Pacific Consultants International

10.STUDY TEAM

No.of Members 8

Period Mar.1990-Aug.1991(17 months)

Total M/M	Japan	Field
14.20	39.72	32.28

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
- Constraction of Model Plants of Coffee Waste Water Treatment
- Contour Map ; - Water Quility Test

12.EXPENDITURE

Total	215,542 (¥'000)
Contracted	204,682

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
7 areas in Dept of Quindio(7,600ha, population 3,400) and Cristales River Watershed (9,400ha)

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	12,737	3,325	9,412
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
The project is devided in two sub-project:

(1) Agricultural Development
- Road improvement (New 134km, Rehab 153km)
- Irriqation improvement (112ha)
  Aqro-industry (5 locations)
  Research center (1 locations)

(2) Coffer waste water treatment
Model area 1,000 ha (52 Farm households)

Imp. Period:

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	14.50	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

(Conditions)
Total project cost includes the cost required for coffee waste water treatment facilities. However, EIRR is estimated based only on the agricultural development.

(Development Impacts)
- Model development in the hilly area
- Environmental improvement impact is expected through the implementation of coffee waste water treatment project.
- Regional economic activity would be generated by agricultural development of the hilly land where it was isolated from development.
- The scheme would be a model of development plan in the hilly area.
- Improvement of agricultural management technology was anticipated for the project area.

5.TECHNICAL TRANSFER
Coffee waste water treatment technolcgy.

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)
1993 Gobierno Department undertook the D/D and approved financing of the project.

2.MAJOR REASONS FOR PRESENT STATUS
-The project is important for providing the solutions to the coffee monoculture and natural water deterioration.
- A reduction of coffee export damaged the local economy. Hence, the local government is aiming at development of local economy with corporation of this project.

3.PRINCIPAL SOURCE OF INFORMATION

和名 キンディオ川流域農業総合開発計画

{F/S,D/D}

PROJECT SUMMARY (M/P)

CSA COL/S 104/92

Compiled Mar.1994
Revised

I. OUTLINE OF STUDY

1.COUNTRY Colombia

2.NAME OF STUDY
The Urban Transport Study in the City of Cartagene de Indias.

3.SECTOR
Transportation/Urban Transportaion

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Express Desarro de Urbano de Bolivar

7.OBJECTIVES OF STUDY
The formulation of Complehensive Urban Transport Plan (Road Transport, Public Transport and Traffic Management) until 2010.

8.DATE OF S/W Aug.1990

9.CONSULTANT(S)
Chodai Co., Ltd.

10.STUDY TEAM

No.of Members 8

Period Mar.1991-Nov.1992(20 months)

Total M/M	Japan	Field
51.17	14.27	36.90

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Traffic Survey

12.EXPENDITURE

Total	201,797 (¥'000)
Contracted	170,469

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
City of Cartagena

2.PROJECT COST

(US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	417,100	417,100	
2)			

3.CONTENTS OF MAJOR PROJECT(S)

1. short Term Plan (Investment 1.042 billion Pesos)
1) Road Impr. (2 routes) and Road Construction (1 route) , 2) Construction of Bus Bay, 3) Introduction of Water Tramsp., 4) Improvement of Traffic Manaqement system
2. Medium Term Plan (Investment 100.218 billion Pesos)
1) Road Impr. (3 routes) and Road/Bridge Construction (6 routes, 3 bridges), 2) Construction of Bus Terminal (4), Improvement Bus Bay, 3) Installation of Traffic Signal
3. Long Term Plan (Investment 195.127 billion Pesos)
1) Road Impr. (17 routes) and Road construction (7 routes, 7 bridges), 2) Construction of Bus Terminal (7), Introduction of Trunk-Feeder Bus System, 3) Installation of Traffic Signal, etc..

4.CONDITIONS AND DEVELOPMENT IMPACTS

[Conditions]
Traffic demand Forecast is carried out based on the future socio-economic framework of Cartaqena, resultinq from several traffic and transport surveys.

	1991	2010	
population (5 years or more)	599	1,109	(Thousand)
Number of Trip	1,259	2,639	(Thousand)

[Planninq Policy]
Master Plan is formulated based on the follwinq policies.
1) Complehensive Transport System Introduction of Road Transport, Public Transport and Water Transport
2) Effictive Public Transport System
3) Road Network Construction Integrating Urban Area

5.TECHNICAL TRANSFER
1. Cooperation with counterpart personel at study implementation in Cartaqena, 2. Seminars in times of Interim Report and Draft Final Report on Urban Transport

III. PRESENT STATUS OF STUDY RESULTS

1.PRESENT STATUS

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

(Description)

City of Cartaqena puts the priority on the improvement of public transport system, and prepares her own budqet for the feasibility study of the improvement of public transport system and Water Transport introduction.
Project period : Sept. 1993 - Feb. 1994
Budqet : Some 400 thousand US $
And also the city has the plan to request to Japanese Government to carry out the feasibility study on Road Network Improvement. They now are preparing TOR for the Project.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 カルタヘナ市都市交通計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (Basic Study)

CSA COL/A 502/92

Compiled Mar.1994
Revised

I. OUTLINE OF STUDY

1.COUNTRY Colombia

2.NAME OF STUDY
Forest Resources Management

3.SECTOR
Forestry/General

4.REFERENCE NO.

5.TYPE OF STUDY Basic Study

6.COUNTERPART AGENCY
Inderena (Instituto Nacional de los Recursos Naturales Renovables y del Ambiente)

7.OBJECTIVES OF STUDY
In order to rehabilitate forests' functions to conserve headwaters, and to prevent erosion, the guideline on forest management plan and the model plans should be for mulated contributing to develop appropriate forest resources

8.DATE OF S/W Jul.1988

9.CONSULTANT(S)
Japan Forest Technical Association

10.STUDY TEAM

No.of Members 17

Period Feb.1989-Jun.1992(41 months)

Total M/M	Japan	Field
68.00	39.00	29.00

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Preparation of topographic maps, forest type maps, soil maps, land use plan maps, landsat analysis maps and forest inventory books

12.EXPENDITURE

Total	552,335 (¥'000)
Contracted	439,195

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Reserva Forestal Central and forest area in Caldas Province

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)
- Study Area : 1,600,000 ha
- Intensive Area : aprox. 200,000 ha
- Model Areas : Approx. 20,000 ha

As the Study Area, the Reserva Forestal Central was investigated by means of forest and land use condition by using the Landsat data. The quideline for forest resources control was formulated based upon the results of the investigation. Using the quideline, forest management model plans were formulated on three Model Areas.

4.CONDITIONS AND DEVELOPMENT IMPACTS
1. The quideline confirming to the law on environment protection and recoverble natural resources was prepared.
2. The criteria was eraborated by considering easiness to provide due quidance and recommendations to forest owners and managers.
3. The quidelaine and the model plans were prepared so as to contribute to natural environment conservation and development of forests' functions for public benefit, considering natural forest maintenance, reforestation on sites to be conserved, and forest resources development where is suitable for forestry management.

5.TECHNICAL TRANSFER
1. To accept seven trainees
2. On the Job Training

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
The Government of Colombia is considering to establish national forest resources management system covering the whole country based on this quideline and forest resources management plan. But no movement of materialization has been observed.

2.MAJOR REASONS FOR PRESENT STATUS
The Movement stumbles on the coordination amoung the qovernmenttal organizations concerned.

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 林業資源

{M/P,Basic Study,Other}

PROJECT SUMMARY (M/P)

CSA CRI/S 101/77

Compiled Mar.1986
Revised Mar.1994

I. OUTLINE OF STUDY

1.COUNTRY Costa Rica

2.NAME OF STUDY
Regional study of the Hinterland of Caldera and Puntarenas Ports

3.SECTOR
Development Plan/Sericulture

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
National Planning Office

7.OBJECTIVES OF STUDY
Identification of development potentials in the hinterlands of two ports and basic development strategies

8.DATE OF S/W Nov.1976

9.CONSULTANT(S)
International Development Center of Japan

10.STUDY TEAM

No.of Members 10
Period Feb.1977-Nov.1977(9 months)

Total M/M	Japan	Field
26.30	16.50	9.80

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	82,251 (¥'000)
Contracted	60,578

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Gran Puntarenas and Pacifico Central areas along the Pacific Coast

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)

1.Gran Puntarenas Area
1)El Rodare Blanca urban planninq 2)Conservation of Puntarenas sand bar and urban renewal 3)Development of the distribution center near Caldera port 4)Industrial area planninq
5)Projects concerninq Industrial area -Facilities for human resours trainino -Facilities for research of construction materials -Greenbelt
6)Aqricultural products processinq and related industry
-Fish products processinq facilities -Grain snd meat processinq factories -Industry related aqricultural products
7)Water supply for residents and industry
8)Transportation Development -Terminal for trucks and passenqers
-Improvement of railway and switchyard -Road siqn and traffic siqnal
9)Elementary seweraqe facilities 10)protection aqainst water pollution of sea products processing 11)Development of recreation center
2.Pacific Central Area
1)Supplement reserch of reqional economic development
2)Development of suburban horticulture
3)Development of fishely activity 4)Development of water resource
5)Introduction of farmers' income surveys
6)Program of protection aqainst environmental pollution
7)Seweraqe usinq soil
(couninued to down below)

4.CONDITIONS AND DEVELOPMENT IMPACTS

3.Guacaste Region
1)Surveys on veqetation and potentials 2)Surveys on water resource of river and qround water 3)Development of animal husbandry -Scientific breedinq and artifical insemination -Sheep farminq -Improvement of meadow *related project
Surveys on the possibility about irriqation development
4.Costa Rica
1)Research on future demand of veqetables and fruits
2)Productivity improvement of traditional of aqriculture
3)Basic research on price makinq policy of qrain
4)Education for experts about environmental technoloqy
5)Preparation for statistics materials of transportation planninq

<Conditions>
1.This is a 20-years lonq-team ospect aiminq to the year 2000.
2.The characters of the "back area" beinq between San jose and Puntarenas muse be made qood use of.
3.The basic datas of population, consumption, marine resource and aqricultural manaqement must be prepared.
4.The aspects of future international/ domestic markets must be prepared completely.

5.TECHNICAL TRANSFER
Participation of counterparts in the JICA training program.

III. PRESENT STATUS OF STUDY RESULTS

1.PRESENT STATUS

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

(Description)
The findinqs of the study were utilized to formulate the development policy framework for the Gran Puntarenas area.

(FY 1991 Overseas Survey)
No additional information.

(FY1993 Overseas Survey)
Present status of this project is discontinued.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 太平洋岸新港背後地域開発計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (F/S)

CSA CRI/S 301/81

Compiled Mar.1986
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY: Costa Rica

2.NAME OF STUDY: Second Stage Expansion Project of the Port of Caldera

3.SECTOR: Transportation/Port

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: Ministry of Public Works and Transport (MOPT)

7.OBJECTIVES OF STUDY:
Master Plan for 2000
Short-term Plan for 1990 and it's F/S

8.DATE OF S/W: .0

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

10.STUDY TEAM

No.of Members 19

Period Jun.1980-Dec.1981(18 months)

Total M/M	Japan	Field
59.21	44.80	14.41

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

Total	143,979 (¥'000)
Contracted	133,418

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: 30km south of Punta Arenas City

2.PROJECT COST (US$1,000) (US$1=15Colones)

	Total Cost	Local Cost	Foreign Cost
1)	30,450	11,950	18,500
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

-Breakwater	150m
-Container Berth (-12m)	250m
-Dredging, Reclamation	820,000cu.m
-Shore Protection	440m
-Cargo Handling Facilities	1 set

Imp. Period: Apr.1983-Dec.1985

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	14.90	FIRR1)	5.60
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

Full container ships were to begin to use the port from 1985. The second-stage plan was to be completed by 1986. Port facilities capable of handling 20,000 TEU containers are planned for 1990, adopting the straddle carrier container terminal system.

