

(2) Cultivation Program

- 1) Rotation system
- 2) Cropping pattern
- 3) Variety selection
- 4) Fertilizer application program
 - Chemical fertilizer
 - Utilization of by-products
- 5) Weed Control
- 6) Pest and disease control
- 7) Mechanization program
- 8) Others

(3) Operation and Management

- 1) Farm organization and community development
- 2) Water Management
 - Organization
 - Management system
- 3) Soil Management
 - Sub-soiling
 - Erosion control
 - Soil improvement materials
 - Chemical-products
 - By-products.
- 4) Maintenance of Machinery
- 5) Labour Planning
- 6) Supporting Services
- 7) Others

(4) Agro-economy

- 1) Marketing of agricultural inputs and products
- 2) Household economy
- 3) Agro-industry
- 4) Agricultural cooperatives
- 5) Agricultural credit

4. Alcohol Production

- (1) Raw material procurement
- (2) Technologies of alcohol production
 - 1) Selection of extractive process of raw materials
 - 2) Selection of feedstock pre-treatment process
 - 3) Selection of fermentation process such as:
 - Batch process
 - Yeast recycle process
 - Continuous process
 - 4) Study on temperature range in fermentation
 - 5) Selection of distillation process (including dehydration process) in terms of:
 - Product quality
 - Alcohol content
 - Energy efficiency
 - 6) Selection of instrumentation system
 - 7) Study on developing markets for by-products
 - Bagasse
 - Separation and utilization of yeast
 - Recovered CO₂
 - 8) Examination for raising the operation ratio of plant
 - 9) Prospects of securing various fuels and determination of optimum fuel
 - 10) Examination of energy balance
- (3) Countermeasures for Environment
 - 1) Countermeasures for waste water
 - 2) Countermeasures for air pollution
 - 3) Countermeasures for noise, vibration and malodor
 - 4) Countermeasures for waste disposals
- (4) Outline of Alcohol Production Plant
 - 1) An overall scheme of alcohol production plant and determination of its capacity
 - 2) Outline of production facilities
 - 3) Features of other additional facilities (utilities,

W

safety measures, storage, loading facilities, plant offices, laboratories and others)

- 4) Operation ratio of plant
- 5) Features of transportation means for products and by-products
- 6) Features of facilities to treat waste water and industrial wastes

(5) Plant Management

- 1) Schedules of personnel required
- 2) Technical training schedules
- 3) Preventive measures against industrial accidents
- 4) Plant management
- 5) Maintenance controls

(6) Process Flow Sheet for the Alcohol Plant

(7) Concept Design of the Alcohol Factory

S. Economic and Financial Analysis

(1) Estimate of Investment Required for:

- 1) Development of farm land and infrastructure for transportation of the raw materials to the distillery
- 2) Construction of an alcohol distillery which includes:
 - Production facilities (material receiving, fermentation, distillation, utilities, storage tanks and waste water treatment facilities)
 - Other facilities related to plant safety, security and overall plant administration

- (2) Estimate of Operating Capital
 - (3) Cost Estimate for:
 - 1) Raw material
 - 2) Anhydrous alcohol
 - 3) Transportation
 - 4) Other by-products
 - (4) Estimate of Benefits
 - (5) Two Sets of Economic and Financial Projections over an Appropriate Period with and without Board of Investment Incentives including:
 - 1) Income statement
 - 2) Cash flow
 - 3) Balance sheet
 - 4) Rate of return analysis
 - 5) Break-even analysis
6. Implementation Schedule.
 7. Recommendation

IV. Study Schedule

- (1) The Government of Japan will dispatch a study team (hereinafter referred to as "the Team") through JICA within three (3) months after the preliminary survey.

(2) The Team will prepare and submit the following reports, including all related maps and plans, in English, within the time period indicated, to the Government of the Philippines:

- 1) Progress Report or Interim Report, at the end of the study for the selection of a raw material (Phase I) which will take four (4) months (20 copies).
- 2) Draft Final Report, at the end of the in-
4.5 months
depth study on the selected raw material (Phase II) which will take three and a half (3.5) months (20 copies).
- 3) Final Report, within two (2) months on the receipt of comments on the Draft Final Report (50 copies).

(3) Consultations between the Philippine and Japanese sides will be undertaken at the end of each Phase of the study.

(4) The Government of Japan will dispatch Advisory Groups during the Study for the purpose of supervision.

V. Roles of the Government of Japan:

1. The Government of Japan will dispatch the TEAM through JICA, and provide expertise.
2. The Government of Japan will extend the technical cooperation to transfer the technology related to this project for the Philippine counterparts through their participation in the study.
3. The Government of Japan will, in addition to the technical cooperation mentioned above, receive the Philippine

counterparts through the normal procedures under the Colombo Plan Technical Cooperation Scheme. The expense will be borne by the Japanese side.

VI. Roles of the Government of the Philippines

1. The Government of the Philippines through PNAC will designate a sufficient number of full-time counterparts, at least in the fields corresponding to the TEAM experts at the starting date of the Study.
2. The Government of the Philippines will arrange the TEAM's visits to relevant ministries, local governments and other public agencies and ensure that the Japanese TEAM have access to all relevant informations required for the completion of the Study.
3. The Government of the Philippines will contribute to cover the costs incurred on the following items:
 - (1) Suitable office with necessary office supplies and equipment
 - (2) Exemption from taxes, duties, and charges to be imposed on the equipment imported to the Philippines for the survey, the personal effects and incomes of the JICA experts, provided that such incomes are not derived from local sources.
 - (3) Local non-technical staff including secretaries, typists, draftsmen, and other personnel directly

related to the requirement of the Study.

(4) Part-time helpers (excluding students) for the field survey.

(5) Operation cost (drivers, fuel and other) of two to four cars.

4. The Government of the Philippines will provide all relevant study reports and available data as well as maps of scale 1/5,000 and aerial photographs to the TEAM. In case such maps are not available, necessary arrangements will be made in time to meet the above Study Schedule (IV).

5. The Government of the Philippines will permit the TEAM to conduct the field surveys upon request by the TEAM. The Government will also do the best efforts to ensure the security of the members of the TEAM during their stay in the Philippines.

SCOPE OF WORKS ON FEASIBILITY STUDY OF
THE MORAGAHAKANDA MULTIPURPOSE PROJECT

I. Introduction

In response to the request of the Government of the Democratic Socialist Republic of Sri Lanka (hereinafter referred to as "the Government"), the Government of Japan has decided to conduct a study of Moragahakanda Multipurpose Project under the Mahaveli Ganga Development Programme in accordance with the laws and regulations in force in Japan and the Japan International Cooperation Agency (JICA) (the official agency responsible for the implementation of the technical cooperation programme of the Government of Japan) will carry out the study.

The present document is prepared based on the suggestions in the Minutes which were signed by the Government and the Japanese Preliminary Survey Team for the Mahaveli Ganga Project on July 20, 1978 and the draft of scope of works contained in the report which was submitted by the Japanese Team on July 21st, 1978.

The document sets forth the scope of works in regard to the above-mentioned study which is to be carried out in close cooperation with the Government and authorities concerned.

II. Objectives of the Study

The study will be conducted in order to prepare the report which will verify the feasibility of the Moragahakanda Multipurpose Project covering about 56,000 ha (139,400 Ac.) of irrigable area including 27,000 ha (66,200 Ac.) of land reclamation and power generation with dam construction under the Mahaweli Ganga Development Programme.

The objectives of the study will be

- (1) to formulate the feasibility study for Moragahakanda Multipurpose Project.
- (2) to promote transfer of knowledge to the Government counterparts during the period of the survey.

III. Outline of the Study

The study is categorised into the field survey in Sri Lanka and the home works in Japan.

(1) Field survey

1) Collection of data and information as follows;

- a) Meteorological and hydrological data,
- b) Topographic maps and aerial photographs,
- c) Geological data
- d) Power demand and supply
- e) Soil and crops
- f) Agricultural infrastructure
- g) Agro-economy
- h) Socio-economy
- i) Power generation and transmission, and
- j) Others

- 2) Delineation of the irrigation areas on the basis of reconnaissance survey.
- 3) The following surveys and studies shall be conducted for the project area.
 - a) Meteorology and hydrology
 - b) Topographical survey at proposed sites for the major structures,
 - c) Geological investigation including a test pit and analysis for foundation of major structures,
 - d) Investigation and study of irrigation and drainage,
 - e) survey and study on diversion sites including of those for the storage dam and regulation reservoir,
 - f) Agro-economic survey,
 - g) Study on socio-economy and farmer's organization,
 - h) Agricultural and electrical survey, and
 - i) Data analysis to secure construction materials and to estimate the project cost.

(2) Home works

The following home works shall be conducted in accordance with the finding in the field survey

- 1) Preliminary design for the project plan,
- 2) Preparation of the implementation schedule for the plan,
- 3) Estimation of the project cost and benefit,
- 4) Economic evaluation for the plan.

IV. Reports

The JICA will prepare and submit the following reports;

1) Field report (20 copies)

Upon completion of the field works

2) Interim report (20 copies)

By the end of March 1979

3) Draft final report (20 copies)

Upon completion of the home works

4) Final report (50 copies)

Within one month after receipt of the comments to the above-mentioned draft final report

V. Implementation Schedule of the Study

Implementation schedule of the study is attached hereto as Annex I.

VI. Undertakings of the Government

To facilitate smooth performance of the field survey, the Government shall undertake the following;

(i) To arrange the provision of the following, the expenditure for which will be borne by the Japanese Feasibility Study Team (hereinafter referred to as "the Team"):

- a) accommodation for field and desk work.
- b) laborers for field survey.
- c) Jeeps with drivers.
- d) procurement and handling of explosives necessary for the investigation.

- (2) To carry out boring, grout test and digging of adits in cooperation with the Study Team.
- (3) To provide available existing data and materials including reports, papers, maps and aerial photographs necessary for the study, and permit "the Team" to retain copies thereof.
- (4) To provide the Government staff to fully cooperate with the Team and from time to time reviewing the work upon Team's request.
- (5) To give necessary permission required for the study of entering the Project area and for carrying out works which may require use of explosives at the country side.
- (6) To help in contacting the Governmental organizations for collection data and information or for cooperation and assistance required for the study.
- (7) To assure security of the study team members throughout the field works.
- (8) To exempt "the Team" from any taxes and duty which may be imposed on personnel, material and equipment to be brought into Sri Lanka by "the Team", provided it is exported out of the country after the completion of the assignment.

VII. Undertaking of the Government of Japan

For the purpose of the study, the Government of Japan will assist as far as possible;

- (1) to send a Japanese study team to conduct the survey and study
- (2) to provide the equipment necessary for the purpose of the survey and the study, and
- (3) to bear the charge of accommodation for the team.

ANNEX I TENTATIVE SCHEDULE

ITEM	1978		1979							
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
Confirmation of Scope of Works	I									
Field Survey	I									
Home Work										
Advisory Group				I		I				
Reports				I		I		I		I
								(Draft Report)	(Final Report)	
								(Interim Report)		

ANNEX I TENTATIVE SCHEDULE

ITEM	1978			1979						
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
Confirmation of Scope of Works	—									
Field Survey	—	—	—	—	—	—	—	—	—	—
Home Work				—	—	—	—	—	—	—
Advisory Group	—			—	—	—	—	—	—	—
Reports				(Field Report)		(Interim Report)		(Draft)		(Final Report)

Minutes of Discussions

on


The Scope of Works for the Feasibility Study on the
Agricultural Cooperatives Promotion Project in Thailand


The Government of Japan dispatched a mission to Thailand for discussion with authorities concerned on the Scope of Works for the Feasibility Study of the Agricultural Cooperatives Promotion Project in Thailand.

The mission, headed by Mr. Motonaga Ohto, arrived in Thailand on 12 July 1981 and had a series of discussion with the Director-General of the Cooperatives Promotion Department, Ministry of Agriculture and Cooperatives, and his staff on the Scope of Works. The officials of the Office of the Under-Secretary of State, and the Office of Agricultural Economics of the Ministry of Agriculture and Cooperatives, and the Department of Technical and Economic Cooperation also participated in the discussion at the final meeting, held on 15 July 1981.

The Scope of Works agreed upon between the mission and the authorities concerned of the Thai government is attached herewith for record.

Bangkok, July 15, 1981

Col. 
Surin Cholprasert
Director-General
Cooperatives Promotion
Department


Motonaga Ohto
Leader, the Japanese
Team for the Scope
of Works

Meeting between the Thai Authorities
and the Japanese Mission Team for
Promotion of Agricultural Cooperatives in Thailand
CPD Conference Room, July 15, 1981
At 14,00 hrs.

Agenda

1. Opening Statement by CPD Director-General.
 2. Adoption of Agenda.
 3. Presentation of the Scope of Works by the Japanese Team.
 4. Discussion on the Scope of Works.
 5. Presentation of the Minutes of Discussion by the Team.
 6. Discussion on the Minutes of Discussion.
 7. Others.
-

THE SCOPE OF WORKS FOR THE FEASIBILITY STUDY OF
THE AGRICULTURAL COOPERATIVES PROMOTION PROJECT
IN
THAILAND

I. Introduction

In response to the request of the Government of Thailand, the Government of Japan has decided to conduct a study on Agricultural Cooperatives Promotion Project in Thailand.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA") responsible for the implementation of the Technical Cooperation Programme of the Government of Japan, will carry out the study in close cooperation with the Cooperatives Promotion Department (hereinafter referred to as "CPD") and the Thai authorities concerned.

Basing on the Integrated Plan (Total System) for strengthening and promoting agricultural cooperatives which was recommended by the joint study in 1980, the Scope of Works is prepared and described the items to be studied, the time schedule of the study, and services and facilities to be provided by the Government of Thailand and the Government of Japan for the smooth and effective execution of the study.

II. Objectives of the Study

The objectives of the study will be;

- 1) to work out the concrete plan for promoting and strengthening a total of four (4) primary cooperatives as attached --

- 2) to undertake on-the-job training of the CPD officers and staff of cooperatives in the course of the study.

III. Outline of the Study

In order to achieve the objectives above-mentioned, the study will be carried out by the Joint Study Team consisted of the CPD and JICA and will be divided into three phases.

PHASE I (Study in Thailand)

The study will cover the following items.

- 1) Regional situation surrounding the respective primary cooperatives
 - a) General condition
 - b) Agricultural production flow
 - c) Infrastructure
 - d) Agricultural marketing
- 2) Administration
 - a) Organization
 - b) Members
 - c) Member communication
- 3) Activities
 - a) Credit business
 - b) Marketing & Purchasing
 - c) Farm guidance
- 4) Management
- 5) Education & training

PHASE II (Study in Japan)

- 1) to analyse and evaluate the results of the study of the primary cooperatives
- 2) to form the Draft of concrete plan for the promoting and strengthening of the primary cooperatives.

PHASE III (Finalization in Thailand) to finalize the development plan of the primary cooperatives

IV. Work schedule

Referred to the attached tentative work schedule

V. Reports

JICA will prepare and submit to the Government of Thailand the following reports in English during the course of study.

1) Inception report (15 copies)

This report will contain the detailed programme of the study with its schedule and will be discussed by the joint study team at the beginning of the study in Thailand.

2) Interim Report (15 copies)

This report will be submitted at the end of the study in Thailand.

3) Draft Report (30 copies)

This report will be submitted within two and a half ($2 \frac{1}{2}$) months after submitting the interim report.

4) Final Report (50 copies)

This report will be submitted within one (1) month after receiving comments from the Government of Thailand on the draft report.

VI. Undertaking of the Government of Thailand

In order to facilitate smooth performance of the study in Thailand, the Government of Thailand is requested;

- 1) to provide the data and information necessary for the study
- 2) to exempt the study team from taxes, duties for materials and equipment brought into Thailand by the team members for the study
- 3) to make arrangement of exemption of taxes, duties and levies incurred during the study by the team
- 4) to request the Ministries and other authorities concerned to cooperate with the team in smooth execution of the study

- 5) to designate the Thai members of the joint study team in the following fields of agricultural cooperatives
 - a) Marketing and purchasing business
 - b) Credit business
 - c) Management
 - d) Farm guidance
- 6) to provide the team with a suitable office necessary for conducting the study
- 7) to provide the team with transportation facilities necessary for conducting the study
- 8) to provide the security for the team members during the staying period

VII. Undertaking of the Government of Japan









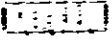

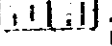
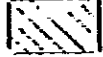
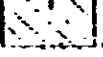
The Government of Japan is requested;

- 1) to transfer the knowledge and technology of cooperative development planning to the CPD officers and staff of agricultural cooperatives
- 2) to designate the Japanese members of the joint study team

Attached

Name of Cooperatives	Region	Province	District	Main Crop	Minor Crops
1. Doi-Saket Agri-Coop	North	Chieng-Mai	Doi-Saket	Soybean	Rice, Garlic
2. Koksamrong Agri-Coop	Central	Lopburi	Koksamrong	Maize	Rice, Sorghum, Beans, Cotton
3. Muang Nakhonrachasima Agri-Coop	Northeast	Nakhonracha- sima	Muang Nakhon- rachasima	Rice	Maize, Cotton
4. Hat-Yai Agri-Coop	South	Songkla	Hat-Yai	Rubber	Rice

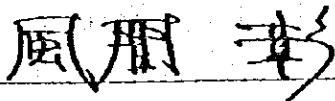
Tentative Schedule

	1981					1982	
	July	August	September	October	November	December	January
Visit of Scope of Works Mission							
Study in Thailand							
Study in Japan							
Submission of Reports							
Visit of Advisory Group							Finalization of the plan

SCOPE OF WORKS
FOR
PRE-FEASIBILITY STUDY AND FEASIBILITY STUDY
ON
THE UPPER PASAK MEDIUM SCALE IRRIGATION PROJECT
IN
THE KINGDOM OF THAILAND

The Japanese Scope of Works Mission (Japanese side), headed by Mr. AKIRA KAZAMA, Civil Engineer, Construction Department, Agricultural Improvement Bureau, Ministry of Agriculture, Forestry and Fisheries and the Thai Government (Thai side), headed by Mr. SUNTHORN RUANGLEK, Director General of the Royal Irrigation Department, Ministry of Agriculture and Cooperatives agreed the Scope of Works for Pre-Feasibility Study and Feasibility Study on the Upper Pasak Medium Scale Irrigation Project.