Conditions:
It is necessary that the actual tariff structure be improved or that the government take responsibility in giving back the loans for the project.

Development Impacts:
Modernized container cargo handling system would reduce both cargo handling time and berth waiting time for ships and improve port transportation efficiency.

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)

The IDB financed the staqe II construction of Caldera Port.

(FY 1991 Overseas Survey)
There is no IDB financing as long as we observed. Staqe II was suspended because of the economic problems. Instead of this project, Maintenance Project of the Port of Caldera is planned.

(FY1992 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS: Financial problems

3.PRINCIPAL SOURCE OF INFORMATION: ①②

和名 カルデラ港建設計画

{F/S,D/D}

PROJECT SUMMARY (F/S)

CSA CRI/S 302/86

Compiled Mar.1990
Revised Mar.1993

I. OUTLINE OF STUDY

1.COUNTRY: Costa Rica

2.NAME OF STUDY: Maintenance Project of the Port of Caldera

3.SECTOR: Transportation/Port

4.REFERENCE NO.:

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY: Ministry of Public Works and Transport (MOPT)

7.OBJECTIVES OF STUDY: Countermeasures for sedimentation, and a short-term development plan for 1992

8.DATE OF S/W: Feb.1985

9.CONSULTANT(S): Overseas Coastal Area Development Institute of Ja
Central Consultant, Inc.

10.STUDY TEAM

No.of Members 8

Period Sep.1985-Jul.1986(10 months)

Total M/M	Japan	Field
43.88	24.80	19.08

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:

12.EXPENDITURE

Total	159,960 (¥'000)
Contracted	141,935

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA: Caldera Port on the northwest Pacific coast

2.PROJECT COST

		Total Cost	Local Cost	Foreign Cost
(US$1,000)	1)	24,000	5,000	19,000
(US$1=53.15Colones)	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)

The way to maintain Port of Caldera was studied.
The first phase of the port was finished in 1981 and the second phase was studied to meet increasing cargo and containerlization.

-Purchase of a dredging ship and other construction machines related : 1 set
-Breakwater (construction and transfer) : 362m
-Dredging : 72,000cu.m

Imp. Period: Jun.1988-Feb.1990

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	23.70	FIRR1)	8.26
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

[Conditions]
In the EIRR calculation, the reduced cost of dredging work is considered to be one of the merits of the project. The cost of constructing a basin for small ships (a non-profit facility) and quaywalls is excluded. The grain cargoes of Puntarenas Port would be handled at the Caldera Port in the near future. Project life is 25 years.

[Development Impacts]
The function of the Cardera port would be greatly improved by the implementation of this project.

(FY 1993 Domestic Survey)

5.TECHNICAL TRANSFER

- OJT on tidal current observation
- Seminar on Ports and Harbours held in Japan
- Current Meter was given to Costa Rica after 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)

(FY 1991 Overseas Survey)
1988.8 : requested Loan
1987-89: specialists were sent to analize the collected data.
As the result of the increase of trade, Stage II attracted attention again.

(FY1992 Overseas Survey)
1990 : Loan was requested to the Finland's government
(30 million Finland's Mark)
1991 : Loan was requested to the Spanish Bank
1993.2 : Loan was requested to the World Bank
Preparation for utilization of Finland's loan.

2.MAJOR REASONS FOR PRESENT STATUS

Worsening of national financial condition

3.PRINCIPAL SOURCE OF INFORMATION

①②

和名 カルデラ港維持整備計画

{F/S,D/D}

PROJECT SUMMARY (M/P+F/S)

CSA CRI/A 201B/88

Compiled Mar.1990
Revised Mar.1994

I. OUTLINE OF STUDY

1.COUNTRY Costa Rica

2.NAME OF STUDY
Limon Integrated Agricultural Development Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Servicio Nacional de Aguas Sabterraneas, Riego y Avenamiento (SENARA)

7.OBJECTIVES OF STUDY
Formulation of agricultural and rural development plan

8.DATE OF S/W Aug.1986

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

10.STUDY TEAM

No.of Members 11
Period Feb.1987-Oct.1988(21 months)

Total M/M	Japan	Field
67.99	23.35	44.64

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	269,718 (¥'000)
Contracted	208,710

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Limon area located in eastern coastal zone of the Atlantic

2.PROJECT COST (US$1,000)
US$1.0=68.75colon

		Local Cost	Foreign Cost	
M/P	1)	89,309	27,321	
	2)			
F/S	1)	53,915	11,203	42,712
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)

<M/P>Elimination of the seasonal flood damage and improvement of the poor drainage area on the existing arable land are recognized as the major components of the project to promote the stable agricultural management in the area.
<F/S>B block which has the highest priority is selected as the objective area for the F/S(19,500 ha). Summaries of the project components are as follows;

	<M/P>	<F/S>
1. Drainage Improvement Plan		
New construction of principal drainage canals	124.0km	32.10km
Rehabilitation of principal drainage canals	43.9km	25.95km
New construction of secondary drainage canals	218.7km	42.40km
Rehabilitation of secondary drainage canals	-	24.70km
2. Agricultural priduction Plan		
Establishment of 7 farming patterns		
3. Flood Protection Plan Foundation of the embankment	118.2km	56.10km
4. Road network Plan New construction	81.5km	13.60km
Rehabilitation	151.3km	46.00km
5. Land Consolidation Plan	44,240ha	
Improvement of drainage canals and farm roads		

6.Rural Infrastructure Plan Water supply facilities for 5 villages(on F/S)
7.Settlement and rural development plan
Improvement of public facilities in three new settlement areas(on M/P)
8. Agricultural Promotion Plan
Strengthening of agricultural supporting organizations, Improvement of famer's organizations, Establishment of the agricultural machinery centers, Establishment of the post-harvest facilities

Imp. Period: .1989~.1993

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

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

Conditions and Development Impacts:

Conditions<mainly for F/S>(1)Based on the new compiled topographical map (scale 1 to 10,000), capacity and structure of the proposed facilities will be studied in view of the high economic efficiency. (2)Gravity drainage system is applied as far as possible taking into account environmental conservation in the projected area.(3)Easy operation and maintenance structures of the drainage facilities must be introduced because insufficient O&M activities can be considered. (4~5) etc.
Development Impacts;<mainly for F/S>(1)Increase of agricultural products around 97,000 ton compared with present production.(2)Increase of employment opportunity and income are estimated at 240 heads/annum, from 180,000 to 200,000colones annum particularly on the average farmer household.

5.TECHNICAL TRANSFER

- Training of counterparts in Japan - Furnishing of the equipment and guidance of its use
- 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)

<M/P> B block (object area of 19,500ha) is selected as the priority project area based on the M/P study. The F/S study for the B block has been carried out from January to October in 1988.

<F/S> 1990.2 After completion of the F/S study, SENARA which is the counterpart agency requested the loan assistance to the Japanese government through MIDEPLAN to implement the project.
E/N has not been concluded yet as of Nov. 1990.

(FY 1991 Overseas Survey)
The project is delayed because of financial problem.
The land owner of the target area provides loans to the project.

(FY1992 Overseas Survey)
The revised F/S is necessary in order to adjust the project to new circumstances. The project in B block focusing the flood protection schedule should be implemented. Finance of the project is pending until the M/P and the study of B block are completed.

(FY1993 Overseas Survey)
This study played an important role as a base of banana plantation development in the area. SENARA requested MIDEPLAN to privide necessary cooperation for final plan. However, it has not been realized yet.

2.MAJOR REASONS FOR PRESENT STATUS

The object area located in coastal zone of the Atlantic is left behind the agricultural development though suitable area for agricultural development still remains in and around the object area.
Qualitative improvement and quantitative enlargement of the agricultural production are the urgent subjects in the nation. Accordingly, implementation of the project is strongly anticipated.

3.PRINCIPAL SOURCE OF INFORMATION

①②

和名 リモン地区農業総合開発計画

(M/P+F/S)

PROJECT SUMMARY (Basic Study)

CSA CRI/A 501/88

Compiled Mar.1990
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY Costa Rica

2.NAME OF STUDY
Fiseries Resources Survey of the Pacific Coast

3.SECTOR
Fisheries/General

4.REFERENCE NO.

5.TYPE OF STUDY Basic Study

6.COUNTERPART AGENCY
CIMAR (Work-1)
MAG (Work-2)

7.OBJECTIVES OF STUDY
Work-I: Estimation of the biomass and distribution of the principal demersal species.
Work II: Settlement of the fishery development plan.

8.DATE OF S/W Jul.1986

9.CONSULTANT(S)
Nichiro Corporation

10.STUDY TEAM

No.of Members 7
Period Feb.1987-Mar.1989(26 months)

Total M/M	Japan	Field
88.43	44.70	38.73

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
The team had the third study: Jun.1988 - Mar.1989 (10 months)

12.EXPENDITURE

Total	475,097 (¥'000)
Contracted	440,565

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
North shore of the Pacific Ocean in Costa Rica (area: 10,118 sq.m, population:192,000, water basin:2,229nÂEm2)

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)
Master Plans for development were proposed, the Project cost was not estimated.
Work-I: Short-term planning:
a. Project of development of unexploited fishery resources in the Project of creation of a model fishing villaqe.
b. Investiqation for development of unexploited fishery resources.
c. Project of processinq for marine products.
Work-II: Short-term planning:
a. Project of creation of a model fishinq villaqe.
b. Project of traininq for fishermen by INA, who has experiences to execute the education and traininq for them.
c. Promotion of Fishery Cooperation.
Mid and lonq-term planning:
a. Project of training of fishermen, into the planninq of education and traininq for fishermen.
b. Project of improvement of distribution of the marine products.
c. Project of creation of fishing villages.

4.CONDITIONS AND DEVELOPMENT IMPACTS
Work-I :
Development of unitilized resources is important for fishery promotion. It contributes to stable maintenance of rescurces

Work-II :
Improvement of model fishinq villaqe makes it possible to solve problems related to facilities, sales, finance, education, traininq, etc. necessary for fishinq villaqe. It contributes to promotion of reqional fisheries, income increase of fishermen, creation of employment opportunities, etc.

5.TECHNICAL TRANSFER
1) Technical traininq of trawlinq method to the crew, fishinq method fo fishinq people, 2)Traininq of method to use equipments ,and 3)Cooperation on writinq a report

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
NAG and CIMAR submitted to the Japanese Embassy for assistance on the followinq proposals.

(1) Construction of a pier, a processinq plant and the related facilities includinq a tradinq center at Coco beach.
(2) Buildinq of an Oceanoqraphic Research Vessel.

(FY 1991 Overseas Survey)
CIMAR sees this survey as academic research and is utilizinq the data as such.

2.MAJOR REASONS FOR PRESENT STATUS
In case of executinq the Project above, Japanese Embassy's officer in Costa Rica considered the followinq points: As reqards (1), can Costa Rica side bear the expenses to create facilities of the marine products distribution, necessary for the execution of the Project? As reqards (2), CIMAR use only to study for themselves the results of survey, and does CIMAR not notice its data to fishermen?

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 太平洋沿岸水産資源調査

{M/P,Basic Study,Other}

PROJECT SUMMARY (Basic Study)

CSA CRI/S 501/91

Compiled Mar.1993
Revised

I. OUTLINE OF STUDY

1.COUNTRY Costa Rica

2.NAME OF STUDY
Mapping Project for Metropolitan Area of San Jose City

3.SECTOR
Social Infrastructures/Survey & Mapping

4.REFERENCE NO.

5.TYPE OF STUDY Basic Study

6.COUNTERPART AGENCY
Instituto Geografico National (IGN)

7.OBJECTIVES OF STUDY
Topographic Mapping

8.DATE OF S/W Oct.1988

9.CONSULTANT(S)
International Engineering Consultants Association

10.STUDY TEAM

No.of Members

Period Oct.1988-Dec.1991(39 months)

Total M/M	Japan	Field

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total 845,975 (¥'000)

Contracted

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
San Jose Metropolitan Area

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S)

Arerial photography 1:20,000 (16,000sq.)

1/10,000 Topographic maps 79 (1,600sq)

1/10,000 Land use maps 40 (800sq)

4.CONDITIONS AND DEVELOPMENT IMPACTS

The San Jose Metropolitan Area is the center of politics, economy, and culture with 70% of the whole population. Recently most of the industries and agriculture are concentrated in this area, which cause urban problems and environmental deterioration.

The government of Costa Rica intends to develop the total area in near future. This study is for that purpose due to inefficiency of the existing map.

5.TECHNICAL TRANSFER

III. PRESENT STATUS OF STUDY RESULTS

1.PRESENT STATUS

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

(Description)

The outputs of this project (arerial photography) are managed by the Instituto Geografico National and widely used in the public planning. The maps are used in the following plans.
- Drainage improvement plan for Metropolitan Area of San Jose City (MASJC)
- Water supply improvement plan for MASJC.
- Road sign improvement plan for MASJC.
- National park tourism plan

(FY1992 Overseas Survey)
The outputs of this project are distributed to the government, academic and private organizations. The use of digitalization of the maps is started for establishment of geographic information system.

2.MAJOR REASONS FOR PRESENT STATUS

(FY1992 Overseas Survey)
This project was concluded when outputs of the project in 1992 were officially handed in. The Instituto Geografico National continues to be in charge of interpretation and handling of the maps.

3.PRINCIPAL SOURCE OF INFORMATION

①②

和名 サンホセ首都圏都市基本図作成

{M/P,Basic Study,Other}

PROJECT SUMMARY (M/P+F/S)

CSA CRI/S 201B/92

Compiled Mar.1994
Revised

I. OUTLINE OF STUDY

1.COUNTRY Costa Rica

2.NAME OF STUDY
Development Project of Three International Airports

3.SECTOR
Transportation/Air Transportaion & Airport

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Ministry of Public Works and Transport (MOPT)

7.OBJECTIVES OF STUDY
Preparation of master plan and feasibility study of the priority project on the short-term development project

8.DATE OF S/W Oct.1990

9.CONSULTANT(S)
Pacific Consultants International

10.STUDY TEAM

No.of Members 8

Period Aug.1991-Nov.1992(16 months)

Total M/M	Japan	Field
47.59	29.75	17.84

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Topographic Survey,Soil Investigation, Pavement Structure Investigation,Obstruction Survey

12.EXPENDITURE

Total	174,252 (¥'000)
Contracted	157,000

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Juan Santamaria International Airport
Liberia International Airport
Limon International Airport

2.PROJECT COST (US$1,000)

		Local Cost	Foreign Cost
M/P	1)		
	2)		
F/S	1)	53,000	
	2)		
	3)		

3.CONTENTS OF MAJOR PROJECT(S)

<M/P> Development of Three Airports.
1. Juan Santamaria International Airport
(Civil works, Architectural Works, US$ 43.2 million (Short)
Air Navigations Systems, Airport Utilities US$ 214.2 million (Short)
Works etc.)
2. Liberia International Airport
(Civil works, Architectural Works, US$ 12.7 million (Long)
Air Navigations Systems, Airport Utilities Works)
3. Limon International Airport
(Civil works, Architectural Works, US$ 4.9 million (Long)
Air Navigations Systems, Airport Utilities Works)

<F/S> The following works were proposed for the short-term development project of Juan Santamaria International Airport (the project) which was produced within the framework of the long-term airport master planning:

1. Civil Works	US$ 10.7 million
2. Architectural Works	US$ 22.2 million
3. Air Navigation Systems	US$ 3.6 million
4. Airport Utilities Works	US$ 3.9 million
5. Compensation Works, Engineering Services and Contingency	US$ 13.6 million

Imp. Period:

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes

EIRR1)	27.50	FIRR1)	5.70
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

<M/P>
1. Juan Santamaria International Airport
Development of the Capital Airport is effective on the promotion of national economics. Urgent development is necessary to solve the capacity problem and to assure the air transport safety.
2. Liberia International Airport
Expansion of Liberia Airport in tourism region here effect on the economics.
3. Limon International Airport
Improvement of Limon Airport is expected to revitalize Limon economics.
<F/S>
The implementation of the project will, moreover, have impacts on:
- Contribution to international tourism development,
- Contribution to increase opportunities of trade and business,
- Enhancing foreign investment, - Generating employment opportunities, and - Assurance of air transport safety.

5.TECHNICAL TRANSFER
1. Invitation of Trainees
Mr. Fernando Nedez, January 1992
Mr. Isabel Lopez, March 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)
At the time of preparing the draft final report when the conclusions of the study was visualized, the Government of Costa Rica determined the implementation of the part of short-term development prioject (expansion of the passenger terminal building and construction of new apron) which was proposed in this study.

Based on the result of the JICA study, DGAC completed the basic design of the above facilities and at present prepares a tendering to start a detailed design at the beginning of year 1993 and to continue the construction works. This construction is planned to be financed by the Government of the Costa Rica.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 国際空港整備計画

{M/P+F/S}

PROJECT SUMMARY (F/S)

CSA DOM/A 301/81

Compiled Mar.1990
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY Dominican Republic

2.NAME OF STUDY
Proyecto del desarrollo agricola del area Aglipo (El Pozo)

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Dominican Agrarian Institute
National Institute of Hydraulic Resources

7.OBJECTIVES OF STUDY

8.DATE OF S/W Jul.1980

9.CONSULTANT(S)
Pacific Consultants International

10.STUDY TEAM

No.of Members 14

Period Jul.1980-Jan.1982(19 months)

Total M/M	Japan	Field
59.61	27.59	24.02

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
- Aerial survey
- Geological survey

12.EXPENDITURE

Total	196,652 (¥'000)
Contracted	152,412

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
El Pozo, Maria Trinidad Sanchez
(180 km from capital, 50,000 people, 10,000ha)

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
US$1=RD$1.27	1)	35,295	13,787	21,508
	2)	28,864	12,132	16,732
	3)			

3.CONTENTS OF MAJOR PROJECT(S)

Irriqation of 7,500ha:	Alternative A:Cost 1)	Alternative B:Cost 2)
1)Principal canals:Concrete lined & earth	11.5km & 31.6km	11.5km & 25.5km
:irrq. cum drainaqe	-	16.0km
2)Lateral canals(irrq.cum drainaqe):	119.7km	119.7km
3)Pump stations(Yuna River):water intake	400 cu.m/min	440 cu.m./min
:units/diam	3 units/1,000 diam	3 units/1,000 diam

4)Pump sta. retardinq basin(for Alt.A):10 locations, 200 cu.m/min & 400 diam. each
5)Intake weir, Naqua River (same for Alts. A & B): height 1.0m, intake 2.5cu.m/sec.
6)Intake weir, Helechal Riv. (same for Alts. A & B):height 0.8m, intake 0.5cu.m./sec.
7)Tide qates, Naqua Riv.(same for Alts. A & B): 2 qates(3.8mx15.0m), 1 qate (3.8mx10.0m)
8)Tide qates, Cano Colorade(same for Alts. A & B):2 qates(2.5mx8.0m), 1 qate(2.5mx5.0m)
9)River channel improvement(same for Alts. A & B): Naqua channel chanqe(5km) and widenninq (1km), Helechal channel wideninq (2km), etc.
10)Drainaqe canals (same for Alts. A & B): Arterial (cum retardinq basin) 33.3km, principal drainaqae 85 km
11)Roads(same for Alts. A & B: Main road rehab.(18.5km), main road construction (11.1km), branch (119.7km)

Imp. Period: Jun.1983-Dec.1988

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	15.50	FIRR1)	12.20
EIRR2)	17.20	FIRR2)	13.70
EIRR3)		FIRR3)	

Conditions and Development Impacts:

Conditions:
1) Double croppinq of rice:1st mid-Dec-mid-Feb to June-July & 2nd June-July to Nov.-Dec.
2) Paddy production targets:

	Present	Medium-term(6th yr.)	Long-term(after 6th yr.)
1st croppinq Area (ha)	3000	3000	3000
Paddy output (t)	7500	7900	8600
2nd croppinq Area (ha)	-	12000	15000
Paddy output (t)	-	41000-42000	64000-65000

3) Alt. A(IRRs 1) above) stores return flow in the retardinq basin for pumpinq up, while Alt. B(Irrs 2) above) draws water from Yuna River to offset the water deficit caused by return flow. The water intake is 6.6 cu.m/sec for Alt.A and 7.3 cu.m/sec for Alt.B.

Development impacts:
1)A net increase of paddy output(55000 t), and intensification of land use
2)Settlement of famers in newly opened paddy fields(increase of local pop. to 15,000)
3)Increased employment opportunities and qrowth of aqro-industries
4)The currently underdevelopment EL Pozo Area will emerqe as one of the major rice producinq areas, and contribute to the stabilization of paddy supply and foreiqn exchange saving.

5.TECHNICAL TRANSFER
1.Acceptance of four trainees
2.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)
May 11, 1983 OECF L/A Signed (8.825 bil.yen)

Jan.1984 - Nov.1984 Detailed design
Aug. 1985 Construction started
Aug. 1989 Construction completed

(FY1992 Overseas Survey)
No additional information.

2.MAJOR REASONS FOR PRESENT STATUS
As the project was of utmost priority in achievinq the country's self-sufficiency of food, it was quickly put into execution.

3.PRINCIPAL SOURCE OF INFORMATION
①②④

和名 アグリポ（エルポソ）地域農業開発計画

{F/S,D/D}

PROJECT SUMMARY (F/S)

CSA DOM/S 301/85

Compiled Mar.1988
Revised Mar.1994

I. OUTLINE OF STUDY

1.COUNTRY: Dominican Republic

2.NAME OF STUDY
Radio and Television Development Project

3.SECTOR
Communications & Broadcasting/Broadcasting

4.REFERENCE NO.

5.TYPE OF STUDY: F/S

6.COUNTERPART AGENCY
Radio Television Commission

7.OBJECTIVES OF STUDY
Expansion and improvemenc of educational radio and TV broadcasting

8.DATE OF S/W: Apr.1984

9.CONSULTANT(S)

10.STUDY TEAM

No.of Members 17

Period Aug.1984-Jul.1985(11 months)

Total M/M	Japan	Field
34.47	22.04	12.43

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Topographic cross-section mapping

12.EXPENDITURE

Total	112,659 (¥'000)
Contracted	98,721

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	12,338	730	11,608
2)			
3)			

(US$1=245yen=3.23pesos)

3.CONTENTS OF MAJOR PROJECT(S)

1)Broadcasting antennas
radio(FM) 1 set
TV(2DP) 1 set

2)Transmission equipment
radio(FM) 2 sets
TV 2 sets

3)STL(RTVD Santo Domingo - Aldela Bandela)
radio(FM) 2 sets of 960MHz transmitting and receiving equipment
TV&ESHF 2 sets of transmitting and receiving equipment

4)Local TV relay stations
replacement of receiving equipment at 8 TV relay stations

Imp. Period: .1989-.2000

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	13.80	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

Conditions:
1)Projection of school enrollments based on the population forecast(2000) and the improved rate of enrollment
2)Elimination of adult illiterate population (1985, 0.54 million) by 2000
3)Reduction of unenrolled children in primary school(from 0.25 million in 1985 to 70,000)

Development Impacts:
-Elimination of illiteracy among school children and adult population
-Contribution to advanced manpower training in various fields

5.TECHNICAL TRANSFER
Acceptance of trainees (JICA counterpart 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 project is implemented by FY 1990 Japanese Grant.