Signed in Bangkok
on 22nd April 1981



Mr. AKIRA KAZAMA
Leader of the Scope of Works
Mission for the Upper Pasak
Medium Scale Irrigation Project



Mr. SUNTHORN RUANGLEK
Director General
Royal Irrigation Department
Ministry of Agriculture and
Cooperatives

I. INTRODUCTION

In response to the request of the Government of Thailand (hereinafter referred to as "the Government"), the Government of Japan has decided to undertake the pre-feasibility study (A), and the feasibility study (B) on the Upper Pasak Medium Scale Irrigation Projects (hereinafter referred to as "the Project") as a part of the technical cooperation programme of the Government of Japan.

Accordingly, Japan International Cooperation Agency (JICA), the official agency responsible for the implementation of the Government of Japan's technical cooperation programme will be the executing agency, and carry out the survey under the cooperation with the Royal Irrigation Department, Ministry of Agriculture and Cooperatives and other authorities concerned.

The Scope of Works for the Projects is prepared on the basis of the results obtained from the Preliminary Survey for the Project, describing the items to be studied, implementation schedule, and services and facilities to be provided by the Government for the smooth execution of the study.

This indicates the outline of essential features of the (A) and (B) which is to be carried out in close cooperation with the Government and its authorities concerned. The area for the irrigated agricultural development in the proposed project would be as follows:-

Study (A)	1. Huai Yai	About 1,900 Ha
	2. Huai Khon Kaen	" 4,700 Ha
	3. Khlong Chaliang Lap	" 1,200 Ha
	4. Huai Saduang Yai	" 440 Ha

There is a possibility of changing the benefit area from the points of view of hydrological study and the effective use of the existing facilities.

Study (B) The area for (B) would be fixed after finishing (A)

II. OBJECTIVES OF THE STUDY

The objectives of the Study will be

1. to identify the order of priority (A)
2. to formulate an irrigated agricultural development project and identify the feasibility of the Project (B)
3. to determine the optimum water resources plan, and (B)
4. to undertake on-the-job training of the Government's officials in the course of the survey and study (A and B)

III. OUTLINE OF THE STUDY

The activities to be undertaken by the Study team will be divided into two stages;

- (1) Field Works in Thailand (A and B)
- (2) Home Office Works in Japan (A and B)

1. Field Works

The field works will cover the following items;

- (1) to collect and review the relevant existing data and information including:
 - a. Meteorology and hydrology (A and B)
 - b. Topographic map (A and B)
 - c. Soil (B)
 - d. Geology and geohydrology (A and B)
 - e. Irrigation and drainage (A and B)
 - f. Agriculture (A and B)

- g. Agro and regional economy and agricultural institution, etc. (A and B)
 - h. Flood control (A and B)
 - i. Others (A and B)
- (2) to select and delineate the Project Area on the basis of review of data and information and reconnaissance survey, (A and B)
- (3) to carry out field surveys in the Project Area including the following items;
- a. Meteorological and hydrological survey (A and B)
 - b. Topographical Survey at proposed site (A)
 - c. Soil survey with test pits and laboratory analysis (B)
 - d. Geology and geohydrology survey (A and B)
 - e. Irrigation and drainage survey (A and B)
 - f. Land use survey (B)
 - g. Agro-economic survey (A and B)
 - h. Agricultural survey (A and B)
 - i. Regional economic and agro-institutional survey (A and B)
 - j. Construction material and cost survey (A and B)
 - k. Flood control survey; and (A and B)
- (4) to determine the basic items for the project planning including (B)
- a. Project boundary acreage
 - b. Outline of the land use and cropping pattern
 - c. Water requirement
 - d. Irrigation and drainage canal networks
 - e. Estimation of yield
 - f. Agro-institutional Plan
 - g. Dam planning and design in view of irrigation, flood control
 - h. Alternative study

2. Home office works

Based on the results of the field works, the home offices works will be carried out for the Study of the following items;

- (1) to give a priority order to the proposed projects, (A)
- (2) to formulate an overall irrigated agricultural development plan including alternative plan for the Project Area, (B)
- (3) to prepare preliminary design of the major structures for the Project, (B)
- (4) to estimate the costs and benefits of the Project, (A and B)
- (5) to make economic evaluation for the Project, (B)
- (6) to prepare the implementation schedule of the Project, and (B)
- (7) to make recommendations. (A and B)

IV. WORK SCHEDULE

The work schedule is shown in the attached sheet.

To carry out the Study, JICA will provide the required experts of the survey team in accordance with the work schedule attached herewith.

V. REPORTS

The following reports will be prepared and submitted to the Government;

- (1) Plan of Operation (A and B)

Thirty (30) copies in English at the commencement of the field survey.

- (2) Interim Report (A and B)

Thirty (30) copies in English at the end of the field survey.

- (3) Draft Report (A and B)

Thirty (30) copies in English within one (1) months after the end of the home office work.

(4) Final Report (A and B)

Fifty (50) copies in English within two (2) months after receiving the comments of the Government on Draft Report.

VI. UNDERTAKING OF THE GOVERNMENT

To facilitate smooth performance of the field works, the Government is requested;

- (1) to provide the data and information necessary for the study, (A and B)*
- (2) to arrange for the quick and smooth customs clearance of the survey equipment and materials required for the field works, (A and B)*
- (3) to exempt from any taxes and duties imposed by the Government on the goods brought by the team members into Thailand for the purpose of the study, (A and B)*
- (4) to make arrangement of exemption of taxes, duties and levies incurred during the survey by the team, (A and B)*
- (5) to request the ministries and other governmental organizations concerned to cooperate with the team in smooth execution of of the survey, (A and B)*
- (6) to provide the necessary computer facilities free of charge, other equipments, etc., (A and B)*
- (7) to designate the counterpart personnel to cooperate with the team in conducting the Study effectively in the following field;*
 - a. General Planning Engineer (A and B)*
 - b. Irrigation and Drainage Engineer (A and B)*
 - c. Foundation Engineer (B)*
 - d. Dam Engineer (A and B)*

- e. Hydrologist (A and B)
- f. Geologist (A)
- g. Soil Experts (B)
- h. Agronomist (B)
- i. Agro-economist (A and B)
- j. Agro-institutional expert (B)
- k. Survey Engineer (A and B)

The number of counterpart personnel and their respective assignment periods should be decided by consultation of the team with Thai Authorities concerned prior to conducting the survey.

- (8) to provide the office space for the team, (A and B)
- (9) to make the necessary arrangement to obtain the permission of the Authorities concerned for the team to conduct the survey in the objective area, (A and B)
- (10) to guarantee the security of the team members during the surveying period, (A and B)
- (11) to make arrangement for dispatching a few counterpart personnel to Japan in the course of the home office works, and (A and B)
- (12) to extend close cooperation to the team in every respect for smooth execution of the Study. (A and B)

WORK SCHEDULE FOR THE MEDIUM SCALE IRRIGATION PROJECTS

Year	1981												1982														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan		
Medium Scale Irrigation Project	Visits of S/W Mission																										
									▲				▲							▲					▲		
	Visits of Supervisory Group																										
Field Works																											
Home Office Works																											
Submission of Reports																											
									▲				▲							▲						▲	

P.O. : Plan of Operation
I.R. : Interim Report
D.R. : Draft Report
F.R. : Final Report

SCOPE OF WORKS FOR FEASIBILITY STUDY

ON

THE SOUTH HOSAINIA VALLEY AGRICULTURAL DEVELOPMENT PROJECT

IN

THE ARAB REPUBLIC OF EGYPT

JULY, 1980

JAPAN INTERNATIONAL COOPERATION AGENCY

I. Introduction

In response to the request of the Government of the Arab Republic of Egypt (hereinafter referred to as "the Government"), the Government of Japan has decided to conduct the feasibility study of the South Hosiainia Valley Agricultural Development Project, (hereinafter referred to as "the Project"). The Japan International cooperation Agency (JICA) the official agency responsible for the implementation of the technical cooperation programme of the Government of Japan, will carry out the study.

This scope of works is prepared based on the suggestion in the minutes which were signed by the Government and the Japanese Preliminary Survey Team for the Project in March 1980 and the draft of the scope of works contained in the report submitted by the Japanese Preliminary Survey Team.

This indicates the outline of essential features of the feasibility study which is to be carried out in close cooperation with the Government and its authorities concerned.

II. Objectives of the Study

1. The study will be conducted in order to verify the feasibility of the Project which is a part of the El Salam Canal Project.
2. The study covers the area of 73,000 feddan (about 30,000 ha.) and includes mapping of the project area on a scale of 1/10,000 based on the existing 1/25,000 maps.
3. Technical transfer to the counterparts in the course of the survey.

III. Outline of the Study

The study will include field works and home works described as follows in accordance with the work schedule.

1. Field works

The field works will cover the following items;

- 1) collection and review of the relevant existing data and information including;
 - a. Topographical Maps
 - b. Meteorology and Hydrology
 - c. Geology
 - d. Soil
 - e. Irrigation and Drainage
 - f. Agriculture
 - g. Agro and Regional Economy and Social Structure
 - h. Social Infrastructure
 - i. Others
- 2) execution of reconnaissance survey for delineation of the Project area on the basis of review of data and information
- 3) execution of field survey in the Project area regarding the following items;
 - a. Topography
 - b. Hydrology
 - c. Land Use
 - d. Soil
 - e. Ground Water Elevation and Water Quality
 - f. Intake-rate and Permeability
 - g. Irrigation and Drainage Systems
 - h. Irrigation and Drainage Facilities
 - i. Land Reclamation and Settlement
 - j. Agronomy
 - k. Agro-economy
 - l. Fisheries and Livestock Industry
 - m. Regional Economy and Social Structure
 - n. Construction Materials and Costs

- 4) determination of the basic items for the project planning including;
 - a. Project Boundry and Acreage
 - b. Outline of the land use and Cropping Pattern
 - c. Water Requirement
 - d. Irrigation and Drainage Canal Networks
 - e. Leaching Method
 - f. Estimation of Yield
 - g. Social Infrasturcture

2. Home works

Based on the results of the field works, the home works will be carried out for the study of the following items;

- a. Preliminary design for the project
- b. Estimation of the project costs and benefits
- c. Economic evaluation for the project
- d. Preparation of the implementation schedule

IV. Reports

The JICA will prepare and submit to the Government following reports in English.

1. Plan of Operation

Twenty (20) copies of Plan of Operation at the commencement of the study.

2. Interim Report

Twenty (20) copies of Interim Report at the end of the field survey.

3. Draft Report

Twenty (20) copies of Draft Report at the end of the home works.

4. Final Report

Fifty (50) copies of Final Report within one (1) month after receiving the comments of the Government.

V. Work Schedule

To carry out the study, JICA will provide the required expertise of the survey team as work schedule attached (annex I.).

VI. Undertaking of the Government

To facilitate smooth performance of the field works, the Government is requested to undertake the followings:

1. Providing the data and information necessary for the survey and permitting the Japanese team to bring them back to Japan for the home works.
2. Taking necessary procedure for the quick and smooth customs clearance of the survey equipment and materials required for the execution of the field works, exempting from any taxes and duties imposed by the Government on those brought by the team members into Egypt.
3. Making good coordination to other ministries and governmental organizations concerned to cooperate with the team for smooth execution of the survey.
4. Designating counterparts personnel in the following fields to cooperate with the team for the effective execution of the survey.
 - a. General Planning
 - b. Irrigation and Drainage
 - c. Soil
 - d. Leaching
 - e. Topographical Survey
 - f. Hydrology
 - g. Agronomy
 - h. Agro-economy
 - i. Fisheries and Livestock
 - j. Settlement

The number of counterparts personnel and their respective

assignment periods should be decided by prior consultation of the team with Egyptian authorities concerned at the commencement of the survey.

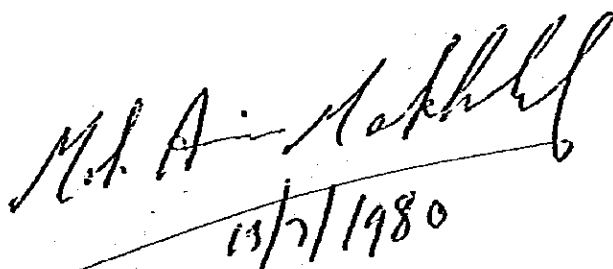
5. Providing the team with the office space and accomodation near the project site together with office space in Cairo, and laborers, four-wheel-driven vehicles with drivers for the field survey.
6. Making necessary arrangement to obtain the permission of the authorities concerned for the team to conduct the survey in the project area.

VII. Undertaking of the Government of Japan

The followings are to be undertaken by the Government of Japan:

1. Despatch of a Japanese team to Egypt to conduct the feasibility study for the Project.
2. Provision of Equipment necessary for the study of the Project.
3. Bearing direct costs incurred during the survey such as hotel accomodation, transportation, etc.
4. Presentation of reports on the Project.
5. Donation of two (2) four-wheel-driven vehicles and two (2) boats with engines for the field survey.

Done in Cairo on July 13th, 1980.


13/7/1980

Eng. Amin Makhlouf
First Undersecretary of State
Ministry of Irrigation
Arab Republic of Egypt



Mr. Nobuyoshi Ochiai
Leader of Japanese Team for
South Hosainia Valley Agri-
cultural Development Project

WORK SCHEDULE

	1980						1981		
	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Field works									
Home works									
Reports	Plan of Opera- tion				Interim Report			Draft Report	Final Report

(Draft)

SCOPE OF WORKS ON MASTER PLAN STUDY FOR HAJJAH PROVINCE INTEGRATED
RURAL DEVELOPMENT IN THE YEMEN ARAB REPUBLIC

1. INTRODUCTION

In response to the request of the Government of the Yemen Arab Republic, the Government of Japan has decided to conduct a study of Master Plan for Hajjah Province Integrated Rural Development in accordance with laws and regulations in force in Japan, and the Japan International Cooperation Agency (J.I.C.A.), the official agency responsible for the implementation of technical cooperation program of the Government of Japan, will carry out the study.

The present documents set forth the scope of works in regard to the above-mentioned study which is to be carried out in close cooperation with the Government of the Yemen Arab Republic and authorities concerned.

2. OBJECTIVES OF THE STUDY

The objectives of the study will be

- a) to formulate, on the basis of the result of the preliminary survey conducted by JICA, the Master Plan for the Integrated Rural Development (hereinafter referred to as "IRD") in Hajjah Province Area, and,
- b) to transfer technical knowledge to the Government staff of the Yemen Arab Republic concerned.

3. OUTLINE OF THE STUDY

The Master Plan study consists of the field works in Yemen and home works in Japan.

Field Works

a. Data collection and Investigation

1) Natural environment:

Topography, Geology, Soil, Meteorology, Hydrology and
Vegetation

2) Social and Economic survey:

Culture and History

Land use and Land classification

Industry and Marketing system

Social Infra-structures (Medical affairs, Education and etc.)

Infra-structures (Road, Irrigation and etc.)

3) Agricultural Survey:

Agricultural Infra-structures

Crops, Cultivation

Live stock

Farm management and Economy

Farmer's associations, Marketing of agricultural products

b. Plan formulation of the basic IRD

1) Objectives of the IRD

2) Selection and delineation of priority regions in the Province for the staged development

3) Study of development strategy and identification of possible projects

4) Preparation of investment program

Home Works

The Master Plan shall be established in accordance with the findings in the field works, and based on the results of items 3-b and the followings.

a) Data adjustment and Analysis

b) Assessment of capable resources and study of the obstructing factors for development

c) Preparation of the Master Plan incorporating the outcome of item 3-b.

4. REPORTS

The JICA will prepare and submit the following reports to the Government of the Yemen Arab Republic, according to the attached work schedul.

a) Interim Report

Twenty (20) copies in English at the end of Field study on Hajjah Province Area.

b) Draft Final Report

Twenty (20) copies in English after the completion of the field works.

The Government of the Yemen Arab Republic is requested to provide JICA with its comments after the receipt of the draft final report.

c) Final Report

Fifty (50) copies in English after the receipt of comments of the Government of the Yemen Arab Republic on the draft final report.

5. UNDERTAKINGS OF THE GOVERNMENT OF THE YEMEN ARAB REPUBLIC

To secure the smooth performance of the study, the Government of the Yemen Arab Republic is requested:

- a) to provide the study team with data and information necessary for the study.
- b) all equipments and materials are exempted from taxes and custom duties including personal effects.
- c) to assure security of the team during their services in Yemen.
- d) to assign the necessary number of counterpart personnel to cooperate and assist the team, as well as to be trained during the implementation of the project.
- e) to provide and arrange the study team with suitable office and accomodation in Hajja town for about 10 Japanese team member.
- f) to assist the team in hiring 4-wheel-drive vehicles.
- g) to make necessary arrangements for the study team bring the data and materials concerning the study into Japan.

7 Aug. 1978 at Sanaa

Moh. al-Arifi

Dr. A.W. Al Arifi
Deputy Chairman CPO

M. Kawamata

Mr. Masakuni Kawamata
Leader of the Japanese
Scope of Works Mission

WORK SCHEDULE

	1978												1979					1980					
	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
Scope of Works Mission	2W																						
Field Work Dry Season							3M																
Wet Season													4 M										
Home Office Work																							
Report																							
Draft Report Mission																							

SUMMARY OF DISCUSSION
ON
SCOPE OF WORKS FOR FEASIBILITY STUDY
ON
THE KAHLAA RICE FARM PROJECT
IN
THE REPUBLIC OF IRAQ

The Japanese Mission (JICA) and the Ministry of Agriculture and Agrarian Reform, the Government of the Republic of Iraq exchanged their views concerning the draft of the Scope of Works for Feasibility Study on the Kahlaa Rice Farm Project (hereafter referred to as "the Project") prepared by the Japanese Mission (refer to the Attachment I and II).

Both sides agreed with some changes of the draft of the Scope of Works (refer to the Attachment III) and the main items of understandings are as follows:

1. Plan of Approach:

The present document attached herewith as Attachment III sets forth only the scope of works for the feasibility study on the Project.

No decision has been made so far concerning the JICA - Japanese Government's participation in the detailed design survey to be conducted after the feasibility study, and the execution of the Project.

2. Name of the Project:

The name of the Project is the Kahlaa Rice Farm Project.

3. Purpose of the Project:

The purpose of the Project is to produce rice with modernized farming techniques in the state farm to be set up in Kahlaa, Misan.

The Project is one of measures taken by the Iraqi Government to meet the increasing demand for rice in the Republic of Iraq.