1991.6 E/N Signed. (527 million Yen)

(FY1991 Overseas Survey)
1991-1992 D/D
1992-1993 Scheduled to be constructed.

(FY1992 Overseas Survey)
1991.6 Construction started.
1992.7 E/N signed (740 million Yen)
1993.8 Construction is scheduled to end.

The first phase of construction is completed according to the schedule. The second phase has been implemented and scheduled to end in September, 1993.

(FY 1993 Overseas Survey)
1993.10 Construction work completed.
The government requested JICA to dispatch an expert related to this project.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 ラジオ・テレビ放送網拡充計画

{F/S,D/D}

PROJECT SUMMARY (F/S)

CSA DOM/A 302/86

Compiled Mar.1990
Revised Mar.1994

I. OUTLINE OF STUDY

1.COUNTRY Dominican Republic

2.NAME OF STUDY
Aguacate-Guayabo Agricultural development Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Dominican Agrarian Institute
National Institute of Hydraulic Resources

7.OBJECTIVES OF STUDY
The purpose of the study is to formulate an optimum agricultural development plan to evaluate its technial and economic feasibility.

8.DATE OF S/W Nov.1984

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

10.STUDY TEAM

No.of Members 11
Period Jun.1985-Aug.1986(15 months)

Total M/M	Japan	Field
56.12	20.52	35.60

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Geological survey

12.EXPENDITURE

Total	206,853 (¥'000)
Contracted	175,677

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Maria, Trinidad Sanchez, Duarte, Samana, Aquacate, Guayabo (200km from capital, 17,000 people,24,000ha)

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	42,839	20,648	22,191
US$1=3.12RD$ in 1986 2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
The purpose of this project is to promote agricultrure of the Aquacate-Guayabo area within the AGLIPO area.
This follows development of the El Pozo area where construction, as a first step of the AGLIPO Agricultural Development Plan, has already completed. The following facilities have been formulated in the Project.

- Headworks : 1
- Arterial drainage : 56km
- Training wall : 1
- Drainage gate : 1
- Drainage : 44 km
- Road : 180 km

Imp. Period: Jun.1986-Dec.1992

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: Yes

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

Conditions and Development Impacts:

[Condition]
- The development plan is focused on rice production. Through the consolidation of agricultural infrastructures as well as the introduction of a double cropping cultivation system with improved varieties of rice in new developing areas, an improvement in rice productivity is expected.
- So as to implement a double cropping system, with a view to attaining high level of agricultural production, irrigation and drainage canals and agricultural production infrastructure will be constructed. These facilities will become viable by a mitigation of flooding damage.

[Develpment Impact]
With the implementation of the present project, the under-developed Aquacate-Guayabo area will produce 12% of the total national production of paddy rice. Therefore, the project will also contribute toward food self-sufficiency and improve the balance of payments situation, creating new granary including El Pozo area and stimulating the development opportunity of swamps for the agricultural purpose.

(FY 1993 Domestic Survey)

5.TECHNICAL TRANSFER
1.Acceptance of trainees(2)
2.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)
This project is part of the AGLIPO 3 Areas Agricultural Development Plan. F/S has been conducted following the Elposo area('80/'82 F/S, '85/'90 completed).
The project was to be started following Elposo. However due to the delay in paying interest on Yen credit, further loans will not be made until consultation with the IMF or the Paris Club is completed.
The Dominican government realized the effectiveness of the Elposo project and has ranked this as the most important project.
From the latest information, the Dominican Government will comply the request of the Paris Club and promote the reconstruction of economic condition. Therefore, there is high possibility of implementation of this Project.

(FY1991 Overseas Survey)
The OECF loan was requested in 1987,1989 and 1990.

(FY1993 Overseas Survey)
OECF approved a loan on the project. However, L/A has not been signed yet.

2.MAJOR REASONS FOR PRESENT STATUS
Due to financial difficulties of the Dominican Government

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 アグアカテ・グァジャボ地域農業開発計画

{F/S,D/D}

PROJECT SUMMARY (M/P+F/S)

CSA DOM/S 201B/87

Compiled Mar.1990
Revised Mar.1994

I. OUTLINE OF STUDY

1.COUNTRY: Dominican Republic

2.NAME OF STUDY: Development Project of the San Pedro de Macoris

3.SECTOR: Transportation/Port

4.REFERENCE NO.:

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

6.COUNTERPART AGENCY: Ministry of Public Works and Communications

7.OBJECTIVES OF STUDY:
Formulation of Master Plan in the target year of 2000
Formulation of short-term development plan in 1995 and execution of feasibility study

8.DATE OF S/W: Feb.1986

9.CONSULTANT(S):
Overseas Coastal Area Development Institute of Ja
Nippon Tetrapod Co., Ltd.

10.STUDY TEAM

No.of Members 7

Period Sep.1986-Nov.1987(15 months)

Total M/M	Japan	Field
45.20	25.20	20.00

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:
Application of the local consultant for the soil investigation and measurement in the site survey

12.EXPENDITURE

Total	145,122 (¥'000)
Contracted	138,053

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA

2.PROJECT COST (US$1,000) (US$1=3.08pesos)

		Local Cost	Foreign Cost	
M/P	1)	65,000	21,000	42,000
	2)			
F/S	1)	47,000	15,000	32,000
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)

<M/P>
The study formulated a master plan (until 2005)
To handle 1.3 million tons, estimated in 2005, 7 wharves will be constructed.
1) Wharves depth -5m length 100m
-7.5m 260m
-11.0m 840m
2) Container Terminal 3) Ferry Terminal
4) Port Management Office 5) Maintenance Shop

<F/S>
To handle 1 million tons, estimated in 1995, 6 berths are located on the esastern side. Introduction of new cargo handling system and establishment of port managing body are proposed.
Short Term Plan (until 1995)
1) Wharves depth -5m length 100m
-7.5m 260m
-11m 630m
2) Container Terminal 3) Ferry Terminal
4) Port Management Office 5) Maintenance Shop

Imp. Period: Jan.1992-Dec.1994

4.FEASIBILITY AND ITS ASSUMPTIONS — Feasibility: Yes

EIRR1)	20.00	FIRR1)	7.00
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

<M/P>
[Development Impacts]
- Provision of the industrial infrastructure and development of the industrial free zone through port construction
- Stimulation of regional development in the five estern provinces, and alleviation of population pressures in the national capital (Saint Domingo)
- Coorination with relevant regional development plans for Eastern Region.
- Establishment overall port management body and clarification of duties.

[Prerequisites]
- The present teriff are applied.
- The project life is 25 years from 1994 until 2018

<F/S>
[Conditions]
Savings of ships' waiting costs and land transport costs are considered as benefits

5.TECHNICAL TRANSFER
1) OJT on soil investigation, and measurement
2) Training on methods and technology concerning port development 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)

The Government of the Dominican Republic could not reach an agreement with the IMF, and therefore has been unable to receive foreign finance.
1991.5 The government resumed negotiation with the IMF
1991.11 At the Paris club, it was settled with the total sum of US$1.8 billion . This project is included in the list of projects which the office of national economic planning consides to implement with OECF fund. (see an attached list)
The Vice-president of Dominican Republic is scheduled to visit Japan next April and to make requests for economic cooperations for this project as well as for other projects.

(FY 1991 Overseas Survey)
The Government of the Dominican Republic requested review of this study and the technical advise about the port development policy.

(FY1992 Overseas Survey)
The Dominican government has not yet used the M/P. The government is not looking for financial sources to support this project.

(FY1993 Overseas Survey)
Dominican Government think this project impossible.
The National Budget of 1994 did not include the project.

2.MAJOR REASONS FOR PRESENT STATUS
Worsened economic circumstancies necessitated the delay.
It is said that Japanese Embassy at Dominia is now active to provide various assistance after the settlement with the Paris Club by the Dominican government.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 サンペドロデマコリス港開発計画

{M/P+F/S}

PROJECT SUMMARY (F/S)

CSA DOM/A 303/90

Compiled Mar.1992
Revised Mar.1994

I. OUTLINE OF STUDY

1.COUNTRY Dominican Republic

2.NAME OF STUDY
Constanza Valley Irrigation Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
National hydraulic resources institute

7.OBJECTIVES OF STUDY
Feasibility study on the agricultural development in Constanza area

8.DATE OF S/W Nov.1988

9.CONSULTANT(S)
Pacific Consultants International

10.STUDY TEAM

No.of Members 9

Period Jul.1989-Mar.1990(9 months)

Total M/M	Japan	Field
37.57	15.20	22.37

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Geological survey

12.EXPENDITURE

Total	154,454 (¥'000)
Contracted	125,169

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Constanza Valley area situated about 140km north-west of the capital

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	16,657	7,268	9,389
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

The project aim at improving present irrigation condition for the Constanza Valley the improvement of the present irrigation scheme. Main faicilities of the Project are as follows.

1. Dam - central core type rockfill dam
   Height of dam: 30m, Length of crest: 162m,
   Dam volume: 214,000 cub.m, Total storage capacity: 1,050,000 cub.m
2. Head works and head race
   Construction of Mountain stream diversion works and Head race.
   Discharge: 1.0 cub.m/S
3. Canal
   New construction and rehabilitation: 67.35km
   Related facilities: Diversion works/Confluence works, Chute, Small intake gate, Farm pond, Siphon, Aqueduct

Imp. Period: Oct.1990-Apr.1993

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes/No

EIRR1)	15.17	FIRR1)	13.24
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

The project effect is based on the introduction of the profitable crops, such as garlic, vegetable, etc., through the improvement of the irrigation scheme.

Development Impacts:
1. Crop production benefit
   Crop benefit at economical price: US$4,400,000/year
2. Socio-economic effects
   (1) Contribution to national development plan
   (2) Stable supply of vegetables
   (3) Expansion of exportation
   (4) Increase of employment opportunity
   (5) Improvement of living standard
   (6) Economic stimulation

5.TECHNICAL TRANSFER
1. On the job training
2. Counterpart's training of 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)

It may be restricted to urgent Canal Works of which construction cost is estimated about 1,000 million Yen.

(FY1991 Overseas Survey)
The Dominican Republic requested grant aid to the Japanese Government in 1990.

(FY1993 Overseas Survey)
Jan. 1994 E/N Grant Aid 5,460 million yen.
This project will be completed by 1996.
Dominican side budgeted US$ 158 thousand for the project.

2.MAJOR REASONS FOR PRESENT STATUS
As the grant aid of Television Project executing was expanded, it was automatically postponed.

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 コンスタンサ地域畑地灌漑計画

{F/S,D/D}

PROJECT SUMMARY (Basic Study)

CSA DOM/S 501/92

Compiled Mar.1994
Revised

I. OUTLINE OF STUDY

1.COUNTRY Dominican Republic

2.NAME OF STUDY
Groundwater Development Project in The Western Region

3.SECTOR
Social Infrastructures/Water Resource Development

4.REFERENCE NO.