4. Outline of the Feasibility Study:

Both sides agreed to rearrange the description of the outline of the feasibility study as mentioned in the Attachment III.

The Iraqi side requested that any possible performances which seem to be necessary and suitable for modernized rice production including the introduction of superior varieties, fertilizer application, seed multiplication, farm mechanisation, rotation cropping, operation of trial farm training of machinery operators etc. should be examined in the feasibility study and executed in the Project.

5. On-the-job Training in the Feasibility Study:

The Iraqi side requested that the training of the Iraqi counterparts should be carried out in Japan as well as in Iraq during the period of the feasibility study. The training programme and the number of participants will be arranged in the study period.

6. Japanese Experts in the Field Works in Iraq:

Japanese experts who participate in the field works in Iraq at the first stage will be four in number. Their expertise will be development planning, irrigation and drainage, hydrology, and agronomy. The Iraqi side requested to increase the number of experts by an agriculturist.

The number of Japanese experts at the second and the third stage will be two and about ten respectively.

7. Review and Revision of Draft Final Report:

Both sides agreed to prolong the period of review and revision of draft final report by the Iraqi side from one month to two months in view of the extensive volume of the report.

The discussion for the draft final report will be held in Iraq between the Iraqi Authorities concerned and the Japanese Mission after one month's review by the Iraqi side.

8. Office Spaces and Lodging Accommodation for the Feasibility Study Team:

The Government will secure office spaces and lodging accommodation with furniture in Amara for the feasibility study team.

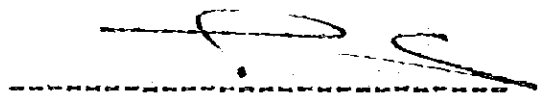
The cost for lodging accommodation will be borne by the Japanese side.

9. The Iraqi side undertakes to prepare topographic maps of scale 1/10000 within 3 months.

Ba ghdad
10 August, 1978



Mr. MASAKI SHIMIZU
Leader of the Japanese
Mission.



Mr. AMIR MAHDI
(Under Secretary)
Ministry of Agriculture
and Agrarian Reform
for Iraqi Side.

(ATTACHMENT I).

DATE and TIME : Tuesday, 1 August, 1978
9:00 AM - 11:00 AM
Thursday, 3 August, 1978
10:00 AM - 12:00 NOON
Tuesday, 8 August, 1978
10:00 AM - 12:00 NOON

ATTENDANTS :

J a p a n

Masaki Shimizu
Yasuyuki Sakai
Akira Murata

Embassy of Japan:

Toshimi Fujita
Yoshitake Miyamoto

I r a q

Haleem N. al-Rawi
Salah Eldeen Abdul Wahab
Dr. Tarik Tabra
Mutazim Alshamaa
Issam H. Hajjar
Hamid al-Saffar
Ritha S. Marouf
Adib Abdul Wahab
Shaban Mustafa

SCOPE OF WORKS
FOR
FEASIBILITY STUDY
ON
MISAN AGRICULTURAL DEVELOPMENT PROJECT
IN
THE REPUBLIC OF IRAQ

I. INTRODUCTION

In response to the request of the Government of the Republic of Iraq, the Government of Japan has decided to undertake the feasibility study on the Misan Agricultural Development Project in accordance with laws and regulations in force in Japan, and the Japan International Cooperation Agency (JICA), the official agency responsible for the implementation of technical cooperation programmes of the Government of Japan, will carry out the study.

The present document sets forth the scope of works in regard to the above-mentioned study to be carried out in close cooperation with the Government of the Republic of Iraq and authorities concerned.

II. OBJECTIVES OF THE STUDY

The objectives of the study will be:

1. to formulate, on the basis of the results of the preliminary survey conducted by JICA, the plan of Project with the emphasis on the rice production in the area covering 8,000 hectares in gross in Kahlaa, located about 20 kilometres southeast of Anara, Misan, and to verify the technical and economic feasibility of the Project, and prepare the reports.
2. to undertake on-the-job training of the Iraqi counterparts in the course of the study.

III. OUTLINE OF THE STUDY

1. Field Works in Iraq

(1) First Stage

(i) Data collection and analysis on the following items:

- a. Hydrology and meteorology
- b. Topography and land register
- c. Geology and soil
- d. Existing irrigation and drainage facilities
- e. Farm condition (bearing capacity etc.)
- f. Agriculture and agro-economy
- g. State farm's organisation, extension services, education and experiments

(ii) Preliminary field investigation as follows:

- a. Water sources survey
- b. Route survey of canals
- c. Groundwater survey
- d. Survey on irrigation water requirements
- e. Drainage survey
- f. Desalinisation survey
- g. Farm management survey

(2) Second Stage

(i) Field investigation as follows:

- a. Water sources survey
- b. Route survey of canals
- c. Groundwater survey
- d. Survey on irrigation water requirements
- e. Drainage survey
- f. Desalinisation survey
- g. Farm management survey

(3) Third Stage

(i) Field investigation as follows:

- a. Delineation of the Project area
- b. Detailed topographic survey
- c. Land use survey
- d. Farm plots survey
- e. Estimate of construction cost
- f. Farm management survey

- g. Survey on farming machinery
- h. Economic survey
- (ii) Plan formulation as follows:
 - a. Decision of the Project area and its planimetry
 - b. Irrigation scheme
 - c. Land consolidation scheme
 - d. Drainage scheme
 - e. Land use scheme
 - f. Desalinisation scheme
 - g. Farm management scheme
 - h. Scheme for state farm's organisation
 - i. Scheme for extension services, education and experiments
 - j. Scheme for farm mechanisation
 - k. Economic evaluation of the Project
 - l. Project implementation proposal

2. Office Works in Japan

(1) Data adjustment and analysis

Data collected and investigated will be adjusted and analysed.

(2) Plan formulation

Plan formulation mentioned in 1.(3)(ii) will be developed and completed.

3. On-the-job Training

On-the-job training of the Iraqi counterparts is carried out in the course of the study in view of the transfer of knowledge.

IV. WORK SCHEDULE

The work schedule of the study is attached hereto as Annex 1.

V. REPORT

JICA will prepare and submit following reports to the Government of the Republic of Iraq.

1. Progress Report

Twenty (20) copies in English at each end of the first and the second stage of the field works in Iraq.

2. Interim Report

Twenty (20) copies in English at the end of the third stage of the field works in Iraq.

3. Draft Final Report

Twenty (20) copies in English within three months after the completion of the field works.

The Government of the Republic of Iraq is requested to provide JICA with its comments within one month after the receipt of the draft final report.

4. Final Report

Fifty (50) copies in English with necessary review and revision after the receipt of comments of the Government of the Republic of Iraq on the draft final report.

VI. UNDERTAKINGS OF THE GOVERNMENT OF THE REPUBLIC OF IRAQ

To secure the smooth performance of the study, the Government of the Republic of Iraq is requested:

1. to provide the study team with necessary visas, residence and work permits, and travel permits if required for their stay in Iraq.
2. to provide the team with permits to enter the Project area and to perform surveyings, measurements, trial drilling/boring for soil surveys in the Project area.
3. To facilitate prompt clearance through customs of any equipment, materials and supplies required for their services in Iraq and to exempt tax and duties for them or to bear them by the Iraqi side.

4. to provide/lend the team with the necessary reports, maps and any other reference materials for the study.
5. to assign the necessary number of counterpart personnel to the team.
6. to provide the necessary number of labourers for the field works.
7. to provide the equipment, instruments as well as the manpower necessary for the survey and experiments in the field.
8. to provide office clerk(s) and typist(s) for routine office works and preparation of progress reports and interim report.
9. to secure office spaces and lodging accommodation with furniture for about 10 Japanese team members.
10. to provide the team with four 4 wheel-drive vehicles (including drivers, petroleum, and other necessary services for operation and maintenance).
11. to provide any other cooperation necessary for the study.

TENTATIVE SCHEDULE

Annex 1.

	1978			1979			1980			1981								
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1. Confirmation of Scope of Works																		
2. Field Works (1st Stage) Works (2nd Stage) in Iraq (3rd Stage)																		
3. Advisory Committee																		
4. Office Works in Japan																		
5. Preparation of Progress Reports																		
6. Preparation of Interim Report																		
7. Preparation of Draft Final Report																		
8. Draft Final Report Mission																		
9. Review & Revision of Draft Final Report																		
10. Preparation of Final Report																		

SCOPE OF WORKS
FOR
FEASIBILITY STUDY
ON
KAHLAA RICE FARM PROJECT
IN
THE REPUBLIC OF IRAQ

I. INTRODUCTION

In response to the request of the Government of the Republic of Iraq, the Government of Japan has decided to undertake the feasibility study on the Kahlaa Rice Farm Project in accordance with laws and regulations in force in Japan, and the Japan International Cooperation Agency (JICA), the official agency responsible for the implementation of technical cooperation programmes of the Government of Japan, will carry out the study.

The present document sets forth the scope of works in regard to the above-mentioned study to be carried out in close cooperation with the Government of the Republic of Iraq and authorities concerned.

II. OBJECTIVES OF THE STUDY

The objectives of the study will be:

1. to formulate, on the basis of the results of the preliminary survey conducted by JICA, the plan of Project with the emphasis on the rice production in the area covering 8,000 hectares in gross in Kahlaa, located about 20 kilometres southeast of Amara, Hisen, and to verify the technical and economic feasibility of the Project, and prepare the reports.
2. to undertake on-the-job training of the Iraqi counterparts in the course of the study.

III. OUTLINE OF THE STUDY

The activities to be undertaken by the study team will be divided into two phases:

- (1) Field Works in Iraq
- (2) Office-Works in Japan

1. Field Works in Iraq:

Data collection and field investigation as follows:

(i) Climate:

- a. Rainfall
- b. Temperature
- c. Humidity
- d. Evapo-transpiration
- e. Wind and others

(ii) Land:

- a. Area
- b. Topography
- c. Geology and soil
- d. Drainage and salinity control investigation
- e. Land use
- f. Farm condition (bearing capacity, ground water table, etc.) and others.

(iii) Water:

- a. Existing irrigation and drainage facilities
- b. Water quality
- c. Water availability
- d. Water requirements
- e. Flood, drought and others

(iv) Agriculture:

- a. Existing cropping items and patterns
- b. Existing farming method
- c. Extension service and experiments
- d. Post-harvest facilities

- e. Tools and machinery
- f. State farms, cooperative farms and others

(v) Marketing:

- a. Existing marketing system
- b. Crediting
- c. Pricing
- d. Storage, transportation, distribution and others

(vi) Construction:

- a. Supply of construction materials
- b. Mobility of construction machinery
- c. Availability and ability of contractors
- d. Construction cost and others

2. Office Works in Japan:

(1) Data analysis

(2) Plan formulation as follows:

- (i) State farm plan
- (ii) Land plan
- (iii) Irrigation plan
- (iv) Drainage plan
- (v) Salinity control plan
- (vi) Cropping plan
- (vii) Machinery requirements
- (viii) Buildings requirements
- (ix) Staff and labour requirements
- (x) Marketing system
 - a. Products utilization
 - b. By-products utilization
- (xi) Education and training plan
- (xii) Experiments plan
- (xiii) Extension service system

(3) Financial assessment as follows:

- (i) Construction cost of the Project
- (ii) Executing cost of the Project

(iii). Annual running cost of the Project

- (4) Economic evaluation of the Project
- (5) Project implementation proposal

IV. WORK SCHEDULE

The work schedule of the study is attached hereto as Annex 1.

V. REPORT

JICA will prepare and submit following reports to the Government of the Republic of Iraq.

1. Progress Report

Twenty (2) copies in English at each and of the first and the second stage of the field works in Iraq.

2. Interim Report

Twenty (2) copies in English at the end of the third stage of the field works in Iraq.

3. Draft Final Report

Twenty (2) copies in English within three months after the completion of the field works.

The Government of the Republic of Iraq is requested to provide JICA with its comments within two months after the receipt of the draft final report.

4. Final Report

Fifty (50) copies in English with necessary review and revision after the receipt of comments of the Government of the Republic of Iraq on the draft final report.

VI. UNDERTAKING OF THE GOVERNMENT OF THE REPUBLIC OF IRAQ

To secure the smooth performance of the study, the Government of the Republic of Iraq is requested:

1. to provide the study team with necessary visas, residence and work permits, and travel permits if required for their stay in Iraq.
2. to provide the team with permits to enter the Project area and to perform surveyings, measurements, trial drilling/boring for soil surveys in the Project area.
3. to facilitate prompt clearance through customs of any equipment, materials and supplies required for their services in Iraq and to exempt tax and duties for them or to bear them by the Iraqi side.
4. to provide/lend the team with necessary reports, maps and any other reference materials for the study.
5. to assign the necessary number of counterpart personnel to the team.
6. to provide the necessary number of labourers for the field works.
7. to provide the equipment, instruments as well as the manpower necessary for the survey and experiments in the field.
8. to provide office clerk(s) and typist(s) for routine office works and preparation of progress reports and interim report.
9. to secure office spaces and lodging accommodation with furniture for about 10 Japanese team members.
10. to provide the team with four 4 wheel-drive vehicles (including drivers, petroleum, and other necessary services for operation and maintenance).
11. to provide any other cooperation necessary for the study.

TENTATIVE SCHEDULE

Annex 1.

	1978												1979												1980		
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN									
1. Confirmation of Scope of Works																											
2. Field Works in Iraq (1st Stage) (2nd Stage) (3rd Stage)																											
3. Advisory Committee																											
4. Office Works in Japan																											
5. Preparation of Progress Reports																											
6. Preparation of Interim Report																											
7. Preparation of Draft Final Report																											
8. Draft Final Report Mission																											
9. Review & Revision of Draft Final Report																											
10. Preparation of Final Report																											

ADDENDUM TO THE PROPOSED WADI JIZZI STUDY SUBMITTED

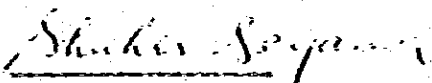
BY JICA

As a result of further meetings with the representatives of JICA, officials of the Ministry of Agriculture & Fisheries headed by His Excellency: Hassan Abdullah Al Korazza, Under - Secretary to the Ministry, and with Dr. R.H. Dale, Technical Secretary to the Water Resources Council, the following conclusions have been reached.

On behalf of the Ministry, the Under Secretary expressed the desire that the priority^{ies} should be:

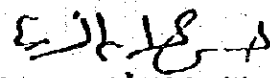
- (a) Firstly, that the Water Resources potential of the Wadi Jizzi basin and the relevant part of the Bahinah coast (Sohar area) should be studied.
- (b) that the conservation and use of surface-water, flood flows of wadi jizzi, by the design and construction of appropriate structures should be given detailed consideration.
- (c) that the assessment of the ground-water resources and the potential for their development should be examined in detail by the planning and execution of hydro-geological surveys including drilling, pumping tests, etc.,

The relevant Departments of the Ministry and the Public Authority for Water Resources are ready and willing to provide all available information and to cooperate in the above studies.



SYUHBI SEYAMA

Leader of the Scope of
Works Team for the
Feasibility Study on
the Wadi Jizzi Agricultural
Development Project.



HASSAN ABDULLAH AL KORAZZA,
Under Secretary of the
Ministry of Agriculture &
Fisheries.

THE SCOPE OF WORKS FOR THE FEASIBILITY STUDY ON THE
WADI JIZZI AGRICULTURAL DEVELOPMENT PROJECT IN THE
SULTANATE OF OMAN.

1. INTRODUCTION

In response of the request of the Government of the Sultanate of Oman (hereinafter referred to as "the Government"), the Government of Japan has decided to undertake the feasibility study on the Wadi Jizzi Agricultural Development Project (hereinafter referred to as " the Project") as a part of the technical programs of the Government of Japan.

Accordingly, Japan international Cooperation Agency (JICA), the official agency for the implementation of the Government of Japan's technical cooperation programs will be the executing agency and carry out the survey under the cooperation with the Oman's Authorities concerned.

The Scope of Works is prepared on the basis of the results obtained from the preliminary survey for the project and it is to describe the items to be studied, the implementation schedule, and the services and facilities to be provided by the Government for the smooth execution of the study.

2. OBJECTIVES OF THE STUDY.

The objectives of the study will be :

- 1) to formulate the Agricultural Development Project and verify the feasibility of the project.
- 2) to undertake on-the-job training of the Government's officials in the course of the survey and study.

3. OUT LINE OF THE STUDY

The study to be undertaken by the team will be carried out in two stages and each stage is consisted of the following:-

- 1) Field work in Oman.
- 2) Home Office Work in Japan.

1) Field work

The field work will comprise the followings:-

- a) Meteorology and Hydrology
- b) Topographical maps
- c) Soil Science
- d) Geology and Geohydrology
- e) Irrigation and Drainage
- f) Agriculture
- g) Agro and Regional Economy and Institution etc.,

2) To carry out field survies as follows:-

- a) Meteorological and Hydrological survey
- b) Topographical survey
- c) Soil survey and laboratory analysis
- d) Geological and Geohydrological survey
- e) Irrigation and Drainage survey
- f) Land use survey
- g) Agro-economic survey
- h) Agricultural survey
- i) Regional economic and Institutional survey
- j) Construction materials and cost survey.

2) Home Office work

Based on the results of the field work, the home office work will be carried out:-

- 1) to formulate the overall Agricultural Development plan for the Project Area.
- 2) to prepare the pre-design of the major structures for the project
- 3) to make the topographical maps of the Project site on the scales of from 1 : 2000 to 1 : 50,000
- 4) to estimate the cost and benefits of the Project
- 5) to make economic evaluation
- 6) to prepare the implementation schedule of the Project.

4. WORK SCHEDULE

In order to carry out the study, JICA will provide and supervise experts of the feasibility study team and will dispatch the advisory groups on the feasibility in accordance with the Work Schedule attached .

5. REPORTS

The following reports in English will be prepared and submitted to the Government.

- 1) Inception report
twenty (20) copies at the commencement of each stage of the field work.
- 2) Progress report
twenty (20) copies at the end of the first stage field work.
- 3) Interim report
twenty (20) copies at the end of the second stage field work.
- 4) Draft report
twenty (20) copies within one (1) month from the end of the second stage home office work.
- 5) Final report
fifty (50) copies within one (1) month after receiving the comments of the Government of the Draft report, Topographical maps (one set of originals, five sets of copies) are to be submitted as a comprising part of the final report.

6. UNDERTAKINGS OF THE GOVERNMENT

To facilitate smooth performance of the field work, the Government should be requested



- 1) to guarantee the security of the team members during the survey period.
- 2) to arrange for the quick and smooth customs clearance of the survey equipment and materials required for the field work.
- 3) to exempt from any taxes and duties imposed by the Government on the goods brought by the team members to Oman.
- 4) to provide the data and information necessary for the study

- 5) to make necessary arrangements for the permission of the authorities concerned for the team to conduct the survey in the Project area.
- 6) to grant permission to take aerial photographs (including landing and flight permission) and to take out the negative-film, the index maps of ground control points, bench marks, and their coordinates to Japan by the survey team.
- 7) to request the Ministries and other Governmental Authorities concerned to cooperate with the team in smooth execution of the study.
- 8) to provide the study team with an appropriate office space during the stay in Oman.
- 9) to designate the counterpart personnels to cooperate with the team in conducting the study effectively in the following fields;
 - a) General planning
 - b) Irrigation
 - c) Hydrology
 - d) Geology
 - e) Agronomy
 - f) Soil
 - g) Topographical Survey. (including aerial topographical survey)

cont. 4 page.

WORK SCHEDULE.

	1980			1981												1982	
	11	12		1	2	3	4	5	6	7	8	9	10	11	12	1	2
Scope of works																	
First stage																	
Possibility study.																	
Second stage																	
Topographic mapping survey.																	
Visiting Advisory Group																	
Submission of Reports																	

Remarks  Field work P.R. = progress report D.R. = Draft report I.R. = Inception Report
 Home work I.R. = Interim report F.R. = Final report

- 10) to make arrangements for dispatching four (4) counter part personnels to Japan in the course of the home office work.

Syuhfi Seyafa
SYUHFI SEYAPA

Leader of the Scope
of Works Team for the
Feasibility Study on
the Wadi Jizzi Agri-
cultural Development
Project.

Hassan Abdalla El Morazza
HASSAN ABDALLA EL MORAZZA.

Under Secretary of the
Ministry of Agriculture
and Fisheries.

See Addendum

7 Dec 1980

PROTOCOLE D'ACCORD
RELATIF A L'ELABORATION DE LA CARTE
TOPOGRAPHIQUE AU 1 5000^e DANS LE
CADRE DU PROJET DU DEVELOPPEMENT AGRI-
COLE DE KANKAN

I. Introduction

A la demande du Gouvernement Guinéen, le Gouvernement japonais a décidé de faire une étude sur le projet de développement agricole de la région de KANKAN dans le cadre du programme de coopération technique du Gouvernement japonais.

Avant de procéder à cette étude, une étude préalable a été exécutée pendant une période d'environ deux (2) semaines au mois de mars 1977 en vue de déterminer l'orientation à prendre dans l'exécution de l'étude de faisabilité du projet.

Le présent document, établi d'après les résultats obtenus à partir de l'étude préalable, a pour but de décrire les matières d'étude et le programme d'exécution

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destinés à l'établissement des cartes topographiques nécessaires à l'exécution de l'étude de faisabilité du projet ainsi que les services et facilités à prévoir par le Gouvernement Guinéen.

Par ailleurs, cette étude sur l'établissement des cartes topographiques sera effectuée sous la responsabilité de l'Agence de la Coopération Internationale du Japon, agence officielle responsable de l'exécution des programmes de la coopération technique du Japon avec les pays en voie de développement. Et ce en étroite coopération avec le Domaine de l'Economie et des Finances et les services nationaux guinéens compétents.

II. Objectifs de l'étude

La présente étude se composera des travaux mentionnés ci-dessous qui seront exécutés en cinq (5) mois, du mois de novembre 1978 au mois de mars 1979.

Les cartes topographiques, portant sur la région d'environ 400 Km² montrée à la Fig. 1 ci-jointe, seront

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dressées à l'échelle 1 : 5000, les courbes de niveau étant représentées avec un intervalle d'un (1) mètre.

III. Aperçu de l'étude

Les travaux d'établissement des cartes topographiques seront divisés en deux phases :

- (1) Enquêtes sur les lieux et
- (2) Travaux au Japon

Les opérations individuelles sont comme suit :

(1) Enquêtes sur les lieux

a. Détermination des points de contrôle

les points de contrôle nécessaires pour dresser les cartes topographiques au 1 : 5000 seront déterminés au moyen du levé par polygones.

b. Nivellement

En utilisant les repères de nivellement existants (de premier ou second ordre) sera exécuté le nivellement nécessaire pour dresser les cartes

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topographiques au 1 : 5000.

c. Rassemblement de documents

La répartition de la région concernée d'après l'utilisation de surfaces, la végétation etc. s'interprétera à l'aide des photographies aériennes. Pour les limites administratives et les noms de lieu, on obtiendra les documents y afférents des autorités du Gouvernement Guinéen.

(2) Travaux au Japon

a. Triangulation aérienne

La triangulation aérienne sera réalisée par la méthode analytique.

b. Restitution

La restitution sera réalisée au 1 : 5000, les courbes de niveau étant représentées avec un intervalle d'un (1) mètre en utilisant un appareil de restitution stéréographique. Le format sera de 100 cm X 70 cm.

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c. Dessin

Le dessin sera réalisé par la méthode de traçage sur le support polyester stable en utilisant le manuscrit de restitution.

IV. Rapports et résultats finaux

Pendant les travaux rapports périodiques mensuels à adresser au Ministère du Domaine de l'Economie et des Finances sur l'état d'avancement des travaux sur le terrain.

Les rapports et résultats finaux suivants seront soumis au Gouvernement Guinéen par le Gouvernement japonais après l'achèvement de tous les travaux.

- (1) premier original de la carte topographique au 1 : 5000 en 1 exemplaire
- (2) deuxième original en 1 exemplaire
- (3) Tirage de la carte topographique au 1 : 5000 en 20 exemplaires

V. Calendrier d'exécution des travaux

l'annexe 2 ci-joint indique le calendrier d'exécution



des travaux d'étude.

**VI. Services et facilités à prévoir par le Gouvernement
Guinéen**

- a. Fourniture des documents et des renseignements
nécessaire à l'exécution des travaux d'étude.
- b. Proapt dédouanement des équipements et appareils
requis pour l'exécution d'étude lesquels seront
apportés en Guinée par notre mission chargée des
travaux d'étude et toute exemption des droits de
douane et des taxes sur ceux-là et les objets
personnels appartenant aux membres de la mission.
- c. Permission d'emporter tous les documents concernant
les travaux d'étude hors de la Guinée. Sur auto-
risation accordée par le Ministre du Domaine de
l'Economie et des Finances sur demande écrite.
- d. Exemption des impôts payables suite à l'exécution
des travaux d'étude.
- e. ^bObtention des autorités concernées de la coopération
aux travaux d'étude.

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- f. Désignation en faveur de la mission d'une contrepartie ayant des attributions administratives.
La période de désignation de celle-ci sera décidée au cours de la réunion devant être tenue au début des travaux d'étude.
- g. Mise à la disposition des chauffeurs, des gardiens, des manoeuvres etc. nécessaires aux travaux d'étude.
- h. Permission d'utilisation du télémètre électronique, du télémètre électro-optique, de la radio et de walkie-talkie. Sur autorisation accordée à cet effet (autorisation demandée avec tous les renseignements requis par écrit)
- i. Fourniture du bureau requis pour l'exécution des affaires par les membres de la mission.
- j. Permission d'accès aux lieux d'étude et assurance de libres activités nécessaires à l'exécution des travaux.
- k. Garantie de la sécurité des membres de la mission.
- l. Libre disposition des devises déposées dans un compte.

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Non-application de la restriction du change de devise
ouvert à cet effet à la B C R G que la mission intro-
duira en Guinée de l'extérieur.

m. Autorisation d'approvisionnement à SOCOMER.

VII. Modification

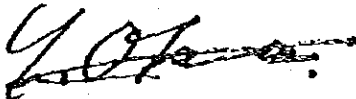
Dans le cas où, au cours de l'exécution des travaux
d'étude, des modifications seraient jugées utiles par
les deux parties pour faciliter l'accomplissement des
travaux, elles pourront être apportées au présent
document par consentement mutuel.

Fait à Conakry le 26 octobre 1978

POUR LA J I C A

YOSHIYASU OKA

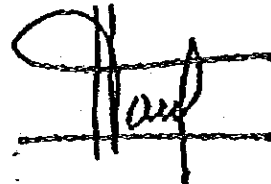
Chef de mission JICA
l'Agence Japonaise pour la
Coopération Internationale



POUR LE GOUVERNEMENT GUINEEN

Ismaël TOURE

Ministre du Domaine de
l'Economie et des Finances



ギニア人民・革命共和国カンカン地区 農業開発フーズビリティースタディー 調査実施要領

I 序

日本国政府は、ギニア国政府の要請に基づき、日本国政府の技術協力の一環としてカンカン地区農業開発計画調査を実施することを決定した。この調査の実施に先立ち、1977年3月から4月にかけて約2週間事前調査を行い、F/S調査の実施についての方針を検討した。

この実施要領は、事前調査の結果により取りまとめられたものであり、F/S調査の内容と実施スケジュールおよびギニア国政府への便宜供与依頼の内容等について記したものである。

なお、このF/S調査は、日本国政府の海外技術協力の実施機関である国際協力事業団が農林水産省の協力のもとに責任をもって行う。

II 調査の目的

事前調査の結果に基づきミロ川流域約9,000haを対象に農業開発計画を策定し、経済的、技術的見地からプロジェクトの実施可能性を検討すること及び調査を通じ、ギニア国政府技術者の養成を行うことを目的とする。

III 調査概要

調査は次の二つの段階に分けて実施する。

- 1 現地調査
- 2 日本での諸データの処理

各作業内容は次の通り

1 現地調査

- | | |
|----------------|-------------|
| a 計画地域内の踏査 | b データの収集、分析 |
| c 地質、農土壌調査 | d 水文調査 |
| e かんがい・排水計画の策定 | f 農業開発計画の検討 |
| g 農業経済調査 | h その他必要事項 |

2 日本での諸データの処理

- a 経済、社会面から流域開発のマクロ的検討
- b 現地調査に基づき、流域の水資源、土地資源の評価
- c プロジェクト対象面積の確定
- d 作付体系とかんがい用水量の確定
- e 市場整備計画
- f かんがい、排水計画

- g 水管理計画
- h 農業及び營養計画の策定
- i 事業費の算定
- j 便益の算定
- k 経済評価及び財務評価

Ⅳ 報告書

報告書は次の通りギニア国政府に提出する。

1 現地調査報告書

現地調査報告書（仏文）20部を現地調査終了時に提出する。

2 最終報告書草案

主報告書（仏文）及び、付属書（仏文）をそれぞれ20部1980年3月末までにギニア国政府に提出する。

3 最終報告書

日本国政府は、主報告書（仏文）及び付属書（仏文）をギニア国政府提出のコメントに沿って修正，加算した上でそれぞれ30部1980年6月末までにギニア国政府に提出する。

Ⅴ 調査実施工程

予定する調査実施工程は、（付1）に示したとおりである。

Ⅵ ギニア国政府に依頼する便宜供与

- 1 調査の実施に必要な資料及び情報を提供する。
- 2 調査団がギニア国に搬入する機材，携行品の持ちこみ、持出しを行うこと及び、無税通関のための事務手続きを行うこと。
- 3 調査の実施により生じる税金を免除すること。
- 4 関係省庁へ調査の協力を依頼すること。
- 5 調査団を支援，協力する下記分野の技術者をカウンターパートに任命すること。

a かんがい	b 橋 水	c 市場整備
d 土 壌	e 地 質	f 水 文
g 農 業	h 農業経済	

なお、カウンターパートの任命員数，期間については調査開始時にギニア国と打合せることとする。

- 6 国内作業期間中1名のカウンターパートを日本で研修させるための手続きを行う。
- 7 調査実施期間を通じ、調査団の費用の負担を条件に、事務所，宿舍の提供を行う。

8. 調査箇所への立入りと、調査の自由な実施に必要な許可等の手続きを行うこと。
9. 調査期間中の調査団の安全を確保すること。
10. 調査資料のギニア国外への持出し許可。
11. 制限ないしは、カーボン配給制の対象となっている石油製品ならびに必需品の補給、確保のために権威当局へ斡旋の労をとる。
12. SOCOMER (ドルショップ) の使用許可。
13. 調査に必要な運転手、ガードマン、人夫等を調査団の要請に基づき斡旋する。

Ⅲ F/S調査終了時、もちこみ機材の一部は無償にてギニア国政府に譲渡される。その他の機材については、両者の話し合いによって決められる。

Ⅳ 実施要領の変更

調査の実施期間中作業遂行促進上、双方が有効と考える変更事項が生じたときは、相互の合意の上、実施要領を変更することができる。

面接者 コナクリにて

1. Alafé KOUROUMA
Ministre de l'Agriculture, des Eaux et Forêts et FAPA
2. Ibrahima KABA,
Directeur de cabinet
Ministre de l'Agriculture, des Eaux et FAPA
3. Kenda DIALLO
Directeur de la Cooperation Technique
"
4. Phons KEITA
Directeur General Adjoint du Genie rural
"
5. Abdoulaye DIALLO
Directeur General Adjoint de la Direction Genrale de l'Agriculture
6. Younoussa BALDE
Directeur du Service National des Sols
7. Manadi CAMERA
Chef Service de la vulgarisation du Ministere de l'Agriculture des
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8. Marcel MILIMOXO
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9. Mody Sory Barry
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10. Ibrahima COUMBASSA
Direction general du Genie Rural
11. Chaikou Yaya DIALLO
Secretariat d'Etat a la Cooperation Internationale

12. Djebry KEITA
Direction Generale du Plan
13. Kemo GBEMOU
Chef service Accords au MAEC
14. Aboubacar FOFANA
Administrateur BES-BCRG

カンカンにて

1. Bassamba CAMERA
Commissaire General Revolution de Kankan
2. Noumouke TORODO CAMERA
Directeur General de la Production
3. Louis Sourot SIDIBE
Directeur Agriculture Region Kankan
4. Sar BONGONO
Directeur Agriculture Region Kankan
5. Saramadi Kourouma
Attache de Presse CGR Kankan

- PROTOCOLE D'ACCORD -

Entre le Gouvernement du Japon et le Gouvernement de la République du Mali relative à l'Etude de factibilité du Projet de Développement du Périmètre de Baguineda.

Le Gouvernement du Japon représenté par l'Agence Japonaise de Coopération Internationale et

Le Gouvernement de la République du Mali représenté par le Ministère du Développement Rural

dénommés ci-après les autorités compétentes

Désireux de renforcer les liens d'amitié qui unissent leurs peuples et d'étendre en général les bonnes relations entre leurs pays ;

sont convenus de ce qui suit :

ARTICLE I.

But et durée du Protocole d'Accord.

1. Les autorités compétentes s'engagent à coopérer dans le cadre de l'étude de factibilité du Projet de Développement du Périmètre de Baguineda au Mali ;
2. Les buts généraux de cette étude sont les suivants :
 - a) formuler un planning pour l'aménagement d'un projet de développement du périmètre de Baguineda ;
 - b) examiner les possibilités techniques et économiques pour la réalisation du projet de développement du périmètre de Baguineda.
3. Les objectifs de l'Etude seront réalisés par les activités exposées dans le document intitulé "consistance des Etudes" ;
4. Le protocole d'accord est prévu pour une durée de 20 mois.
5. Le projet qui fera l'objet de ces études est situé à Baguineda sur la rive droite du fleuve Niger à environ 30 kilomètres de Bamako, et couvre une superficie d'environ 4.000 hectares bruts.

ARTICLE II.

Contribution de chaque Gouvernement

1. Le Gouvernement du Japon s'engage :

- a) -- à envoyer une mission d'enquête technique pour les études sur le terrain ;
- b) -- à prendre à sa charge les équipements et le matériel, y compris les véhicules nécessaires à l'exécution du Projet ainsi que tous les frais y afférents ;
- c) -- à supporter les dépenses de la Mission d'Enquête durant son séjour au Mali ;
- d) -- à payer les salaires du personnel malien recruté par la mission d'enquête pour la réalisation des études, ainsi que les indemnités des cadres affectés au projet ;

2. Le Gouvernement du Mali s'engage :

- a) -- à fournir les données disponibles telles que plans, cartes, statistiques et autres informations relatives au projet ;
- b) -- à donner l'autorisation pour exporter au Japon les documents et données recueillis au Mali ;
- c) -- à mettre à disposition le personnel cadre nécessaire à l'exécution des travaux prévus, et à payer leurs salaires et charges sociales ;
- d) -- à porter assistance à la mission dans le recrutement du personnel malien tel que main d'oeuvre, chauffeurs nécessaires pour les travaux ;
- e) -- à fournir un bureau meublé à Baguineda et aider la mission à trouver un bureau à louer à Bamako ;
- f) -- à autoriser l'accès du périmètre du projet aux membres de la mission ;
- g) -- à faciliter auprès de tous les services intéressés les démarches que pourrait nécessiter le déroulement de l'étude ;
- h) -- à autoriser l'utilisation des équipements radiophoniques tels que radio-téléphone, géodimètres, telluromètres, aux fins des travaux sur le terrain ;
- i) -- à autoriser l'acquisition de contretypes négatifs de la couverture aérienne prise durant la mission I.G.N-MAL 1973-017-200 pour la réalisation des cartes topographiques.
- j) -- à prendre en général toutes les mesures favorables à l'exécution de l'Etude.

ARTICLE III.

Dispositions à prendre par le Gouvernement
du Mali en faveur du Personnel Japonais.