5.TYPE OF STUDY Basic Study

6.COUNTERPART AGENCY
Instituto Nacional de Aguas Potables y Alcantarillados

7.OBJECTIVES OF STUDY
To evaluate the development potential of groundwater resources in the four western provinces.
To prepare water resources development plan including rural water supply plan for the 158

8.DATE OF S/W Feb.1990

9.CONSULTANT(S)
Kokusai Kougyo Co., Ltd.
Sumiko Consultants Co, Ltd

10.STUDY TEAM

No.of Members 13
Period Oct.1990-Sep.1992(24 months)

Total M/M	Japan	Field
72.86	14.16	58.70

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

Water Quality Test	107 samples
Drilling Test and Pumping Test	27 sites
Pilot Water Supply System	1 site

12.EXPENDITURE
Total 562,538 (¥'000)
Contracted

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Four Provinces
- MONTE CRISTI - ELIAS PINA
- DAJABON - INDEPENDENCIA

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	10,217	3,399	6,818
2)			

3.CONTENTS OF MAJOR PROJECT(S)
Proposed rural villages are selected from 158 villages which were requested by Government of Dominican Republic. The Facilities required in this project are as follows:

a.	Hand Pump System	40 villages (131 wells)
b.	Motor Pump System	7 villages (4 wells)
c.	Reservoir Pond, Purification Booster Pump System	2 places (7 villages)
d.	Water Conveyance System	2 sets (4 villages)

4.CONDITIONS AND DEVELOPMENT IMPACTS
In accordance with the water shortage conditions, urgency for water supply development, and the difficulties in water development works, the (95) target villages were categorized into 3 classes.

A: Villages with grave water shortage conditions and very urgent need for water development.

B: Villages with a relatively low demand for water development in comparison with (A).

C: Villages covered by the existing urban water supply services; with inaccessible roads; with mountain stream water as their sole water source; with a household population of less than 20; with small groundwater development potential; and those located at the northern mountains of Independencia.

5.TECHNICAL TRANSFER
Technical tranafer are carried out by each experts of the study team through the field survey.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
(FY1993 Overseas Survey)
The Government requested grant aid for Japaneses Government.
The Government used this study to install windmills in the proposed villedges.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②

和名 西部地下水開発計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (F/S)

CSA ECU/A 301/82

Compiled Mar.1990
Revised Dec.1992

I. OUTLINE OF STUDY

1.COUNTRY Ecuador

2.NAME OF STUDY
Proyecto Catarama de desarrollo agricola

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Ministry of Agriculture and Livestock
Guayas River Basin Development Study Committee (CEDEGE)

7.OBJECTIVES OF STUDY
Formulation of agricultural development in Catarama River Basin

8.DATE OF S/W Nov.1980

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

10.STUDY TEAM

No.of Members 10
Period Sep.1981-Jul.1982 (11 months)

Total M/M	Japan	Field
46.59	26.56	20.03

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	195,483 (¥'000)
Contracted	171,422

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Catarama of Los. Rios Province (19,860ha, Population 7,880 persons)

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	43,900	22,872	21,028
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)

Major facilities	Sibimbe	Catarama	Las Piedras	Northwest
1)Net irrigation area:	3,470ha	2,330ha	290ha	1,950ha
2)Diversion weir:	Heiqht3.5m,lenqth50m	-	Heiqht3.0m,lenqth35m	-
3)Pumping station:	-	66cu.m./min.x3pumps	-	-
4)Main irrg.canal:	17.94km	2.98km	-	-
5)Secondary irrg.canals:	27.02km	23.74km	5.7km	-
6)Main drainage canals:	16.6km	-	-	-
7)Secondary drain.canals:	33.7km	24.6km	-	47.3km
8)Project cost(US$1,000):	23,600	11,700	1,000	7,600

Imp. Period: May.1982-Nov.1988

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: Yes

EIRR1)	16.40	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
Conditions: Sibimbe: Annuals: Paddy double crop 505ha, paddy and other annuals 1,535ha, dry season paddy 205ha; Perennials: cocoa 410ha, coffee 130ha, cocoa/coffee mixed 260ha, pasture 425ha; Catarama: Paddy and other annuals 800ha, paddy monocropping 440ha, cocoa 750ha, pasture 750ha;Las Piedras: Cocoa and coffee 290ha; Northwest: paddy in hilly areas 440ha, rainfed paddy in lowlying areas 740ha,dryseason maize 135ha, dry season soybean 45ha, pasture rainy season 100ha, dry season 340ha.
Development Impacts: (1) increase of farmers' net income(2.5 times), (2)contribution of agricultural production(amounting to 160 million sucres)to regional development, (3)increased employment, (4)stimulation of agro-industries, and(5) improvement of living environment and health.
* Economic and financial IRRs are 16.1% and 11.1% for Sibimbe, 15.8% and 11.2% for Catarama, 12.3% and 7.6% for Las Piedras, and 14.1% and 9.2% for Northwest.

5.TECHNICAL TRANSFER
1) OJT of counterparts
2) JICA counterpart 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)

Feb.1988 OECF L/A signed (8,594 million yen)
Sep.1990~Aug.1991 D/D undertaken (3,860 ha in Sibimbe and 2,590 ha in Catarama)
Oct.1992 start of construction
Feb.1994 Construction to be completed

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②④

和名 コスタ地区カタラマ川流域農業開発計画

{F/S,D/D}

PROJECT SUMMARY (M/P+F/S)

CSA ECU/S 201B/86

Compiled Mar.1990
Revised Mar.1992

I. OUTLINE OF STUDY

1.COUNTRY Ecuador

2.NAME OF STUDY
Guayaquil City Urban Transportation Plan

3.SECTOR
Transportation/Urban Transportaion

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Traffic Commission of the Province of Guayas

7.OBJECTIVES OF STUDY
Formulation of comprehensive transport plan (M/P) and F/S on an elevated urban railroad project.

8.DATE OF S/W Aug.1981

9.CONSULTANT(S)
Tonichi Engineering Consultants, Inc.
Central Consultant, Inc.

10.STUDY TEAM

No.of Members	15		
Period	Mar.1982-Aug.1983(32 months)		
	Oct.1985-Dec.1986		
Total M/M	Japan	Field	
149.70	68.80	80.90	

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	467,044 (¥'000)
Contracted	430,000

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Guayaquil urban area /Total study area 41,200 ha, F/S Study area 13,200 ha / population 1.52 Million ('85)

2.PROJECT COST (US$1,000) (US$1=120Suc.Âj)

			Local Cost	Foreign Cost	
M/P	1)	162,000	58,000	104,000	
	2)				
F/S	1)	139,000	50,000	89,000	
	2)	218,000	89,000	143,000	
	3)				

3.CONTENTS OF MAJOR PROJECT(S)
<M/P>
1) Road Network Plan
- Extension of proposed Road Network 71.8km long
- Improvement of Intersections at 17 locations

2) Extension of MRT Plan
- Construction of a railway urban transportation system
- Extension of 51km, and 51 stations

Total cost above pertains to the elevated railroad project (15 km) (1982 prices)
<F/S> An elevated urban railroad project, starting from the big bus terminal in the northern part of the city, through the central area, and till the southern residential area where is highly populated.

Route length 15km No. of stations 12
No. of demand 401,000/day The total cost pertains 1) to the Phase I of the eleveated railroad project (9.1 km), and 2) to the total railroad project (15 km) (1985 prices).

Imp. Period: Jan.1988-Dec.1992

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	18.60	FIRR1)	13.30
EIRR2)	17.80	FIRR2)	12.80
EIRR3)		FIRR3)	

Conditions and Development Impacts:
<M/P><Conditions> Proposed projects and their implementation schedule are based on the share of the budget in the last few years and in addition, another monetary resources. Therefore, these funds should be alloted to the projedcts as planned in the study.
<Effect>
-Solution of traffic bottlenecks in the central area
-Improvement and activation of the public transportaion system
-Improvement of mono-centralization of the center
-Development of commercial subcenters
<F/S><Conditions> Since the railroad demand is diverted mainluy from the existing bus trips and the railroad is much more predominant than buses, it is necessary to make them coexist effccientry and restructure the bus network.
<Impacts> Decrease of travel time, relief of traffic conqestion on streets, improvement of public transport system, promotion of urban development on the wayside.

5.TECHNICAL TRANSFER
Acceptance of trainee: 4 staffs (2 for M/P, 2 for F/S)
Teaching of technique from traffic survey to economic analysis, 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)
<M/P> It was proposed in the master plan to undertake a feasibility study on (i) the elevated railway (15km) through the city from north to south, and (ii) the ring road in the city and improvement of the related roads. After the consultion, it was formally agreed to undertake the study on the railway project. Owing to the procedural delay, however, the feasibility study was undertaken one year after the completion of the master plan phase of the study.

<F/S> The elevated railway project was adopted as one of the national projects in the five-year development plan (1986 - 1990). The Government of Ecuador applied for an OECF loan in 1986. Because the application was made before the completion of this feasibility study, the OECF appraisal was put off till next year.

Owing to the decline in price of crude oil and primary commodities, the economic conditions seriously deteriorated in 1987, making it difficult to secure funds for local currency component of the project. At the same time, the newly elected President initiated the review of the country's economic policy. No action has been taken to pursue the application to the OECF yen credit.

2.MAJOR REASONS FOR PRESENT STATUS
Because of prices of crude oil and agricultural products decreasing, the government cut down the budget and the new president reviewed the economic policy and national projects.

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 グアヤキル市都市交通計画調査

{M/P+F/S}

PROJECT SUMMARY (Basic Study)

CSA ECU/A 501/88

Compiled Mar.1990
Revised Dec.1992

I. OUTLINE OF STUDY

1.COUNTRY: Ecuador

2.NAME OF STUDY: Estudio forestal de la region noreste

3.SECTOR: Forestry/General

4.REFERENCE NO.:

5.TYPE OF STUDY: Basic Study

6.COUNTERPART AGENCY: The Ministry of Agriculture and Livestock

7.OBJECTIVES OF STUDY:
Guideline of forest managment and development plan will be prepared.
This aims at the contribution to development of socio-economic condition of northeastern region in Ecuador.

8.DATE OF S/W: Oct.1984

9.CONSULTANT(S):
Japan Forest Technical Association
Kokusai Kougyo Co., Ltd.

10.STUDY TEAM

No.of Members	17	
Period	Jun.1985-Dec.1988(42 months)	
Total M/M	Japan	Field
152.00	77.00	75.00

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY:
Aerial photography

12.EXPENDITURE

Total	421,774 (¥'000)
Contracted	412,493

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA:
An area of 10,000 sq.km Napo Province of Northeastern region

2.PROJECT COST

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

3.CONTENTS OF MAJOR PROJECT(S):
Guideline of forest manaqement and development plan was prepared and followinq proposals were prepared based on this quideline.
1.Arranqement of forest and forestry policy
2.Arranqement of basic related information to forest operations
3.Promotion of re-afforestation and aqro-forestry
4.Promotion of study, development and diffusion of re-afforestation technology.
5.Promotion of development policy of forestry related industry
6.Concentration of land use and advanced utilization of land.

4.CONDITIONS AND DEVELOPMENT IMPACTS:
There will be effective impacts by forest development as follows:
1.Increase of timber supply
2.Contribution to national finance
3.Development of regional socio-economy 4.Extension to other regions

5.TECHNICAL TRANSFER:
1.Acceptance of trainee; 2.Mapping; 3.Aerial photoqraphy interpretation and trace it to the map;4.Equipment donation and quidance of how to use it; and 5.Seminar for development survey was held

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)
(FY 1991 Oveseas Survey)
The study prepared 36 plates of maps with three different scales (1:20,000, 1:50,000, and 1:100,000), which are beinq used as bases for planninq forest resource utilization, forestry projects, afforestation programs, etc.