1. Dans le cadre de ce Projet, le Gouvernement du Mali :
 - a) - exemptera toutes les rémunérations versées par le Gouvernement Japonais au personnel Japonais du Projet (appelé ci-après "le personnel") de tous impôts et taxes ;
 - b) - exemptera le personnel des droits d'importation et de douane sur les meubles et objets personnels neufs ou usagés ainsi que sur l'équipement professionnel, importés au Mali dans les six mois qui suivent son arrivée à condition que ces biens soient réexportés du Mali au moment du départ ;
 - c) - accordera le bénéfice de l'importation temporaire au personnel pour les véhicules automobiles dans les six mois suivant son arrivée au Mali, étant entendu qu'en cas de vente d'un tel véhicule à une personne ne bénéficiant pas des mêmes privilèges, il sera soumis au paiement d'un droit d'importation basé sur la valeur estimée du véhicule au moment de sa vente ;
 - d) - exemptera le personnel des obligations de service national ;
 - e) - accordera au personnel les facilités de change pour les transferts et les devises importées au Mali, les facilités pour l'établissement de comptes externes ainsi que leur rapatriement ;
 - f) - prendra des mesures en vue de la délivrance, à titre gratuit de visas d'entrée et de permis de séjour au personnel Japonais employé dans le cadre de l'étude ;
 - g) - offrira au personnel des facilités de rapatriement en période de crise nationale ou internationale.
 - h) - le personnel Japonais est tenu de respecter les institutions maliennes et la législation en vigueur. Le gouvernement de la République du Mali lui apportera son aide et sa protection. Il tiendra informées les autorités Japonaises de toutes les questions que pourrait soulever la présence en République du Mali du personnel Japonais.
 - i) - facilitera les formalités de dédouanement des matériels et équipement nécessaires à l'exécution des travaux ainsi que des effets personnels apportés par les membres de la mission d'enquête.

ARTICLE IV.

Définition des responsabilités

1. Les autorités Japonaises désigneront un chef de Mission qui sera responsable, à l'égard du Gouvernement Japonais, de l'assistance Japonaise à l'Etude ;
2. Pour l'exécution des activités dans le cadre de l'Etude, le Chef de Mission travaillera en étroite collaboration avec le coordonnateur désigné par les autorités Maliennes ;
3. En cas d'accident de travail entraînant la mort ou des lésions corporelles d'un tiers ou de dommage à des biens d'un tiers, le Gouvernement du Mali fournira l'assistance administrative et judiciaire requise pour parvenir à une solution heureuse du problème conformément à la législation en vigueur en République du Mali.

ARTICLE V.

- Autorités compétentes et autorités exécutives -

1. L'autorité compétente japonaise est le Président de l'Agence Japonaise de Coopération Internationale ;
 - L'autorité compétente malienne est le Ministre chargé du Développement Rural ;
2. Chaque autorité compétente a le droit de déléguer, en tout ou en partie, les responsabilités qu'elle détient dans le cadre de cette Etude ;
3. L'autorité compétente japonaise désignera l'Agence Japonaise de Coopération Internationale comme autorité exécutive japonaise.
 - L'autorité compétente malienne désignera l'Institut d'Economie Rurale comme autorité exécutive malienne.

ARTICLE VI.

Consistance des Etudes

1. Les autorités exécutives établiront un document intitulé "consistance des Etudes" indiquant en détail le contenu de l'Etude, le calendrier des activités, les tâches des experts ;
2. La consistance des travaux peut être modifiée d'un commun accord entre les autorités exécutives.

ARTICLE VII.

Rapports

1. Un rapport intérimaire en français sur le progrès des enquêtes sur le terrain (en 20 exemplaires) sera soumis au Gouvernement du Mali par le Gouvernement du Japon six (6) mois après le début de l'Etude.
2. Un projet de rapport final en français (en 20 exemplaires) sera soumis trois (3) mois avant la fin de l'Etude.
3. Le rapport final sera soumis en cinquante (50) exemplaires un mois après la réception des commentaires sur le projet de rapport ci-dessus de la part du Gouvernement Malien.

ARTICLE VIII.

Différends

Tout différend au sujet de l'interprétation ou de l'exécution du présent Protocole d'accord sera réglé par voie diplomatique.

ARTICLE IX.

Protocole Dispositions finales

1. Le présent d'accord entrera en vigueur à partir de sa date de signature.
2. Le présent protocole demeurera en vigueur pour une période de vingt (20) mois.
Chaque Gouvernement aura toutefois le droit de dénoncer le Protocole à tout moment, avec un préavis de trois (3) mois.

Fait à Bamako le27 Février..... 1980
en deux exemplaires en langue française.

Pour le Gouvernement du Japon

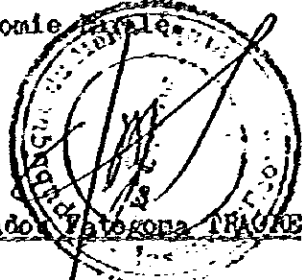
Le Chef de la mission de l'Agence
Japonaise de Coopération Internationale
pour l'Etude du Projet de Baguineda.

Mikio Furuya
MIKIO FURUYA.


Pour le Gouvernement de la

République du Mali

Le Directeur Général de l'Institut
d'Economie Rurale


Mamadou Yatogona TRAORE

Vu pour le Ministre du Développement Rural


Boubacar Bonfing KOITE.

CONSISTANCE DES TRAVAUX DE L'ETUDE DE FAC-
TIBILITE DU PROJET DE DEVELOPPEMENT DU PERI-
METRE IRRIGUE DE BAGUINEDA.

1. INTRODUCTION :

A la suite d'une requête du Gouvernement de la République du Mali, le Gouvernement du Japon a accepté de fournir une assistance technique pour la réalisation d'une étude de factibilité du Projet de Développement du Périmètre de Baguineda.

Le Projet s'inscrit, dans le cadre de trois des objectifs principaux de développement du Mali tel qu'il a été défini tant dans le plan quinquennal économique et social passé que dans les perspectives à long terme, à savoir :

- l'amélioration du niveau de vie et du cadre de vie des populations rurales, la sécurisation de leur production et de leur revenu ;
- le développement et la diversification des exportations commerciales valorisées sur le territoire national de façon à obtenir des gains en devises à partir d'une production primaire croissante en valeur et en productivité ;
- permettre aux producteurs ruraux de maîtriser eux-mêmes leur développement organisé et de se doter pour cela des structures socio-professionnelles efficaces.

L'Agence Japonaise de Coopération Internationale sera chargée de l'exécution de ce dossier de factibilité.

La consistance des travaux pour l'étude de Factibilité est résumée dans ce qui suit.

Leur réalisation sera confiée à une mission d'Enquête technique Japonaise en coopération étroite avec les autorités maliennes.

2. DESCRIPTION :

2.1. Objet des Etudes .

Le but de ces études est de formuler un planning pour l'aménagement d'un projet de développement du périmètre irrigué de Baguineda en tenant compte que la finalité est la réalisation des programmes ci-après :

* Programme Agricole :

- cultures maraichères : tomates, poivrons, oignons, haricots verts etc...
- riziculture
- cultures fourragères
- arboriculture

- * Programme d'Élevage
 - embouche bovine
 - production laitière
 - boeufs de labour
- * Programme Forestier :
 - conservation du sol
 - brise -- vents
- * Programme de Recherche d'Accompagnement
- * Programme de Piste Agricoles
- * Programme de Santé Humaine --
 - petit équipement
 - fourniture de médicaments
- * Programme de Formation :

et d'en examiner les possibilités techniques et économiques de réalisation.

2.2. Site du Projet :

Le Site du projet qui fera l'objet de ces études couvre une superficie d'environ 4.000 hectares bruts. Il est situé sur la rive droite du fleuve Niger à environ 30 Kilomètres de Bamako, capitale du Mali.

2.3. Consistance des travaux :

La mission divisera ses activités en deux parties, l'une comportant des Etudes au Mali et l'autre des travaux à effectuer au Japon.

2.3.1. Etudes à effectuer au Mali :

Pour les domaines où les informations existent déjà, la mission ne reprendra pas les Etudes. Néanmoins, elle procédera à des études complémentaires là où c'est nécessaire.

Les activités envisagées sont les suivantes :

- (1) Collecte et revue des données ;
- (2) Nivellement et levés topographiques des points de contrôle pour la préparation des cartes topographiques à l'échelle de 1/2.000ème ;
- (3) Relevés hydrologiques et climatologiques ;
- (4) Etude sur la mécanique des sols ;
- (5) Etude des sols ;
- (6) Etude sur l'économie des activités agricoles ;
- (7) Etude concernant l'élevage ;
- (8) Etude sur l'utilisation des terres ;
- (9) Enquête et bilan des ouvrages d'irrigation et de drainage existants ainsi que sur leur viabilité ;
- (10) Etude des besoins en eaux d'irrigation, de drainage et d'assainissement sur l'ensemble du périmètre ;
- (11) Enquête des eaux disponibles pour l'irrigation ;
- (12) Enquête sur les structures administratives liées aux activités du périmètre ;

(13) Formulation des grandes lignes d'une conception de base pour le Développement du périmètre du projet.

2.3.2. Travaux à effectuer au Japon :

- (1) Réalisation des cartes topographiques à l'échelle de 1/2.000ème avec les courbes de niveau équidistantes de 20 cm sur la base des photographies aériennes de 1/20.000ème existantes et d'après les données obtenues durant les Etudes effectuées au Mali ;
- (2) Examen de l'emplacement du projet du point de vue macrosocio-économique ;
- (3) Estimation du potentiel des terres pour les aménagements agricoles et formulation d'un planning pour l'utilisation des terres ;
- (4) Etude des besoins en eaux d'irrigation et de drainage ;
- (5) Elaboration d'un planning d'irrigation et de drainage ;
- (6) Formulation des plans préliminaires du système d'irrigation et de drainage y compris le réseau de communication routière et d'estimer les coûts des travaux d'implantation ;
- (7) Reconnaître les problèmes actuels de l'agriculture et établir les modes de culture proposées ;
- (8) Déterminer les moyens humains, logistiques, institutionnels et financiers à mettre en oeuvre dans le cadre du projet ;
- (9) Etablir les coûts et bénéfices du Projet ;
- (10) Calcul de la rentabilité économique et financière du Projet ;
- (11) Préparer le programme d'implantation du Projet et indiquer les tranches de mise en valeur par ordre de priorité.

CALENDRIER DES TRAVAUX :

L'étude de factivité du Projet de Développement du Périmètre Baguineda sera réalisée en une période de treize mois et demi (13.5). L'étude commencera mi-Septembre 1980 et sera achevée au 31 Octobre 1981. Le calendrier des travaux est indiqué dans la fig. 2 annexée.

L'Agence Japonaise de Coopération Internationale fournira le nombre d'experts nécessaire pour l'exécution des travaux.

4. CARTES TOPOGRAPHIQUES ET RAPPORTS :

Les rapports et cartes seront préparés et soumis au Gouvernement Malien par le Gouvernement du Japon de la façon suivante ;

4.1. Cartes Topographiques :

Une série du premier original des cartes, une série du deuxième original des cartes et vingt (20) séries des cartes reproduites sur papier au ferro-prussiate (bleu) seront soumises en Janvier 1981.

4.2. Rapport Intérimaire :

Vingt (20) copies du rapport (en français) sur le progrès des Etudes sur le terrain seront soumises vers le 15 Mars 1981.

4.3. Projet du Rapport Finan :

Vingt (20) copies de ce rapport seront soumises en début Août 1981.

4.4. Rapport Final :

Cinquante (50) copies du Rapport Final seront soumises un mois après la réception des commentaires sur le projet du rapport ci-dessus de la part du Gouvernement Malien.

5. PERSONNEL MALIEN

Au nombre de trois (3), ce personnel comprend un coordonnateur, un Ingénieur du Génie Rural et un Ingénieur Agronome.

Ils interviendront au cours de l'étude de factibilité à temps partiel sur la base de consultations avec la partie Japonaise.

Leur occupation par grand volet de l'étude de factibilité est présente comme ci-dessous indiqué :

Profil homologue Malien	Service d'Origine	Fonction
Agro-Economiste ou Economiste (1)	I.E.R.	Coordination Elevage Economie Agricole
Ingénieur du Génie Rural (1)	Génie Rural	Topographie Hydrologie Ouvrages Irrigation et drainage
Ingénieur Agronome (1)	Opération Baguineda	Sols Agronomie Ouvrages

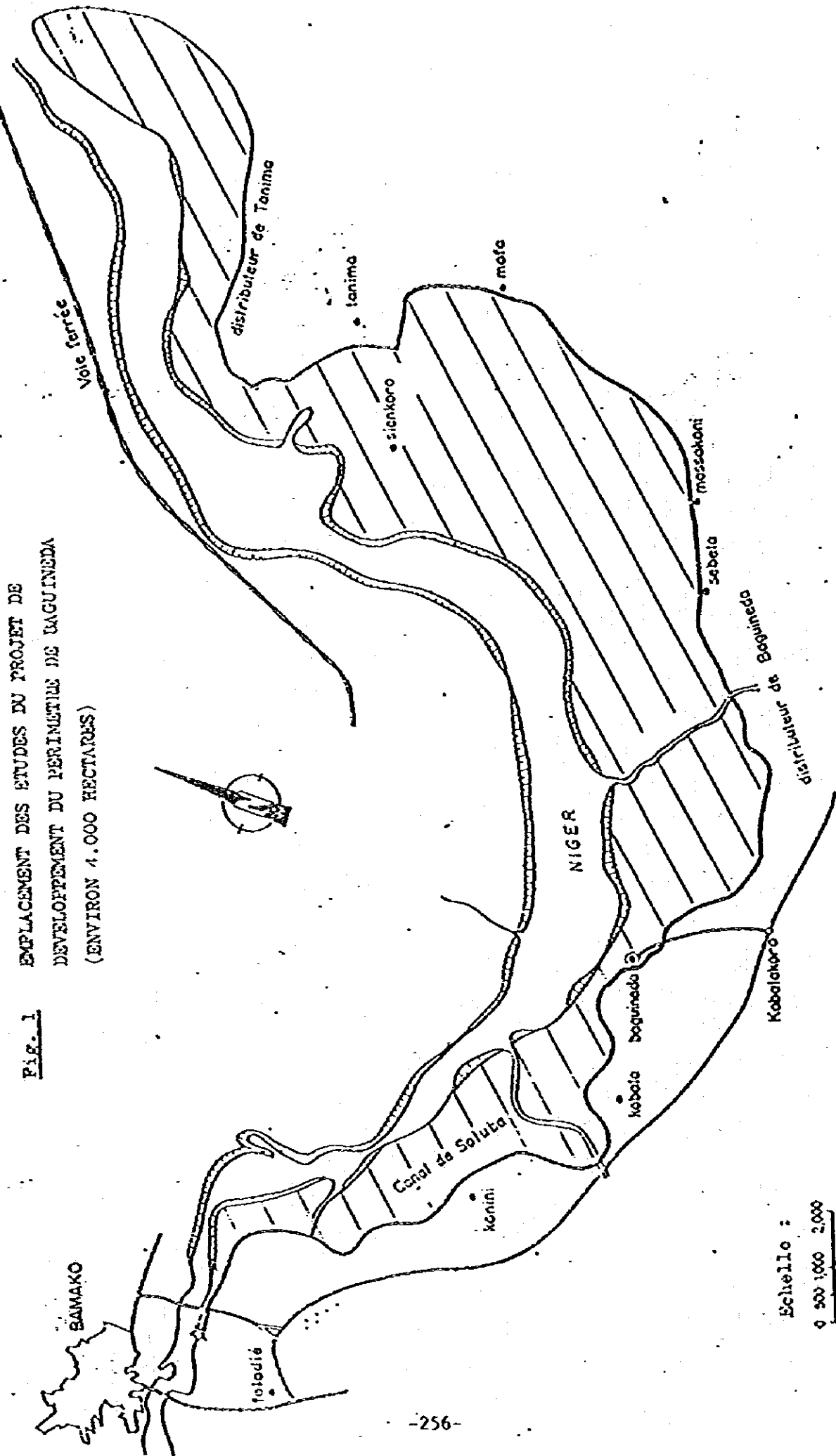


Fig. 1 **EMPLACEMENT DES ETUDES DU PROJET DE**
DEVELOPPEMENT DU PERIMETRE DE BAGUINEDA
(ENVIRON 4.000 HECTARES)

Echelle :
 0 500 1000 2000

FIG. 2 CALENDRIER DES TRAVAUX

Nature des Travaux	1980												1981											
	J	P	M	A	M	J	J	A	S	O	N	D	J	P	M	A	M	J	J	A	S	O		
1. Préparation des Etudes																								
2. Enquêtes sur le terrain										L														
3. Travaux effectués au Japon																								
4. Exposé et discussions sur le projet du rapport final																								
5. Etudes et commentaires du Gouvernement à lieu sur le cont. du projet du rapport final																								
6. Elaboration des rapports																								

Remarques : (L) : Levé des points de contrôle et nivellement.
(P.C) : Préparation des cartes à l'échelle de 1:5.000mo.
(ZEF) : Enquêtes sur le terrain pour l'étude de factibilité et levés topographiques.
(ZPJ) : Etude de factibilité au Japon.

(R.I) : Rapport intermédiaire.
(PRF) : Préparation du projet du rapport final.
(R.F) : Rapport final.