2.MAJOR REASONS FOR PRESENT STATUS:

3.PRINCIPAL SOURCE OF INFORMATION:
①②

和名 北東部林業資源調査

{M/P,Basic Study,Other}

PROJECT SUMMARY (F/S)

CSA ECU/A 302/91

Compiled Mar.1993
Revised

I. OUTLINE OF STUDY

1.COUNTRY Ecuador

2.NAME OF STUDY
Small-scale Fishing Port Development Project in Manabi Province

3.SECTOR
Fisheries/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Ministry of Industries, Commerce, Integrated and Fishery (MICIP)

7.OBJECTIVES OF STUDY
To carry out master plan study for small-scale fishery development in MAHABI province and to carry out feasibility study for prtority project identified in the master plan.

8.DATE OF S/W Apr.1990

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

10.STUDY TEAM

No.of Members 8

Period Dec.1990-Mar.1992(15 months)

Total M/M	Japan	Field
41.40	14.60	26.80

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
- Oceangraphic Survey; - Geological Survey
- Fish Village Socio-economic Survey
- Topographic Survey; - Water Results Survey

12.EXPENDITURE

Total	173,028 (¥'000)
Contracted	159,503

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Manta City, Manabi Province.

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	18,164	9,377	8,787
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
Main Port Facilities:
For small boat Landing: 50m Outfitting Idling 400m
For middle boat Landing: 90m Outfitting Idling 70m
Training Jetty: 430m
Planned Functional Facilities:
- Refrigerator 30tons
- Fish Handling Space 400sp.m
- Freezer 100tons
- Fish Gear Repairing Space 1000sq.m
- Blast Freezer
- Warehouse 100sq.m
- Work Shop 100sq.m
- Fuil Oil Tank and Others

Imp. Period: Apr.1992-Dec.1994

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes/No

EIRR1)	3.60	FIRR1)	
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
EIRR has been calculated from the project cost and the tangible benefits resulting from the proposed fishing port construction.
1) Reduction in physical distribution costs resulting from saving in loading and unloading time.
2) Improve freshness of fishery products through increased ice supplies.
3) Increased foreign exchange earnings through the expansion of marine product exports.
4) Stabilization of consumes prices as a result of lower distribution costs for fishery products.
5) Generation of more employment opportunities through the construction of modern processing plants for fishery products.
6) Improved commercial functions of Manta Port resulting from the proposed fishing port construction.

5.TECHNICAL TRANSFER
On the job trainning executed during the study in Ecuador to the counterparts from MICIP & SRP. Training in Japan executed to the Technical Advisor of SRP(Subsecretary for Fisheries Resources).

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)
MICIP is deliberating on the possibility of applying for a Japanese grant.

(FY 1993 Domestic Survey)
No progress since 1993.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 マナビ州零細漁港建設計画

{F/S,D/D}

PROJECT SUMMARY (F/S)

CSA ECU/S 303/92

Compiled Mar.1994
Revised

I. OUTLINE OF STUDY

1.COUNTRY Ecuador

2.NAME OF STUDY
Water Resources Development for Hhone-Portoviejo River Basins

3.SECTOR
Social Infrastructures/Water Resource Development

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Centre de Rehabilitacion de Manabi (CRM)

7.OBJECTIVES OF STUDY
Water development project and elaboration the optimum water resources development on the water transl basin scheme in and around area.(Water supply, irrigation water, fresh water for shrimp firming)

8.DATE OF S/W Nov.1990

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

10.STUDY TEAM

No.of Members 15

Period May.1991-Dec.1992(20 months)

Total M/M	Japan	Field
69.50	15.00	54.50

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
- Topographic data and mapping
- Geographical survey
- Water quality analysis

12.EXPENDITURE

Total	321,820 (¥'000)
Contracted	304,467

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Chone-Portoviejo River Basins of the central zone in Manabi state

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	193,675	32,220	141,455
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
1. Tunnel
(1) Daule Peripa Dam-La Esperanza Dam Trans basin scheme (L=8.3km, Q=18m3/s)
(2) La Esperanza Dam-Poza Honda Dam scheme (L=10.7km, Q=4m3/s)
(3) Poza Honda Dam-Mancha Grande River Scheme (L=3.9km, Q=4m3/s)

2. Pumping station, Hard tank, open channely, syphon
(La Esperanza Dam-Poza Honda Dam Trans Basin Scheme)
Pump station (Q=16m3/s, H=76m)
Open channel (Q=16m3/s, L=5.4km, Section: Trape Zadial)

Imp. Period: Feb.1995-Aug.1995 Sep.1995-Feb.2000 Mar.2000

4.FEASIBILITY AND ITS ASSUMPTIONS Feasibility: Yes/No

EIRR1)	11.40	FIRR1)	9.30
EIRR2)	12.80	FIRR2)	10.60
EIRR3)	13.90	FIRR3)	11.60

Conditions and Development Impacts:
* Proposed Imp. Period 1) Tendering and costruction award, 2) Main costruction works, 3) commissioning.

(Conditions)
1. Possibility of making the construction cost according to construction schedule.
2. Establishment of the system that organises the executive and support of the project,
3. Completion of the present carring-out development project of water resources in targetled area.
4. Adopting measure for environmental aspects including wastewater treatment in the basen of Portoviejo River.

(Effect)
-Municipal and industrial water demands by the year 2020 (187 MCN/year)
-Irrigation water demands for the order of 8,750ha (571 MCM/year)
-Fresh water demand for shrimp farming by the year 2020 (102 MCM/year)
- River maintenance flow (24 MCM/year)

5.TECHNICAL TRANSFER
- Provision of opportunity to participate practical work for counterparts staffs at site.
- Official study tour at dam project sites and related institution through 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)
Based on the review of the submitted final report of feasibility study on the water resources development for chone-Portoviejo River basin, the Government of the Republic of Ecuader requested technical assistance for design and construction of the project to the Government of Japan in August, 1992.
The President of the republic of Ecuader expressed strong committment for the realization of the project at the inarqural address, do that implementation of the project will be highly expected.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①

和名 チョネ・ポルトビエホ川流域水資源開発計画

{F/S,D/D}

PROJECT SUMMARY (M/P+F/S)

CSA GTM/S 201B/84

Compiled Mar.1990
Revised Mar.1994

I. OUTLINE OF STUDY

1.COUNTRY Guatemala

2.NAME OF STUDY
Flood Control Project (Archiguate and Pantaleon Rivers)

3.SECTOR
Social Infrastructures/River & Erosion Control

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Ministerio de Comunicaciones, Transporte y Obras Publicos

7.OBJECTIVES OF STUDY
Formulation of a long-term flood control plan and identification of a short-term plan

8.DATE OF S/W Apr.1983

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

10.STUDY TEAM

No.of Members 12
Period Jul.1983-Feb.1985(20 months)

Total M/M	Japan	Field
99.28	16.01	82.77

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Measurement

12.EXPENDITURE

Total	266,215 (¥'000)
Contracted	239,058

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Archiguate and Pantaleon Rivers

2.PROJECT COST (US$1,000)

M/P	1)	63,200 Local Cost	27,000 Foreign Cost	36,200
	2)			
F/S	1)	20,500	9,000	11,500
	2)	21,800		
	3)			

3.CONTENTS OF MAJOR PROJECT(S)
[Sediment Control Works]<M/P>The design sediment discharge of 30-year(M/P),10-year (F/S) return period is 1.94 million cu. m(M/P), 710 thousand cu.m (F/S) in the Achiquate river basin and 3.25 million cu.m(M/P), 1,206 thousand cu.m(F/S)in the Panteleon river basin. The sediment control plan is made up of sediment control dams of cobble stone concrete type. It is proposed that three dams for the Achiquate river basin and five dams for the Pantaleon river basin be conducted to fully requlate the design sediment discharge:<F/S> Sediment control can be accomplished at a limited number of sites by high dams which have the highest sediment requlation effect. Sediment control is made up of two dams of cobble stone concrete type for Achiquate river and one dam of the same type for Pantaleon river.
[Flood Control Works]<M/P> To protect the target assets from flood damage, partial river improvement works are employed for the project.
For Achiquate river, the flood control works consist of river channel improvement in two stretches for the CA-2 road bridge and the railway bridge and for the urban area in Finca La Trinidad, respectively, and a ring levee around the urban area in Finca La Barrita. For Pantaleon river, river channel improvement will be undertaken for the protection of the CA-2 road bridge and the national railway bridge. The total length of river improvement are 11.0 km and 3.4km in the Achiquate and the Pantaleon rivers, respectively. The ring levee is constructed over 5.0 km around Finca La Barrita. Riparian facilities such as revetment, groundsill, etc., will be installed to maintain the function of the proposed improvement works. The design flood discharge are 1,200m3/s(M/P), 950m3/s(F/S) for the Achiguate river and 1,150m3/s(M/P).

Imp. Period: .1986-.1990

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

EIRR1)	7.30	FIRR1)	
EIRR2)	4.40	FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
<M/P> (30-year return period) The total area inundated due to floods of the Achiquate and the Pantaleon rivers is estimated at about 16,000 ha. Out of the inundated area, the area of 3,271 ha including 2,054 houses may be saved from inundation by a flood of less than 30-year return period by implementing the long-term plan. The economic annual benefit under the proposed long-term plan, which will accrue during the period of economic life of the project, is estimated at US$ 3,478 thousand, while EIRR is 5.1%.
<F/S> (10 year return period) The area which may be saved from the inundation by flood of less than 10-year return period by implementing the urgent plan is estimated at 291 ha together with 28 houses.
The economic annual benefit of the project under the urgent plan is estimated at US$ 1,465 thousand while EIRR is 7.3%.
(FY 1993 Domestic Survey)

5.TECHNICAL TRANSFER
Periodical lecture meeting on the river engineering for the 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)
Because of the low EIRR, the Government of Guatemala assigned lower priority to the proposed project.
The Government reviewed the study and applied to Japanese grant aid in March 1991, but was not successful.

(FY1991 Overseas Survey)
The Ministry considers that the proposed project is high in urgency and hopes to obtain financial assistance from Japan. The Ministry expects that the project be implemented in conjunction with the conservation of the upper basin of Archiquate River.

(FY1993 Overseas Survey)
Application for Grant Aid was made in March 1991, however project cost was far beyond the limit of grant aid of Japanese Government and the implementation of the project is suspended. Anual budget of the agency is approximately 6.5 million US$ and almost all anual budget is spent for maintenance and repair work of existing road. Moreover serious flood damage of other rivers, such as river Samara of Retalhueu province has been observed and the priority of the project is ranked low.

2.MAJOR REASONS FOR PRESENT STATUS
<M/P> Because the arterial road and railway cross the two rivers, it is crucial to ensure the safety of the bridges through effective flood control measures.
<F/S> Owing to the budgetary constraints, it is difficult to allocate government funds to the proposed project which would not have an immediate impact on the productive sectors.
Owing to the budgetary constraints and huge project cost, it is difficult to allocate government funds and the priority of the project proposed has been

3.PRINCIPAL SOURCE OF INFORMATION
①②③

和名 治水計画

{M/P+F/S}

PROJECT SUMMARY (Basic Study)

CSA GTM/S 501/86

Compiled Mar.1990
Revised Mar.1994

I. OUTLINE OF STUDY

1.COUNTRY: Guatemala

2.NAME OF STUDY
Ground Water Development Project

3.SECTOR
Social Infrastructures/Water Resource Development

4.REFERENCE NO.