バギンダ地区農業開発計画フィージビリティ調査 に関する日本政府及びマリ共和国政府の間の 合 意 議 事 録

国際協力事業団に代表される日本政府及び農村開発省に代表されるマリ共和国政府（以後両国政府と呼ぶ）は両国国民の親密なつながりの強化と両国の一般的友誼関係の拡大を希望して下記のとおり合意した。

第1章 合意議事録の目的及び有効期間

1. 両国政府はマリ国バギンダ地区農業開発計画フィージビリティ調査の範囲内において協力することに合意する。
2. この調査の一般的目的は下記のとおりである。
 - a) バギンダ地区農業開発計画の実施計画の作成。
 - b) バギンダ地区農業開発計画の実施のための技術的及び経済的可能性の検討。
3. この調査の諸目的は本合意議事録の一部をなす“スコープ・オブ・ワークス”に記述した諸作業を通じ達成される。
4. この両国政府の間の合意議事録の有効期間は20カ月を予定している。
5. この調査の行われるプロジェクト地域は首都バマコより約30kmのニジェール川右岸のバギンダに位置し、全体で約4,000haの面積を有する。

第2章 両国政府の取るべき措置

1. 日本政府は下記のことを合意する。
 - a) 現地調査のための調査団を派遣すること。
 - b) 調査の実施に必要な車輛を含む資機材の経費及び資機材関連の諸経費を負担すること。
 - c) 調査団のマリ国滞在のための経費を負担すること。
 - d) 調査の実施のために調査団が雇用するマリ人に給料を支払うこと及びカウンターパートに出張手当を支給すること。
2. マリ政府は下記のことを合意する。
 - a) プロジェクトに関係する図面、地図、統計等の諸資料及び情報を提供すること。
 - b) 調査団がマリで収集した文書、資料等を日本に持帰ることを許可すること。
 - c) 調査の実施に必要なカウンターパートを配属し、その給料及び社会保険料を負担すること。
 - d) 調査の実施に必要な人夫、運転手等のあっせんをすること。
 - e) バギンダに用度付事務所を提供し、かつバマコに適当な事務所をあっせんすること。

- f) 調査団員のプロジェクト地域への立入りを許可すること。
- g) 調査の実施に必要な関係諸官庁との接触を援助すること。
- h) 現地調査に必要なトランシーバー、ジオディモーター、テルロメーター等の無線機器の使用を許可すること。
- i) 地形図の図化に必要な航空写真 IGN-MAL 1973, 017-200 のネガフィルムのコピーの購入を許可すること。
- j) 調査の実施に必要なその他すべての措置を取ること。

第3章 日本人調査団員のためにマリ政府の取るべき措置

- 1 本件プロジェクトの範囲内でマリ政府は下記の措置を取る。
 - a) 日本政府により送達される調査団員に対し日本政府から支払われる報酬については、所得税等を免除する。
 - b) 調査団員によりそのマリ入国後6カ月以内にマリに持込まれる家具、身の回り品及び専門技術機材については、新品、中古品の如何を問わず調査団員の帰国の際マリから再び持出すという条件で関税を免除する。
 - c) 調査団員によりそのマリ入国後6カ月以内にマリに持込まれる車輛については、その車輛がこの特権付与の範ちゅう外の者に販売される場合には、その販売時点の価値に基づき輸入税が賦課されるという条件で暫定的輸入許可を与える。
 - d) 調査団員のマリ国のナショナル・サービスへの従事を免除する。
 - e) 調査団員の持込む、あるいは調査団員が送金を受ける外貨資金について、自由な交換、外貨口座の設立及び自由な持出しを許可する。
 - f) 調査団員に対する無料での入国査証の発給及び居住許可の発給を行う。
 - g) 調査団員に対し国内危機あるいは国際危機に際しての帰国のための援助を与える。
 - h) 調査団員はマリの風習及びマリの現行法規を尊重すべきこと。マリ政府は調査団員に援助及び保護を与える。マリ政府はマリにおける調査団員の存在に關するすべての情報を日本政府に伝える。
 - i) 調査団員により持込まれる調査の実施に必要な資機材及び身の回り品のすみやかな通関手続に必要な諸措置を取る。

第4章 両国政府の責任の定義

- 1 日本政府は本件調査の実施について日本政府に対し責任を負う調査団長を任命すること。
- 2 調査の範囲内における諸活動の実施のため、調査団長はマリ政府より任命されるコーディネーターと密接に協力すること。
- 3 調査実施中に調査団員が第三者の死亡ないしは負傷、あるいは第三者の財産の破損に至

る事故を起こした場合は、マリ政府はマリの現行法規に基づき、問題の適切な解決のため必要な行政的及び法的援助を調査団員に与えること。

第5章 最高責任者及び実施機関

1. 日本側の最高責任者は国際協力事業団総裁である。
マリ側の最高責任者は農村開発大臣である。
2. 両最高責任者は本件調査の範囲内において、全面的あるいは部分的にその責任を代表する権限を有する。
3. 日本側最高責任者は国際協力事業団を実施機関として任命する。
マリ側最高責任者は農村経済研究所を実施機関として任命する。

第6章 スコープ・オブ・ワークス

1. 両実施機関は調査の内容、作業スケジュール、専門家の業務を詳細に示した「スコープ・オブ・ワークス」を取り決める。
2. このスコープ・オブ・ワークスは両実施機関の相互の合意により修正することができる。

第7章 報 告 書

1. 中間報告書 調査開始6カ月後に現地調査の進捗に関する中間報告書（仏文）20部が日本政府よりマリ政府に提出される。
2. 最終報告書草案 調査終了3カ月前に最終報告書草案（仏文）20部が提出される。
3. 最終報告書 最終報告書草案に対するマリ政府のコメント受領1カ月後に最終報告書（仏文）50部が提出される。

第8章 問 題 解 決

本合意議事録の解釈あるいは実施について問題が生じた場合は、外交ルートを通じて解決される。

第9章 そ の 他

1. 本合意議事録はその調印の日から効力を発する。
2. 本合意議事録は20カ月の期間有効である。
しかしながら両国政府は3カ月の予告期間を以って本合意議事録を取り消す権限を有する。

1980年2月27日バマコにて仏語にて2部作成

日本政府のために
バギンダ地区農業開発計画
フィージビリティ調査のための
国際協力事業団ミッション団長

古 谷 幹 雄

マリ共和国政府のために
農村経済研究所所長

ママドゥ・ファトゴマ・トラオレ

農村開発大臣に代って立会

官房長 プバカール・ボンファン・コワテ

バギンダ地区農業開発計画フィージビリティ調査 に関するスコープ・オブ・ワークス

1. 序

日本政府はマリ共和国政府の要請に基づき、日本政府の技術協力の一環としてバギンダ地区農業開発計画フィージビリティ調査を実施することを決定した。

本件バギンダ地区農業開発計画は第2次経済社会開発五カ年計画及び長期開発構想にうたわれている3つの主要開発目標に包含されるものである。

この3つの主要開発目標とは、すなわち下記のとおりである。

- 農村住民の生活水準及び生活環境の改善向上ならびに農村における生産と所得の安定化を図ること。
- 国内の輸出用換金作物栽培の開発と多様化により外貨獲得を拡大し、第一次産業を価値及び生産性の両面で成長させること。
- 農村の生産者に組織的開発を自分自身でコントロールさせ、またその目的のため効率的な社会生産組織を確立すること。

本件フィージビリティ調査は国際協力事業団が実施する。

本件フィージビリティ調査のスコープ・オブ・ワークスはこの文書に記されているとおりである。

本件調査は日本の技術調査団とマリ政府関係当局の密接な協力によって実施される。

2. 調査内容

2.1 調査目的

本件調査の目的は下記諸計画の究極的実現を考慮しつつ、バギンダ地区農業開発計画の実施計画を作成し、その実施の技術的、経済的可能性を検討することである。

・ 営農計画

- 野菜栽培：トマト，ピーマン，玉ねぎ，さやいんげん等
- 稲作
- 牧草
- 果樹

・ 牧畜計画

- 牛の飼育
- 酪農
- 役牛

・ 森林計画

- 土壤保全
- 防 風
- 関連研究計画
- 農道計画
- 保健衛生計画
 - 小型機材
 - 医薬品供給
- 教育訓練計画

2.2. プロジェクト地域

本件調査の行われるプロジェクト地域は約4,000 ha の面積を有し、マリの首都バマコより約30kmのニジェール川右岸に位置する。

2.3. スコープ・オブ・ワークス

日本の技術調査団の作業はマリにおける現地作業と日本における国内作業の2段階に分かれる。

2.3.1. マリにおける現地作業

資料、情報が既に存在する事項については、調査団は調査を繰り返さない。しかしながら調査団は必要な場合には持足的調査をすることがある。

調査団は下記の作業を行う。

- (1) データの収集と検討
- (2) 縮尺 1/2000 の地形図作成に必要な基準点測量及び水準測量
- (3) 水文、気象調査
- (4) 土壤組成調査
- (5) 土壤調査
- (6) 農業及び農家経済調査
- (7) 牧畜調査
- (8) 土地利用調査
- (9) 現況用排水施設調査
- (10) 要排水量調査
- (11) かんがい用水源調査
- (12) 農業支援組織調査
- (13) 開発基本構想の概定

2.3.2. 日本における国内作業

- (1) 既存の縮尺1/2万の航空写真及びマリ国内における測量調査を基本にして、20部コンター入りの縮尺1/2000の地形図の作成
- (2) プロジェクト地域のマクロな社会経済的観点からの評価
- (3) かんがい農業整備のための農地ポテンシャルの評価及び最適土地利用計画の作成
- (4) 養分水量調査
- (5) かんがい排水計画の作成
- (6) かんがい排水網及び農道網の予備設計、並びにその施工コストの積算
- (7) 現行農業の制約要因の把握及び栽培体系の確立
- (8) プロジェクトの労働力動員計画、運営計画、組織計画、財政計画の作成
- (9) プロジェクトの費用、便益の積算
- (10) プロジェクトの経済及び財務分析
- (11) プロジェクトの実行計画の作成及び優先順位に沿った開発の段階分け

3. 作業スケジュール

本件バミンダ地区農業開発計画フェージビリティ調査は13.5カ月で終了する。本件調査は1980年9月中旬に開始され、1981年10月末日に終了の予定である。

国際協力事業団は本件調査作業に必要な数の専門家を派遣する。

4. 地形図及び報告書

報告書及び地形図は日本政府により準備され、下記によりマリ政府に提出される。

4.1. 地形図

地形図原図一式、同第二原図一式及び同青焼コピー20部が1981年1月に提出される。

4.2. 中間報告書

現地調査の進捗に関する中間報告書(仏文)20部が1981年3月中旬に提出される。

4.3. 最終報告書草案

最終報告書草案(仏文)20部が1981年8月初めに提出される。

4.4. 最終報告書

最終報告書草案に対するマリ政府のコメント受領1カ月後に最終報告書(仏文)50部が提出される。

5. マリ側カウンターパート

マリ側カウンターパートは3人とし、その内訳はコーディネーター1人、農業土木技術者1人、栽培技術者1人とする。

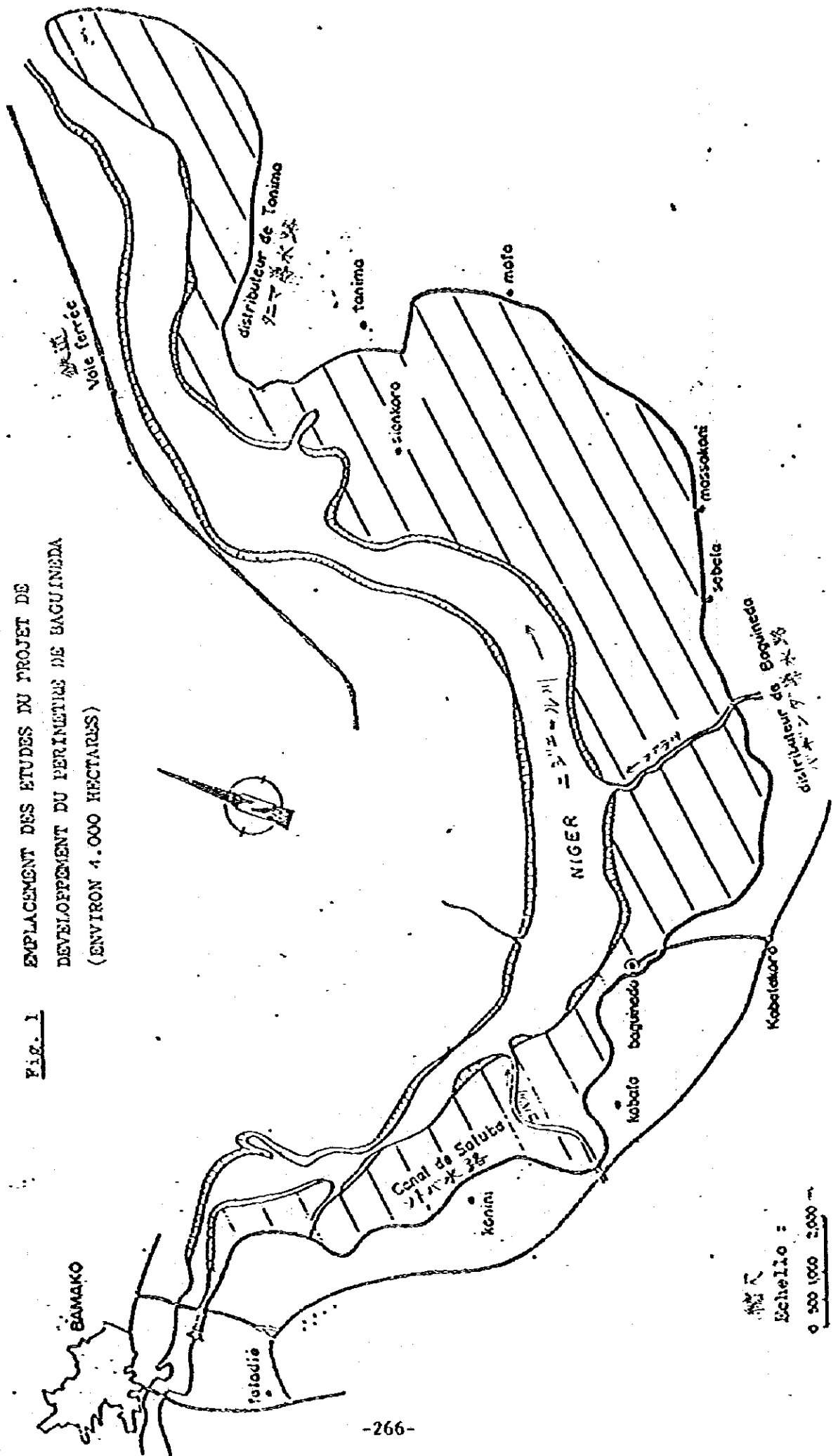
カウンターパートは日本側調査団と相談の上、非常勤ベースでフィージビリティ調査に参加する。カウンターパートは下記に示した分野においてフィージビリティ調査に参加する。

マリ側カウンターパート	所 属	取 分
アグロ・エコノミストまたは エコノミスト (1人)	農村経済研究所	業 務 調 査 牧 畜 農 業 経 済
農 業 土 木 技 術 者 (1人)	農業土木局	地 形 水 文 構 造 物 かんがい排水
栽 培 技 術 者 (1人)	バギンダ・オペレーション	土 壌 栽 培 牧 畜

ハバンタ地区農業開発計画
 7. 2. 2. 1. 湖盆地域 (約 4,000 ha.)

图 1.

FIG. 1
 ENPLACEMENT DES ETUDES DU PROJET DE
 DEVELOPPEMENT DU PERIMETRE DE BAGUINEDA
 (ENVIRON 4.000 HECTARES)



Echelle :
 0 500 1000 2000 m

図 2. 作業スケジュール

作業項目	1980年												1981年									
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10
1. 基礎調査																						
2. 現地調査									L					EDF								
3. 日本における国内作業														PC						ERJ		
4. 最終報告書草案説明協議																						
5. 最終報告書草案に対する ペリ政府の検討及び コメントの提出																						
6. 最終報告書作成																				RI		
																				PRF		
																						RF

備考：(L) : 基準点測量及び水準測量
(PC) : 縮尺 1/2,000 の地形図作成
(EDF) : フィージビリティ調査現地調査及び地形測量
(ERJ) : フィージビリティ調査日本国内作業
(RI) : 中間報告書
(PRF) : 最終報告書草案作成
(RF) : 最終報告書

MINUTES OF MEETINGS

ON

FEASIBILITY STUDY

(TOPOGRAPHIC MAP)

ON

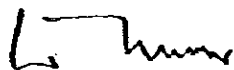
THE RHOMBE SWAMP AGRICULTURAL DEVELOPMENT PROJECT

IN

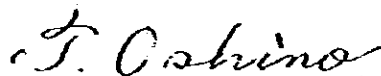
THE REPUBLIC OF SIERRA LEONE

(JAPAN/AIDB COOPERATION PROGRAMME)

DECEMBER, 3RD 1981 FREETOWN



W.B. MUNU
PERMANENT SECRETARY
MINISTRY OF AGRICULTURE &
FORESTRY



MR. TOMOYUKI OSHINO
LEADER OF:
THE SCOPE OF WORKS MISSION FOR
FEASIBILITY STUDY ON RHOMBE SWAMP
AREA AGRICULTURAL DEVELOPMENT
PROJECT

MINUTES OF MEETING

(November 24 - December 3, '81)

The scope of works team (hereinafter referred to as "the Team") sent by Japan International Cooperation Agency (hereinafter referred to as "JICA", the official agency responsible for the execution of the technical cooperation on behalf of the Government of Japan, discussed the study of the Rhombe Swamp Agricultural Development Project in the Republic of Sierra Leone with the counterparts, Ministry of Agriculture and Forestry and authorities concerned. Member lists of both sides are attached in Annex 1 (A and B). Both sides agreed on the Scope of Works attached in Annex II, and in that connection both sides had the following discussions:

1. Both sides agreed to make a study on the Rhombe Swamp area which contains:
 - i) Feasibility Study on the Agricultural Development in Gbenti North Area, and additionally
 - ii) review of the Rhombe Swamp Engineering Feasibility Study (MRT Consulting Engineers Ltd., 1972).

2. Both sides agreed to conduct at first the topographical surveying under the Scope of Works based on the correspondent recognition that a series of topographical maps on the scale of 1/5,000 of the Gbenti Swamp area is essential for the execution of the feasibility study mentioned above.

3. The Team recognised the necessary emphasis that the Sierra Leone Government has put on the development of the whole Rhombe Swamp area. In this regard, the Government has requested the team to consider the attached proposals (Annex III).

4. The Sierra Leone Government also recognises the importance of keeping close contact with the AfDB for the eventual implementation of the Project.

LISTS OF
JAPAN INTERNATIONAL COOPERATION AGENCY TEAM MEMBERS
AND
THE REPUBLIC OF SIERRA LEONE TEAM REPRESENTATIVES

Japan - Team Members

<u>Assignment</u>	<u>Name</u>	<u>Position</u>
Leader	Tomoyuki OSHINO	Deputy General-Director, Construction Dept. TOHOKU Regional Agricultural Admin. Office, Ministry of Agri- culture, Forestry & Fisheries.
Topographic Mapping	Yoshinobu KITAMURA	Director, System Development Div., Land Improvement Engineering Service Center, TOHOKU Regional Agricultural Administration Office, Ministry of Agriculture, Forestry & Fisheries.
Cooperation Policy	Takashi NOMURA	Senior Official, Multilateral Cooperation Div., Economic Cooperation Bureau, Ministry of Foreign Affairs.
Coordination	Nobuo KIMURA	Senior Official, Hachioji International Training Center, Japan International Cooperation Agency.

Annex 1(B)

Sierra Leone - Team Members

<u>Assignment</u>	<u>Name</u>	<u>Position</u>
Leader	Wusu B. MUNU	Permanent Secretary Ministry of Agriculture & Forestry.
Coordinator	Abubakarr, A.W. JALLOH	Acting Director Land & Water Development Division Ministry of Agriculture & Forestry.
Irrigation & Drainage	H. Leslie LYMON	Acting Chief Agricultural Engineer (Civil & Irrigation) Ministry of Agriculture & Forestry.
Swamp Development	Joseph C. HAMELBERG	Head of Water Resources Section Land & Water Development Division, Ministry of Agriculture & Forestry.
Cooperation Policy	L. KUMALA	Assistant Secretary Economic Affairs Division Ministry of Foreign Affairs.

Annex II

SCOPE OF WORKS
OF
TECHNICAL COOPERATION
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
MINISTRY OF AGRICULTURE, FORESTRY AND FISHERIES
ON
TOPOGRAPHICAL MAPPING SURVEY
IN
GBENTI SWAMP AREA
ON
RHOMBE SWAMP AGRICULTURAL DEVELOPMENT PROJECT
IN
THE REPUBLIC OF SIERRA LEONE

1. INTRODUCTION

In response to the request of the Government of Sierra Leone (hereinafter referred to as "the Government"), the Government of Japan has decided to undertake a feasibility study on the Rhombe Swamp Agricultural Development Project (hereinafter referred to as "the Project") as part of the technical cooperation programme of the Government of Japan.

Accordingly, Japan International Cooperation Agency (JICA), the official agency responsible for the implementation of the technical cooperation programme of the Government of Japan will be the executing agency, and carry out the study in collaboration with the Ministry of Agriculture and Forestry and other authorities concerned.

A Scope of Works is prepared for the topographical surveying necessary for the feasibility study on the basis of the results obtained from the Preliminary Survey (February 2nd to 10th, 1981) for the Project, describing the items to be studied, implementation schedule, and services and facilities to be provided by the Government for the smooth execution of the study.

This indicates the outline of essential features of the survey which is to be carried out in close cooperation with the Government and its authorities concerned.

2. OBJECTIVE OF SURVEY

The objective of the survey is to make a series of topographical maps on the scale of 1/5,000 with one meter vertical interval contour line of the Gbenti Swamp (7,000 ha) in the project area by aerial photogrammetry.

3. OUTLINE OF THE SURVEY

To achieve the objective above, the survey will be executed with Sierra Leone's aerial photographs of scale 1/40,000 produced by the British Government's Ministry of Overseas Development, Directorate of Overseas Surveys in 1958.

The survey will cover the following works:-

I. FIELD WORK IN SIERRA LEONE

The field work will cover the following items:

- i) Pass point survey
- ii) Pricking
- iii) Classification and other ground survey.

II. HOME OFFICE WORK IN JAPAN

Based on the results of the field work, the home office work will be carried out covering the following items:

- i) Aerotriangulation
- ii) Mapping
- iii) Drafting

III. WORK SCHEDULE

The work schedule is shown in the attached sheet. To carry out the survey, JICA will despatch the required survey team (hereinafter referred to as "the Team") in accordance with the work schedule attached herewith.

4. REPORTS

JICA will prepare and submit to the Ministry of Agriculture and Forestry the following reports:-

1) Plan of operation

Fifty (50) copies in English at the beginning of the field work.

II. Contact prints

Five (5) sets after home office work is finished, and

III. Topographical maps

- 1) Original map; one (1) set after home office work is finished.
- ii) Duplicate map; one (1) set after home office work is finished.
- iii) Blue print map; Five (5) sets after home office work is finished.

5. UNDERTAKING OF THE GOVERNMENT OF SIERRA LEONE

To facilitate smooth performance of the field works, the Government is requested:

- i) to provide the aerial photographs of the Gbenti Swamp area (of a 1/40,000 scale, produced by the British Government's Directorate of Overseas Surveys in 1958),
- ii) to designate the counterpart personnel to cooperate with the Team in conducting the study effectively,
- iii) to arrange the Team's visit to relevant ministries, local governments and other public agencies,
- iv) to provide the available data and information necessary for the study,
- v) to provide office and residential space for the field work of the Team at Kotonga,
- vi) to arrange the recruitment of non-technical local staff including secretaries, typists, labourers, and other personnel necessary for the study,

- vii) to arrange for the provision of several vehicles and/or boats for the field operation (fuel and others),
- viii) to make arrangement of exemption from taxes, duties and charges to be imposed on the equipment imported to Sierra Leone for the survey and personal effects,
- ix) to make arrangements of exemption from taxes, duties, and charges to be imposed on the incomes of the Team members, provided that such incomes are not derived from local sources, and
- x) to guarantee the security of the Team members during the surveying period.

6. UNDERTAKING OF THE GOVERNMENT OF JAPAN

For the purpose of the survey, the Government of Japan will assist to the extent possible:

- i) to despatch the Team to conduct field works,
- ii) to transfer the technology related to this survey to the Sierra Leonean counterparts through their participation in the survey, and
- iii) to bear the cost of the whole survey excluding the cost borne by the Government.

inserted copy (SL to conceal and attach).

Tentative works schedule for Rhombic Swamp Area Agricultural Development Project

Year	1982												1983												
	Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
Topographical Surveying and Mapping	Team																								
	S/W Mission						ZZZ SK																		
	Study of Aerial Photos						ZZZ SL Japan.																		
	Ground Control & Site Surveys						ZZZ SL																		
Feasibility Study	Cartographic & Printing						ZZZ Japan.																		

SCOPE OF WORK
FOR
STUDY ON AGRICULTURAL DEVELOPMENT PROJECT
IN
THE DEMOCRATIC REPUBLIC OF THE SUDAN

I. INTRODUCTION

In response to the request of the Democratic Republic of the Sudan (hereinafter referred to as "the Government") for technical co-operation in conducting the survey and study for the Agricultural Development Project in the Abu Gasaba basin along the White Nile River, the Government of Japan has decided to offer its technical assistance. Accordingly, Japan International Cooperation Agency (JICA), the official agency responsible for the implementation of the Japan's technical cooperation program, will carry out of the survey and study in close collaboration with the Government.

II. OBJECTIVE OF THE STUDY

The objective of the study is to formulate and evaluate the feasibility of the Agricultural Development Project in the Abu Gasaba basin by conducting field survey and study. The study includes the preparation of the development plans, basic designs, preliminary estimates of costs and benefits and economic analysis.

III. SCOPE OF WORK

The scope of work to be undertaken by the survey team will be divided into two stages:

1. Field Work, and
2. Home Work

3.1 Field Work

The field work will cover the following items of the works:

- (1) To collect and review of relevant existing data and information including;
 - a. Meteorology and hydrology,
 - b. Topographic maps and aerial photographs.

- c. Geology,
 - d. Soil map,
 - e. Agriculture and agro-economy and
 - f. Regional economy
- (2) To carry out reconnaissance survey for delineation of the project area.
 - (3) To select and delineate the project area on the basis of review of data and information and reconnaissance survey.
 - (4) To carry out supplemental field investigations in the project area including the following items:
 - a. Hydrological survey,
 - b. Topographic survey for the major structure sites. The survey areas and map scales will be determined at the project site,
 - c. Soil and land capability investigation with digging pits, and laboratory analysis,
 - d. Soil investigation for structure foundations and earth materials including laboratory analysis,
 - e. Farm machinery survey,
 - f. Agronomic survey,
 - g. Agroeconomic survey and
 - h. Construction material and cost survey.
 - (5) To formulate the basic plans for the agricultural development in the Abu Gasaba basin together with the preliminary estimate of construction cost and benefit.

3.2 Home Work

Based on the results of field work, the home work will be carried out for the study of the following items:

- (1) To determine definite layout of the Project,

- (2) To prepare basic designs of the Project,
- (3) To prepare an implementation schedule of the Project,
- (4) To estimate the costs and benefits of the Project and
- (5) To make economic evaluation.

IV. REPORT

Reports on the Project will be submitted as below;

4.1 Interim Report

10 copies of Interim Report (in English) at the completion of the field work.

4.2 Draft Final Report

5 copies of Draft Final Report at the completion of the home work.

4.3 Final Report

50 copies of Final Report within 30 days after the receipt of the comments from the Government.

V. COLLABORATION OF THE GOVERNMENT

For the effective implementation of the survey and study, the Government is requested:

- 5.1 To provide the team with necessary entry and exit visas, staying and work permits, exchange permits and travel documents if required during their stay in Sudan.
- 5.2 To exempt the tax and duty for any equipment, materials and supplies required for the performance of the work, and of personal effects of the team.

5.3 To provide the following counterpart staffs to cooperate and assist the team during the entire field work without charging any cost on the team.

<u>Speciality</u>	<u>Required Personnel (No.)</u>
Irrigation Engineer	1
Soil-Agronomist	1
Agroeconomist	1
Topographic Surveyor	2
Soil Engineer	1
Hydrologist	1
Total	7

5.4 To make available to the team the following number of labourers needed in carrying out the field work.

For topographical survey	10 persons x 2.5 months
For soil survey	3 persons x 2.5 months
For soil mechanic survey	4 persons x 1 month

5.5 To provide the team with four (4) jeeps or land-cruisers with drivers and necessary maintenance and repairing services including supply of fuel, oil and lubricant, free of charge, during the entire period of the field work.

5.6 To provide the team with suitable office space and office equipment necessary for the study at the nearest possible place from the project area.

5.7 To provide lodging facilities to accommodate ten (10) personnel at the nearest possible place from the project area, which are provided with ten private rooms with beds, bath, water, light and other necessary utilities.

5.8 To provide the team with the data and information concerned for its use in connection with the study.

- 5.9 To provide the team with copies of aerial photographs (if any) covering the project area at the time of commencement of the field work.
- 5.10 To make arrangement for the team to enter, dig, and peg in the project area.
- 5.11 To make arrangement for the analysis of soil samples taken from the project area without charging any cost on the team.
- 5.12 To permit to take all data and materials concerned including copies of aero photographs (if any) out of the Democratic Republic of Sudan to Japan by the team.
- 5.13 To assure security of the team members during its stay.

TENTATIVE SCHEDULE

Calendar Month	1977	1978							
Work	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Field Survey	-----								
Interim Report		-----*							
Home work in Japan				-----					
Compiling of Draft Report						-----*			
Preparing of Comments							-----		
Final Report								-----*	

(*) Presentation of Report

RE: THE SCOPE OF WORKS FOR THE FEASIBILITY STUDY
ON THE LOWER MOSHI AGRICULTURAL DEVELOPMENT
PROJECT IN THE UNITED REPUBLIC OF TANZANIA

The Supervisory Team for the Feasibility Study on the Lower Moshi Agricultural Development Project (hereinafter referred to as "the Supervisory Team") organized by the Japan International Cooperation Agency and headed by Mr. S. Iwamoto, Deputy Director of Design Division, Construction Department, Agricultural Structure Improvement Bureau, Ministry of Agriculture, Forestry and Fisheries, visited the United Republic of Tanzania 30th November, 1979 to 6th December, 1979 for the purpose of working out the scope of works for the feasibility study on the Lower Moshi Agricultural Development Project in the United Republic of Tanzania.

During its stay in the United Republic of Tanzania, the Supervisory Team exchanged view and had a series of discussions with the Tanzanian ministries and authorities concerned in respect to the necessary measures to be taken for the smooth implementation of the above-mentioned feasibility study.

As a result of the discussions, the Supervisory Team and Kilimanjaro Regional Development Director agreed to recommend to their respective Governments the matters referred to in the scope of works attached hereto.

Moshi Tanzania December 5, 1979.



Soto IWAMOTO

Team Leader,
The Supervisory Team
for the Lower Moshi
Agricultural Development
Project



B. U. MWANSASU
Kilimanjaro Regional
Development Director

SCOPE OF WORKS FOR FEASIBILITY STUDY ON
THE LOWER MOSHI AGRICULTURAL DEVELOPMENT
PROJECT IN THE UNITED REPUBLIC OF TANZANIA

I. INTRODUCTION

In response to the request of the Government of THE UNITED REPUBLIC OF TANZANIA (hereinafter referred to as "the Government") for the technical cooperation in conducting the feasibility study on the LOWER-MOSHI Agricultural Development Project (hereinafter referred to as "the Project"), which was taken up as the priority project in the Kilimanjaro Intergrated Development Plan prepared as a part of the technical cooperation program of the Japanese Government (October, 1977), THE GOVERNMENT OF JAPAN has decided to offer the engineering services of the Japanese Study Team for the study to be carried out and for the transfer of knowledge to the counterpart personnel in the course of the study.

Accordingly, Japan International Cooperation Agency (JICA), the official agency responsible for the implementation of the Government of Japan's technical cooperation program shall be the executing agency, and carry out the study under the cooperation with the Tanzanian Ministries and Authorities concerned.

The present document sets forth the Scope of Works in regard to the above study and the Undertakings of both Japanese and Tanzanian Governments for the smooth execution of the Works. All the conditions stated in this document are made based on the results of the preliminary survey on the Project and discussion on the draft scope of works made between Tanzanian Ministries and Authorities concerned and the Supervisory Team in December, 1979.

II. OBJECTIVE

The objective of the engineering services is to carry out the feasibility study on the Lower-Moshi Agricultural Development Project, covering about 4,000 ha in gross, based on the preliminary survey in April, 1979 and topographical mapping survey from August to November, 1979, conducted by JICA. The Project area, the lowland area on the skirt of the Mt. Kilimanjaro, is

located at about 5 to 25 km south-east of Moshi city, the state capital of the Kilimanjaro Region. The proposed agricultural development project consists of eleven (11) irrigation schemes.

The essential services being envisaged in the technical cooperation will be as follows:-

- (a) To formulate an irrigation agricultural development project and verify the feasibility of the Project, covering about 4,000 ha in gross.
- (b) To train the counterpart personnel for transfer of technical knowledge and experience in the course of the field survey and study.

III. SCOPE OF WORKS

The implementation of the objective study will be divided into two stages:

- (1) Field work in Tanzania
- (2) Home office work in Japan

3.1 Field Work

- (1) To carry out the reconnaissance survey of the proposed area including its surroundings
- (2) To collect the relevant existing data and information on the followings (material collected by previous Japanese missions should be utilised as much as possible)
 - a. Meteorology and hydrology
 - b. Geo-physiology and geo-hydrology (ground-water)
 - c. Soil and land capability classification
 - d. Present land use and vegetation
 - e. Present agriculture, particularly on cropping pattern, crop production and farming practices
 - f. Agricultural economy and institution, i.e. research work, credit system, farmer's organization, water user's association, agricultural extension services, etc.
 - g. Regional economy and sociological situation

- h. Existing irrigation and drainage schemes in and around the Project area.
- i. Existing socio-economic infrastructure, particularly of road, transportation, communication.etc.

(3) To select the delineate the Project area on the basis of review of data and information and reconnaissance survey.

(4) To carry out field surveys in the Project area including the following itens:

- a. Hydrological survey
- b. Topographical survey at proposed sites for the major structures
- c. Soil survey with digging pits and laboratory analysis
- d. Geo-physiological survey
- e. Geo-hydrological (ground-water) -survey
- f. Irrigation and drainage survey
- g. On-farm development survey
- h. Land use survey
- i. Agro-economic survey
- j. Agricultural survey
- k. Economic and institutional survey in the project area
- l. Construction material and cost survey
- m. Land reclamation survye
- n. Other survey, if necessary.

3.2. Home Office Work

Based on the resultsof the field work, the home office work will be carried out for the study of the follow-ng itens:

- (1) to formulate an overall irrigated agricultural development plan for the Project Area
- (2) to prepare design of the major structures for the Project
- (3) to estimate the costs and benefits of the Project
- (4) to make economic evaluation

(5) to prepare the implementation schedule of the Project

IV. REPORTS

(1) Plan of Operation

The team will prepare and submit to the Government thirty (30) copies of plan of operation (in English) at the beginning of the study.

(2) Interim Report

The team will prepare and submit to the Government thirty (30) copies of Interim Report (in English) at the end of the field work.

(3) Draft Final Report

The team will prepare and submit thirth (30) copies of Draft Final Report (in English) at the midst of August 1980.

(4) Final Report

The team will prepare and submit fifty (50) copies of Final Report (in English) within one (1) month after receiving the comments on the Draft Final Report from the Government.

(5) Topographic Survey Products

JICA will prepare and submit following topographic maps

1. contact prints 2 sets
2. Topographic maps including index maps 10 sets

V. UNDERTAKING OF THE GOVERNMENT

In accordance with the laws and regulations in force in the United Republic of Tanzania the Government of the Republic of Tanzania will take necessary measures:

(1) to provide the necessary entry and exit visas, residence and work permits, and travel permits for the Japanese Study Team if required for their stay in Tanzania.

- (2) to exempt the members of the Team from customs duties, internal taxes and other fisical levies imposed in the United Republic of Tanzania with respect to the supply of the products and services necessary for the study,
- (3) to allow all data and materials concerned deemed to be necessary to be taken out of Tanzania and brought to Japan by the Team subject to Tanzania security regulations,
- (4) to facilitate prompt clearance through customs of any equipment, materials and supplies required for the services and of the personnel effects of the Team,
- (5) to provide counterpart personnel to cooperate and assist the Team during the survey and study without charging any cost to the Team while in the United Republic of Tanzania
- (6) to arrange transport for the Team,
- (7) to provide the permission to enter, dig and peg in the Project area, taking into account the Tanzanian Regulations,
- (8) to arrange suitable office space, equipzment and furniture for fifteen (15) Japanese Experts in maximum in the job site during the period of the field work,
- (9) to arrange the lodging facilities in Moshi city to accommodate fifteen (15) Japanese Experts in maximum which will consist of fifteen (15) private rooms with beds, water, light and other necessary utilities,
- (10) to provide available documentssuch as drawings, maps, statistics, data and information relating to the study,
- (11) to arrange the geotechnical investigations for the sites of the regulating dams, head works and major canal structures,
- (12) to arrange the drilling machine for digging the observation wells,
- (13) to arrange the chemical analysis of soil and water samples taken from the Project area,

- (14) to arrange the mechanical analysis of soils,
- (15) to arrange any other available facilities that may be required for the execution of the field work,
- (16) to provide medical services for the Team during their stay in Tanzania when necessary, and,
- (17) to undertake to bear claims, if any arises, against the Japanese Study Team in the survey resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in Tanzania, except for those claims arising from the willful misconducts or gross negligence of the Japanese Study Team.

VI. UNDERTAKING OF THE GOVERNMENT OF JAPAN

For the purpose of the survey and study, the Government of Japan will assist to the extent possible:

- (1) to send the Japanese Study Team to conduct the investigation and study,
- (2) to bring the equipment necessary for the purpose of the investigation and study,
- (3) to bear the charges of accommodation for the Team,
- (4) to bear the charges for vehicles required by the Team, and
- (5) to transfer the knowledge to the counterpart personnel during the period of the study, both in country and in Japan.