5.TYPE OF STUDY: Basic Study

6.COUNTERPART AGENCY
EMPAGUA (Empresa Municipal de Agua de la Ciudad de Guatemala)

7.OBJECTIVES OF STUDY
To obtain water source for portable water supply for Guatemala City

8.DATE OF S/W: Dec.1984

9.CONSULTANT(S)
Chuo Kaihatsu International Corp.

10.STUDY TEAM

No.of Members 8

Period Jul.1985-Sep.1986(15 months)

Total M/M	Japan	Field
50.11	17.44	32.67

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Geological survey and boring

12.EXPENDITURE

Total	311,081 (¥'000)
Contracted	241,154

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Guatemala City, surrounding Guatemala City valley and adjacent northeastern area

2.PROJECT COST

(US$1,000)		Total Cost	Local Cost	Foreign Cost
(US$1=1Q)	1)	38,688	12,495	
	2)			

3.CONTENTS OF MAJOR PROJECT(S)

- Deep well excavation 38wells
- Water distribution facilities 34.2km
- Distribution tank 1,260cu.m-2,835cu.m
- Power distribution facilities 23,000m
- Existing well rehabilitation
- Work shop

4.CONDITIONS AND DEVELOPMENT IMPACTS

- Direct benefit is the qualitative and quantitative improvement of EMPAGUA's service.
- Indirect effects include (i)improved sanitation through clean water supply; (ii)reduced labor burden for women and children heretofore forced to carry water over long distances; and (iii) expanded employment opportunities through project related construction.

5.TECHNICAL TRANSFER
1) Counterpart OJT on the analysis of aerophotos, etc. 2) Training in Japan in F/S methodology

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

Dec. 1990	E/N of OECF loan (4,711 million yen)
Mar. 1991	OECF L/A Mission
Dec. 1991	L/A not signed because of the delay in formal approval at the Parliament
Jun. 1992	OECF L/A signed
Dec. 1993	Construction scheduled to begin
Oct. 1995	Construction scheduled to end

OECF finance:
1) Construction of 38 deep wells and related facilities
2) Rehabilitation of 22 existing wells

(FY 1993 Overseas Survey)
The following projects have been implemented so far.
1) Provision of water level meters and conducting regular water check-up tests for 64 wells, or 80% of the total of 80 wells owned by EMPAGUA.
2) Excavation of 17 new wells with domestic fund of Q 18 mil.
3) Study of optimal water supply and water supply/ distribution system in the Northern Area with a loan of $ 1mil. from France.

In addition, a part of the World Bank loan for Economic Modernization Assistance has been used to set up a plan to improve the organization and practice of EMPAGUA in such areas as management, finance, investment, fare system and staff training. The loan was also used to provide or rennovate 40,000 meters for domestic service pipes and procure seven automobiles.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②③④

和名 グァテマラ市地下水開発計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (F/S)

CSA GTM/S 301 ■88

Compiled Mar.1990
Revised Mar.1994

I. OUTLINE OF STUDY

1.COUNTRY Guatemala

2.NAME OF STUDY
Development Project of the Port of Santo Tomas de Castilla

3.SECTOR
Transportation/Port

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Port of Santo Tomas Authority

7.OBJECTIVES OF STUDY
Formulation of Stage III development plan

8.DATE OF S/W Dec.1986

9.CONSULTANT(S)
Overseas Coastal Area Development Institute of Ja
Yachiyo Engineering Co., Ltd.

10.STUDY TEAM

No.of Members 10

Period May.1987-Jul.1988(0 months)

Total M/M	Japan	Field
47.85	24.33	23.52

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	158,211 (¥'000)
Contracted	150,278

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Santo Tomas on the Caribbean coast

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	97,031	30,343	66,683
2)			
3)			

3.CONTENTS OF MAJOR PROJECT(S)
- Short Term Plan (Target year: 1995)

1) A container terminal
   - Length: 500 m (-11m)
   - Area: 25 ha
   - Handling equipment: 3 qantry cranes, 6 strand carriers, 1 forklift

2) A petroleum terminal
   - Length: 270 m (-11m)

3) Access Channel
   - depth: -11m
   - width: 80m
   - navigation aid system

Imp. Period: .1992~.1994

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes/No

EIRR1)	23.40	FIRR1)	7.30
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
Development Impacts:
1) Saving of the cost of waiting
2) Reduction of transport costs by the use of larger vessels
3) Reduction of transport costs by eliminating the need to use other ports
4) Establishment of efficient management and operation system for the new container terminal.
5) Introduction of appropriate maintenance system for cargo landing equipment.

5.TECHNICAL TRANSFER
Participation of counterparts in the 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)
(FY1991 Overseas Survey)
The report of the study was utilized by the Planning Unit and the Engineering Dept. of EMPORNAC. The project is considered high priority, and will be revived in the future.

(FY 1993 Overseas survey)
The 1989 OECF Loan Appraisal Mission proposed a loan on the condition that the project scale be reduced. However the Minister of Finance then in the fear of the country's inability of repay did not approve the acceptance of the loan.
Another loan request of $4.5 mil. has been made to Central American Bank of Economic Integration (CABEI) to finance 1)the enlargement of the container terminal, 2)construction of a container yard of 200,000 sq. meters, 3)provinsion of navigation aid facilities.
A D/D and an environmental assessment, prerequisite for receiving the loan, are scheduled to be conducted with domestic fund during FY 1994 (with budget of Q 2.5 mil. to 3 mil.). The loan is expected to be approved in the early 1995.
Meanwhile dredging of inland channel and the grounding of the terminal were completed with domestic fund of Q 1.1 hundred mil. bet. 12/92 and 7/93.
Furthermore the construction of Oil terminal with domestic fund of Q 1.5 mil. is considered to be carried out after mid-1995.

2.MAJOR REASONS FOR PRESENT STATUS
The negotiation on the project funding has been stalled because two ocher projects on which the E/Ns were already signed have not been processed due to the delay of the congressional approval.

3.PRINCIPAL SOURCE OF INFORMATION
①②③

和名 サント・トーマス港開発計画

(F/S,D/D)

PROJECT SUMMARY (F/S)

CSA GTM/A 301/88

Compiled Mar.1990
Revised Mar.1994

I. OUTLINE OF STUDY

1.COUNTRY Guatemala

2.NAME OF STUDY
Monjas Irrigation Project

3.SECTOR
Agriculture/General

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Ministerio de Agricultura, Ganaderia y Alimentacion

7.OBJECTIVES OF STUDY
Formulation of a water resource development and utilization plan to promote agricultural development in Monjas

8.DATE OF S/W Feb.1987

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

10.STUDY TEAM

No.of Members 11
Period Jul.1987-Jul.1988(13 months)

Total M/M	Japan	Field
61.01	21.50	39.51

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
Survey, geological survey, sample analysis, Installation of hydrography, testing of embankment material

12.EXPENDITURE

Total	201,930 (¥'000)
Contracted	179,719

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Jalapa, Monjas (Area 7,100ha, population 14,130, 150km from the capital)

2.PROJECT COST

(US$1,000) US$1=2.5Q		Total Cost	Local Cost	Foreign Cost
	1)	46,850	18,464	28,386
	2)			
	3)			

3.CONTENTS OF MAJOR PROJECT(S)

Irrigation area: 4,800 ha

Reservoir : Main dam: Height 49m Length 1,072m, capacity 2.63MCM
Sub dam : Height 31m Head work : Water Intake 4.3cu.m/s

Driving canal: 4.0 cu.m/s 9.5km

Diversion canal: South 3.28cu. m/sec 8km
North 2.23cu.m/sec 15.2km

Main canal: 1,526 cu.m/sec 18km

Latenal canal: 0.338 cu.m/sec 39km

Requlating pond : 3 units

* The cost is estimated in Oct. 1987 prices.

Imp. Period: Apr.1989-Sep.1995

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	18.50	FIRR1)	6.20
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:

Conditions: Pasture land will be transformed to farms with irrigation facilities, and mostly vegetables will be grown. The cultivated area will be doubled to 11,250ha, and the increase in crop will be 234%.

Development Impact: The visible benefit of this project is the increase in agricultural production. The annual profits will be 20,000,000Q when the planned output is realized.

The following social economic effects may also be expected: Contribution to national development plan, acquisition of foreign currency, stable supply of food, increase in employment opportunities, improved living standards, improved distribution and processing of agricultural products, correcting regional differences, tourism and economic stimulus.

5.TECHNICAL TRANSFER

1.Acceptance of trainees(2)
2.Instruction on geological soil and farm studies.
Input of numerical data using computers.

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 view of the high priority of the proposed project, the Government of Guatemala applied for Japanese Grant Aid in March 1989, but it was not successful due to huge project cost of $46.9 mil.

(FY1991 Overses Survey)
The ministry assigns high priority to the proposed project and plans to revive the request for Japanese Grant Aid in 1992.

(FY1993 Overseas Survey)
Priority of the project is stil ranked high and is the pot priority project among agricultural qprojects of Guatemalan government. The agency considers that project cost of 70,000 q/ha is almost 3 times as compara to standard project cost of 20,000/ha. 2 JICA experts were sent for 1 month to conduct complementary study and to find out measures to reduce the project cost1 The agency is still planning to apply grant aid and loan aid for the implementation of the project.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①②③

和名 モンハスかんがい計画

{F/S,D/D}

PROJECT SUMMARY (F/S)

CSA GTM/S 302/89

Compiled Mar.1991
Revised Mar.1994

I. OUTLINE OF STUDY

1.COUNTRY Guatemala

2.NAME OF STUDY
Development Project of La Aurora and Santa Elena Airports

3.SECTOR
Transportation/Air Transportaion & Airport

4.REFERENCE NO.

5.TYPE OF STUDY F/S

6.COUNTERPART AGENCY
Dirección General de Aeronáutica Civil (AGDC)

7.OBJECTIVES OF STUDY
Improvement and expansion of La Aurora and Santa Elena airports

8.DATE OF S/W Aug.1988

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

10.STUDY TEAM

No.of Members 8
Period Jan.1989-Feb.1990(14 months)

Total M/M	Japan	Field
46.72	27.65	19.07

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	180,576 (¥'000)
Contracted	169,031

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
La Aurora airport in Guatemala city and St.Elena airport in Peten City

2.PROJECT COST (US$1,000)

	Total Cost	Local Cost	Foreign Cost
1)	60,261	37,124	23,137
2)	18,815	6,688	12,127
3)			

3.CONTENTS OF MAJOR PROJECT(S)

(Emergency Programs)
1. Renovation of radar systems including installation of ASR/SSR equipment and renovation of CFR facilities at La Aurora.
2. Renovation of secondary power system at Santa Elena.

(Short-term Development)
1. Improvement of runway, taxiway and apron.
2. Improvement of drainage and other infrastructures.
3. Improvement and expansion of terminal buildings.
4. Improvement of aviation support facilities, including visual navaids.
5. Improvement of electrical power supply and other airport supporting facilities.

Note: Cost 1) is for La Aurora Airport and Cost 2) for Santa Elena Airport.

Imp. Period: .1991-.1993

4.FEASIBILITY AND ITS ASSUMPTIONS

Feasibility: Yes

EIRR1)	50.00	FIRR1)	16.00
EIRR2)		FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
1.To improve safety and operational capacity by improvement of runway, taxiway and apron
2.To improve safety and operational efficiency by drainage and other infrastructures improvement
3.To provide better services and meet traffic demand by improvement of terminal buildings
4.To prevent a near-miss by the improvement of navigation aid facilities (especially rader)
5.To improve safety and operational efficiency by improvement of electric supply and other airport supporting facilities

5.TECHNICAL TRANSFER
OJT during field survey periods, and training of 2 counterpart engineers invited by JICA and JTCA

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)
A definite schedule of implementation is not yet decided due to political and financial reasons.

(FY1991 Overseas Survey)
The DGAC restudied the proposed project and formulated a new project of reduced scale and cost, but has not yet decided on the schedule of its implementation due to political and economic reasons.

(FY 1993 Overseas Survey)
1) DGAC attempted to request an OECF loan for the short-team development program, but the Ministry of Finance turned it down because of the high project cost, and no further development along this line partly due to the policy change that places more emphasis on social sectors.
2) The GOG made a request for a 1000mil.yen Japanese Grant on the renovation of CFR facilities in 1990, but it has not been realized. Although studies were conducted by two Western engineering companies : by Westinghouse in late 1993 and Electronics in Feb. 1994, DGAC has concluded that the project is too large ($10 mil. to 15 mil,) to be carried out with domestic fund.
3) A small portion of the project such as provinsion of recording system and VHF telecommunication of the control tower has been implrmented with domestic fund.

2.MAJOR REASONS FOR PRESENT STATUS
As described above.

3.PRINCIPAL SOURCE OF INFORMATION
①②③

和名 国際空港整備計画

(F/S,D/D)

PROJECT SUMMARY (M/P)

CSA GTM/S 101/91

Compiled Mar.1993
Revised Mar.1994

I. OUTLINE OF STUDY

1.COUNTRY Guatemala

2.NAME OF STUDY
Comprehensive Urban Transportation System in Guatemala Metropolitan Area

3.SECTOR
Transportation/Urban Transportaion

4.REFERENCE NO.

5.TYPE OF STUDY M/P

6.COUNTERPART AGENCY
Guatemala Municipality

7.OBJECTIVES OF STUDY
To formulate a Master Plan on the comprehensive urban transportation system in Guatemala Metropolitan Area.

8.DATE OF S/W Nov.1989

9.CONSULTANT(S)
Yachiyo Engineering Co., Ltd.
Central Consultant, Inc.

10.STUDY TEAM

No.of Members 11
Period Jul.1990-Dec.1991(17 months)

Total M/M	Japan	Field
73.00	6.00	67.00

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY

12.EXPENDITURE

Total	390,260 (¥'000)
Contracted	329,276

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Guatemala Metropolitan Area 937 sq.km

2.PROJECT COST

(US$1,000)	Total Cost	Local Cost	Foreign Cost
1)	477,400		
2)			

3.CONTENTS OF MAJOR PROJECT(S)

1) Phase I (Immediate Action Projects)
a) Bus stop development b) Bus lane development c) Effective lane usage
d) Pavement marking development e) Side walk development
2) Phase II (Short Term Projects)
a) East-West corridor development b) Preriferico tramo development
c) Ave. Petapa Improvement d) 15 Ave. Improvement e) A part of intersectio improvement f) Busway (Ciudod Ral to Zona 4) development
g) Trafic control system development h) Parking card system development
i) Pedestrian mall development
3) Phase III, IV (Mid Term and Long Term Projects)
a) Eastern part of middlering road development b) Intersection improvement
c) Bus way development (Mixco to Centro) d) Bus center Zona 4 improvement
e) Extra-Urban bus terminal f) Bus inspection center construction
g) Trafic control system development h) Traffic safety park development
4) Long term Project
a) Outer ring road development b) Northern part of the middle ring road development c) Inner ring road improvement d) CA-9 (South) improvement
e) Ca-1 (East) improvement f) 13 Ave. 6A Ave. and 35 Ave, improvement
g) Boulevard sud improvement h) Bus way (Villa Nueva-Centro) development
i) Bus center zona 1 development j) Car parking development

4.CONDITIONS AND DEVELOPMENT IMPACTS

EIRR for the project of the M/P shows a very high ratio of 45.5% with the benefit of vehicle operating savings cost and passenger time savings.

EIRR by major projects is shown

No.	Project	EIRR (%)
1	Outer Ring Road (North)	20.8
2	Outer Ring Road (South)	33.4
3	Middle Ring Road	11.9
4	East-est Corridor	16.9
9	Ave. Hincapie	40.7
10	Ave. Petapa	47.6
17	Busway Development	22.4

(FY 1993 Domestic Survey)

5.TECHNICAL TRANSFER
On the job traing, counterpart training, and holding a seminar.

III. PRESENT STATUS OF STUDY RESULTS

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

(Description)

(1993 Overseas Survey)
Out of the 31 projects proposed in the study to be implemented by 2010, seven were selected, for which a feasibility study has been requested to Japan.

The following three out of 14 projects included in the Phase I and II are either completed or under implementation:
- 15 street improvement for 6 districts (budget Q600 mil.; construction bet. 9/91~4/94)
- improvement of 250 bus stops (budget Q300 mil.; construction bet. 1/94~12/94)
- improvement of road signs (budget Q700,000; construction period two years from 1/94)

A part (3 km) of the middle ring road, one of the four mid-term projects, is scheduled to start construction from November 1994 with budget Q700 mil. as public construction by the City of Guatemala. Construction of bridge and road improvement of Ave. Hincapie, amongst the 13 long-team profects, is on-going budget Q20 mil. Regarding the improvement of the traffic control system, a bill is submited to change the jurisdiction of traffic control from the Police Development to the City.

2.MAJOR REASONS FOR PRESENT STATUS

3.PRINCIPAL SOURCE OF INFORMATION
①③

和名 首都圏交通網整備計画

{M/P,Basic Study,Other}

PROJECT SUMMARY (M/P+F/S)

CSA GTM/S 202B/91

Compiled Mar.1993
Revised Mar.1994

I. OUTLINE OF STUDY

1.COUNTRY Guatemala

2.NAME OF STUDY
Solid Waste Management in Metropolitan Area of Guatemala City

3.SECTOR
Public Utilities/Urban Sanitation

4.REFERENCE NO.

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

6.COUNTERPART AGENCY
Public Service Bureau (DSP),
Municipal Public Cleaning Department (DLPM)

7.OBJECTIVES OF STUDY
-To Contribute the development of the systematic management of the solid waste in the Metropolitan area of Guatemala City
-To determine the possibility of the implementation of some first priority projects

8.DATE OF S/W .0

9.CONSULTANT(S)
CRC Research Institute, Inc.
Environmental Technologic Consultants Co., Ltd.

10.STUDY TEAM

No.of Members 12
Period Jun.1990-Sep.1991(16 months)

Total M/M	Japan	Field
70.88	24.40	46.48

11.ASSOCIATED AND/OR SUBCONTRACTED STUDY
TELECTRO S.A.(boring, measuring)
ACEROS AGRICOLAS E INDUSTRIALES S.A.(construction of containers)

12.EXPENDITURE

Total	286,892 (¥'000)
Contracted	271,975

II. SUMMARY OF STUDY RESULTS

1.SITE OR AREA
Guatemala City, Mixco City, Villa Nueva City, Chinautla City, Villa Canales City, Sta. Catarina Pinula City (350 sq.km, population 1,532,000 in 1990)

2.PROJECT COST (US$1,000)
US$1=Q5 =26.25yen

		Local Cost	Foreign Cost
M/P	1)	33,663	
	2)		
F/S	1)	7,910	
	2)		
	3)		

3.CONTENTS OF MAJOR PROJECT(S)
M/P(target year: 2000, estimated population:2,047,000)
1) Expansion of collection service
2) Improvement on final disposal
- Immediate conversion of the EL Trebol disposal site into a controlled landfill
- Construction of a new sanitary landfill
3) Institutional development and financial strengthening
- Concessions of collection service to private collectors
- Preventive maintenance and repair program
- Education and community participation programs
- Personnel training program
- Recycling and resource recovery program
- Institutional organization of the DSP
- Initiate metropolitan committee in charge of solid waste

F/S(planned year: 1996, estimated population:1,841,000)
1) Improvement of collection service in marginal areas(experiments on container collection and equipment management): Zone cocession to private collectors/ increased efficiency in operation/ improvement of collection service in isolated areas
2) Improvement of final disposal sites: EL Trebol landfill(existing) and a new sanitary landfill in Las Guacamayas
3) Institutional strengthening: Formation of a working group and a Metropolitan Solid Waste Committee/ increase of the SWM's budget/ a pilot program on sanitary education for residents,etc.

Imp. Period: .1991-.1996

4.FEASIBILITY AND ITS ASSUMPTIONS
Feasibility: Yes/No

EIRR1)	8.00	FIRR1)	
EIRR2)	20.00	FIRR2)	
EIRR3)		FIRR3)	

Conditions and Development Impacts:
Planning Conditions:
1) Service is for solid waste excluding hazardous materials
2) Real GDP growth annually: 4% for 1991-95, 3% for 1996-2000
3) Maintain and promote the dual system(government and private) of collection for 10 years
4) Maintain and promote resource recycling for 10 years
5) Community support is secured

Development Impacts:
1) Better service by private collectors
2) Expansion of area under collection service
3) Consensus-building among the residents to open a few landfill by demonstrating an improved EL Trebol
4) More Efficient operation and less illegal disposal
5) Stronger support system among the residents

5.TECHNICAL TRANSFER
During F/S period, the counterpart joined the sanitary education for residents through audio-visual aids, which worked very well.

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)
(FY 1993 Domestic Survey)
<M/P> Rooms for heavy machines,storehouse for parts and workers' houses have already been set up at the EL Trebol landfill and the scavengers have been living in the newly completed houses. The improvement scheme of the EL Trebol final disposal site has been started in May, 1993. The situation has been greatly improved since the equipments (4 bulldozers, 2 wheel-loaders, 4 dump-trucks for gravel transportation and 10 dump-trucks for refuse-collection) which had already been granted, were put in practical use. 2 experts were sent to the site for a month (from November to December, 1993) and gave on-the-spot instructions in land-filling, that contributed to the successful result.
<F/S> All the above equipments arrived in Guatemala City by the end of April, 1993 and a delivery ceremony was held on May 7. The instructions in operation and maintenance of bulldozers and those in operation of truck/wheel loader were given by experts for 10 days and 2 days respectively. The central vehicle maintenance factory which handles protection and maintenance of vehicles and heavy machines, electric circuit and lathe-procession of repair parts has been set up separately from the solid wastes section. Condition of stuff and finance has been much improved. Constant supply of parts, under this grant project, is expected to improve operation of the vehicles and machines considerably.
(FY1993 Overseas Survey)
Present status of each project is as follows.
- EL Trebol Landfill:Mar. 1993 Japanese Grant E/N 309 millin yen. This grant provided necessary equipment for the landfill.
Guatemala City is preparing four truck slopes, two office buildings and four truck scales by its own budget.
Now, the landfill is collecting garbages from all public area and most domestic area.
- ES Guayacames Landfill:Land acquisition trouble caused this project to delay.
- Privatization of Garbage Collection:The project was once implemented,but it is unsuccessful. Flowing step is not decided now.
- Approval System for Garbage Collection:The City introduced approval system on 239 private garbage trucks. The trucks have annually periodical inspection and area restriction.
- Sanitary Education:Video software provided by JICA was useful to enlighten adults and pupiles. Almost 250 thousand persons already have seen it.
- Metropolitan Garbage Committee:Established. However, unsuccessful function brought the Comittee to discontinue.
- Restructuring of Public Cleaning Department: The City established Advisory Committee. The Department will be restructured in 1995.

2.MAJOR REASONS FOR PRESENT STATUS
For the D/D has been completed or in progress.

3.PRINCIPAL SOURCE OF INFORMATION
③

和名 首都圏生活廃棄物処理計画

{M/P+F/S}