INSTITUTO AGRARIO DOMINICANO
SANTO DOMINGO, R.D.
AÑO DEL AGRICULTOR

FUNCIONARIOS Y TECNICOS DOMINICANOS QUE PARTICIPAN
CONJUNTAMENTE CON LA MISION JAPONESA DE ALCANCE DE
TRABAJO PARA EL ESTUDIO DE FACTIBILIDAD DEL PROYECTO
DE DESARROLLO AGRICOLA DE EL POZO EN AGLIPO.

INSTITUTO AGRARIO DOMINICANO

<u>Nombre</u>	<u>Cargo</u>
Agrón. Eligio A. Jáquez C.	Director General
Lic. Pablo Rodríguez Nuñez	Sub-Director General
Agrón. Franklin Inoa Russo	Sub-Director Administrativo
Lic. Julio César Canó	Enc. Oficina de Planificación
Ing. Agrón. Víctor Alifonso	Enc. Sec. Planes y Proyectos
Ing. Agrón. Ruben D. Gonell	Asist. Enc. Oficina Planificación
Ing. Leonarda Matos de Bona	Asist. Enc. Sec. Planes y Proyectos

INSTITUTO NACIONAL DE RECURSOS HIDRAULICOS

Ing. Francisco T. Rodríguez	Director Ejecutivo
Ing. Fernando Galarza	Sub-Director Ejecutivo
Ing. José Fco. Febrillet	Enc. Depto. de Hidrología
Ing. Orlando Añ 11 Paulino	Enc. Sec. Construcciones y Mantenimiento.
Ing. Rafael Sánchez	Enc. Sec. Hidrometeorología
Antonio Ortíz	Enc. Unidad Operación y Control

16 de julio, 1980

The Scope of Works Team for the Feasibility Study on the El Pozo of AGLIPO Agricultural Development Project (hereinafter referred to as "S/W Team") organized by the Japan International Cooperation Agency composed by three members and Headed by Mr. Tadashi Sakamoto, visited the Dominican Republic 11th July, 1980 to 22nd July, 1980 for the purpose of working out the scope of works for the feasibility study on the El Pozo of AGLIPO Agricultural Development Project in Dominican Republic.

During its stay in Dominican Republic, the S/W Team exchanged views and had a series of discussions with Dominican Republic ministries and authorities concerned in respect to the necessary measures to be taken for the smooth implementation of the above-mentioned feasibility study.

As a result of the discussions, the S/W Team and Director of IAD and Director of INDHRI agreed to recommend to their respective Governments the matters referred to in the scope of works attached hereto.

July 26, 1980

Tadashi Sakamoto
Team Leader
The Scope Work Team
for the El Pozo of AGLIPO
Agricultural Development
Project

Agr. Eligio Jáquez
Director of Instituto
Agrario Dominicano
(IAD)

Ing. Francisco T. Rodríguez
Director of Institute Nacional

SCOPE OF WORKS FOR PEASIBILITY STUDY OF ON THE ELPOZO OF AGLPO
AGRICULTURAE DEVELOPMENT PROJECT IN DOMINICAN REPUBLIC

I. INTRODUCTION

In response to the request of the Government of Dominican Republic (hereinafter referred to as "the Government"), the Government of Japan has decided to conduct the study of the El Pozo of AGLIPO Agricultural Development Project.

The Japan International Cooperation Agency (JICA); the official responsible for the implementation of the technical cooperation programme of the Government of Japan, will carry out the study.

This scope of works is prepared based on the suggestion in the minutes which were signed by the Government, the Japanese Preliminary Survey Team for the AGLIPO Agricultural Development Project on October 1979.

The Scope of Works is to be carried out in close cooperation with the Government and its authorities concerned.

II. OBJECTIVES OF THE STUDY

1. The study will be conducted in order to prepare the report which will verify the feasibility of the El Pozo of AGLIPO (about 10,000 ha) Agricultural Development Project that is a part of the Farmers Settlement Programme of the Government.

2. Home Works

Based on the results of the field works, the home works will be carried out for the study of the following items;

- a. Preliminary design for the project plan
- b. Preparation of the implementation schedule for the plan
- c. Estimation of the project cost and benefit
- d. Economic evaluation for the plan

III. REPORTS

JICA will prepare and submit following Spanish reports

1. Twenty (20) copies of Plan of Operation at the commencement of the study

2. Twenty (20) copies of Interim Report with basic survey maps which are soil, water basin and land use, at the end of 2nd Survey
3. Twenty (20) copies of Field Report at the end of each field survey
4. Twenty (20) copies of Draft Report at the end of the last home works
5. Fifty (50) copies of Final Report within one (1) month after receiving comments of the Government

IV. WORK SCHEDULE

To carry out the study JICA will provide the survey teams as the work schedule attached (See Annex 1).

V. UNDERTAKING OF THE GOVERNMENT

To facilitate smooth performance of the field works, the Government is requested to undertake the following;

1. Providing the data and information necessary for the survey and permitting the Japanese team to bring them to Japan for the home works.
2. Taking necessary procedure for the quick and smooth customs clearance of the survey equipments and materials required for the execution of the field works and exempting from any taxes and duties imposed by the Government for those survey equipments brought by the team members in the Dominican Republic.
3. Making good coordination to other ministries and governmental organization concerned to cooperate with the team for smooth execution of the survey.
4. Designating counterparts personnel in the following fields to cooperate with the team for the effective execution of the survey
 - a. General planning
 - b. Irrigation and Drainage
 - c. Soil
 - d. Topographical surveying

- e. Hydrology
- f. Agro-economy
- g. Agronomy
- h. Farmers settlement

The number of counterparts personnel and their respective assignment periods should be decided by prior consultation between the team and the authorities concerned at the commencement of the survey.

5. Providing the team with the office space and office accommodations in Santo Domingo and Nagua City, together with necessary vehicles and boats including drivers and those necessary laborers.

6. Making necessary arrangement to obtain the permission of the authorities concerned for the team conduct the survey in the project area.

7. Undertaking to bear claims, if any arises, against the Japanese Study Team in the survey resulting from, occurring in the course of or otherwise connected with the discharge of their official function in the Dominican Republic, except for those arising from the willful misconduct or gross negligence of the Japanese Study Team.

VI. UNDERTAKING OF THE GOVERNMENT OF JAPAN

The following are to be undertaken by the Government of Japan

1. Sending Japanese teams to the Dominican Republic to conduct the feasibility study for the project

2. Providing equipment necessary for the study of the project




3. Bearing direct cost incurred for the study such as hotel accommodations, transportation, etc.

4. Presentation of above-mentioned reports (IV) on the project to the Government



5. Donation of three (3) four-wheel-driven vehicles, two (2) boats with engines and two (2) sets of Digital Automatic Recording Water-Level-Gage for the field survey.

ANNEX 1

OPERATION PLAN

Date	1980						1981						1982						
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Works																			
Scope of Work																			
1st Work																			
2nd Work																			
3rd Work																			
Reports																			

Operation Plan
Field Report
Interim Report
Draft Report

 Field Work
 Home Work

MINUTA DE LA MISION JAPONESA, EL IAD Y EL INDRHI SOBRE
EL ALCANCE DE TRABAJOS PARA EL ESTUDIO DE FACTIBILIDAD
DEL PROYECTO DE DESARROLLO AGRICOLA DE EL POZO EN EL
AREA DE AGLIPO EN LA REPUBLICA DOMINICANA.

La misión del Alcance de Trabajos para el Estudio de Factibilidad del Proyecto de Desarrollo Agrícola de - El Pozo, en el área de AGLIPO, que en lo adelante se denominara Misión A/T, organizada por la Agencia de Cooperación Internacional del Japón (JICA), constituida por tres miembros y encabezada por el Señor TADASHI SAKAYOTO, visitó a la República Dominicana del 11 al 22 de julio - de 1980, con el propósito de elaborar el Alcance de Trabajos para el Estudio de Factibilidad del Proyecto de Desarrollo Agrícola de El Pozo, en el área de AGLIPO, en la República Dominicana.

Durante su estadía en la Republica Dominicana, la Misión A/T ha intercambiado opiniones y llevó a cabo una serie de discusiones con autoridades de las instituciones gubernamentales dominicanas correspondientes, en relación a las medidas necesarias, a ser tomadas para la eficaz implementación del citado estudio de factibilidad.

Como resultado de las discusiones, la Misión A/T conjuntamente con el Director General del Instituto Agrario Dominicano (IAD) y con el Director Ejecutivo del Instituto Nacional de Recursos Hidráulicos (INDRHI), acordaron recomendar a sus respectivos Gobiernos los asuntos referidos en el Alcance de Trabajo adjunto.

Hecho y firmado en tres (3) copias en español de un mismo tenor y efecto en Santo Domingo, Distrito Nacional, Capital de la República Dominicana a los 21 días del mes de Julio del año 1980.

Por la Misión A/T



LIC. TADASHI SAKAYOTO

Jefe Misión

Por el Instituto Nacional
de Recursos Hidráulicos:

D.O.

[Handwritten Signature]
INT. FRANCISCO TOMÁS RODRIGUEZ
Director Ejecutivo

Por el Instituto Agrario
Dominicano:

[Handwritten Signature]
AGRON. ELIGIO A. JAQUEZ C
Director General

ALCANCE DE TRABAJOS PARA EL ESTUDIO DE FACTIBILIDAD DEL
PROYECTO DE DESARROLLO AGRICOLA DE EL POZO, EN EL AREA DE AGLIPO
EN LA REPUBLICA DOMINICANA

I. INTRODUCCION

En respuesta a la solicitud del Gobierno de la República Dominicana, que en lo adelante se denominará El Gobierno, el Gobierno del Japón ha decidido realizar el estudio del Proyecto de Desarrollo Agrícola de El Pozo en el área de AGLIPO.

La Agencia de Cooperación Internacional del Japón (JICA), agencia oficial responsable de la implementación de programas de cooperación técnica del Gobierno del Japón, llevará a cabo el estudio.

El presente Alcance de Trabajos ha sido preparado de acuerdo a las indicaciones señaladas en la Minuta firmada por El Gobierno y la Misión Japonesa de Estudio Preliminar para el Proyecto de Desarrollo Agrícola AGLIPO en octubre de 1979.

Este Alcance de Trabajos se ejecutará en estrecha colaboración tanto con El Gobierno como con sus autoridades correspondientes.

II. OBJETIVOS DEL ESTUDIO

1. El estudio se llevará a cabo a fin de confeccionar el informe que verificará la factibilidad del Proyecto de Desarrollo Agrícola de El Pozo, con un área aproximada de 10,000 hectáreas, el cual es parte del Programa de Asentamientos Campesinos de El Gobierno.
2. A través del estudio se fomentará la transferencia de tecnología a las contrapartes.

III. DESCRIPCION DE LA INVESTIGACION Y EL ESTUDIO

La investigación y el estudio abarcarán de uno a tres trabajos de campo y de uno a dos trabajos de gabinete en Japón que se detallan a continuación de conformidad con el plan de trabajo anexo.

1. TRABAJOS DE CAMPO

Los trabajos de campo cubrirán los siguientes aspectos:

- 1.1 Compilar y examinar las informaciones y datos relevantes existentes que incluya:
 - a. Mapas topográficos
 - b. Meteorología e hidrología
 - c. Geología
 - d. Suelo
 - e. Riego y drenaje
 - f. Agricultura
 - g. Economía regional, agroeconomía e instituciones agropecuarias.
 - h. Infraestructura social
 - j. Otros
- 1.2 Ejecutar los trabajos de reconocimiento a fin de delinear el área del proyecto en base a la revisión de los datos e informaciones.
- 1.3 Ejecutar la investigación de campo en el área del proyecto respecto a los siguientes aspectos:
 - a. Topografía
 - b. Hidrología
 - c. Geología
 - d. Uso de la tierra
 - e. Estudio de suelo
 - f. Nivel freático y calidad del agua
 - g. Tasa de infiltración y coeficiente de permeabilidad.
 - h. Infraestructuras de riego y drenaje
 - i. Sistemas de riego y drenaje
 - j. Obstrucción del estuario
 - k. Recuperación de tierras y asentamientos campesinos.
 - l. Agronomía

- m. Agroeconomía
- n. Economía regional e instituciones agropecuarias.
- o. Materiales de construcción y costos

1.4 Formulación de factores básicos para el planeamiento del proyecto que incluyan los siguientes aspectos:

- a. Límites del proyecto y superficie
- b. Descripción del uso de tierra y de sistemas de cultivo.
- c. Requerimiento de agua
- d. Infraestructura de riego y drenaje
- e. Rendimiento de cultivos

2. TRABAJOS DE GABINETE EN JAPON

Basado en los resultados de los trabajos de campo, los trabajos de gabinete en Japón cubrirán el estudio de - los siguientes aspectos:

- a. Diseño preliminar para el plan del proyecto.
- b. Confección del calendario de implementación para el plan.
- c. Evaluación de los costos y beneficios del proyecto.
- d. Análisis económico del plan

IV. INFORMES

JICA elaborará y presentará los siguientes informes en español:

1. Veinte (20) copias del Plan de Operación al inicio del estudio.
2. Veinte (20) copias del Informe Intermedio con mapas de investigaciones básicas del suelo, cuencas - hidrográficas y uso de tierra, al término de la segunda investigación.
3. Veinte (20) copias del informe al término de cada investigación de campo.
4. Veinte (20) copias del Informe-Borrador al término del último trabajo de gabinete en Japón.
5. Cincuenta (50) copias de Informe Final en el lapso de un (1) mes a partir del recibo de las observaciones que hiciera El Gobierno.

V. PLAN DE TRABAJO

JICA enviará las misiones de investigación para la realización de los estudios de conformidad con el plan de trabajo adjunto. (Ver anexo 1).

VI. FACILIDADES DE EL GOBIERNO

A fin de facilitar la ejecución de los trabajos de campo, se solicita a El Gobierno lo siguiente:

1. Suministrar los datos e informaciones necesarias para las investigaciones y permitir a las misiones japonesas trasladarlos al Japón para los trabajos de gabinete.
 2. Tomar las medidas pertinentes a fin de que los materiales y equipos de investigación, requeridos paratrabajos de campo, obtengan el despacho rápido y franco en la aduana, exonerados de todo gravámen arancelarios. Estos equipos traídos por los miembros de las misiones, estarán exentos además, de cualquier otro impuesto.
 3. Establecer una eficaz coordinación entre las instituciones gubernamentales que colaboren con las misiones en la ejecución de las investigaciones.
 4. Asignar a la misión, personal contraparte a fin de que colaboren para la efectiva ejecución de las investigaciones en los siguientes campos:
 - a. Planificación
 - b. Riego y drenaje
 - c. Suelo
 - d. Estudio topográfico
 - e. Hidrología
 - f. Agroeconomía
 - g. Agronomía
 - h. Asentamientos campesinos
- El número del personal contraparte y los respectivos períodos de sus atribuciones, se decidirá previa consulta entre la misión y las autoridades correspondientes al inicio de los trabajos de investigación.
5. Proveer o facilitar a las misiones, una oficina equipada en Santo Domingo y otra en la ciudad de Nagua, así como los vehículos y botes necesarios con sus respectivos conductores y de personal auxiliar.

6. Realizar los arreglos de lugar a fin de que las misiones obtengan de las autoridades competentes, el permiso para poder llevar a cabo las investigaciones en el área del proyecto.

7. El Gobierno se compromete a sobrellevar los reclamos, si los hubiere, contra cualquier miembro de las misiones, si provinieren de o si fueren originados en el curso de los trabajos de investigación, o relacionados de alguna u otra forma con el desempeño de sus funciones de carácter oficial en la República Dominicana, excepto en aquellos casos provocados por una mala conducta intencional o por graves negligencias de cualquier miembro de las misiones.

VII. FACILIDADES DEL GOBIERNO DEL JAPON

El Gobierno del Japón se compromete a cumplir lo siguiente:

1. Enviar las misiones Japonesas a la Republica Dominicana para realizar el estudio de factibilidad del proyecto.

2. Suministrar los equipos necesarios para el proyecto.

3. Cubrir, a su propia costa, los gastos en que incurran los miembros de las misiones tales como alojamiento, transportación, etc.

4. Presentar a El Gobierno, los informes del proyecto indicados en el punto IV.

5. Donar tres (3) vehículos de doble tracción, dos (2) botes con sus respectivos motores y dos (2) juegos de registadores automáticas del nivel de agua.

MINUTA DE LA MISION ENCARGADA DE LA INSTALACION DE REGIS-
TRADORES AUTOMATICOS DEL NIVEL DE AGUA PARA EL PROYECTO
DE DESARROLLO AGRICOLA "AGLIPO" EN LA REPUBLICA DOMINICANA

Los miembros de la Misión Japonesa de Estudio sobre el Proyec-
to para el Desarrollo Agrícola "AGLIPO", integrada por seis (6)
miembros y presidida por el Señor Yohji Takano, que en lo sucesivo
se denominará LA MISION; conjuntamente con los representantes del
Instituto Agrario Dominicano que en lo sucesivo se denominará IAD;
y los representantes del Instituto Nacional de Recursos Hidráulicos,
que en lo sucesivo se denominará INORHI, basándose en las con-
clusiones del estudio conjunto realizado en el sitio, han acordado
lo siguiente:

1.- La Misión como parte del estudio sobre el proyecto de de-
sarrollo agrícola "AGLIPO" y dentro de la etapa inicial
de los estudios hidrológicos, en lo que concierne a la
colección de datos básicos, instalará al término de su
visita, registradores automáticos e indicadores del ni-
vel de agua en los siguientes lugares:

- 1) Río Yuna..... Registrador Automático
- 2) Río Nagua..... Registrador Automático
- 3) Río Nagua..... Indicador
- 4) Río Helechal..... Indicador

Las indicaciones sobre la observación, tanto del nivel de
agua como de la velocidad del flujo y de la operación de los
registradores automáticos, estarán detallados en los anexos 1
y 2.

2.- El INORHI se encargará de los trabajos de operación y man-
tenimiento, así como de la observación periódica tanto de
los registradores automáticos como de los indicadores, y
suministrará los resultados al IAD.

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- 3.- El IAD enviará periódicamente a la Agencia de Cooperación Internacional del Japón los resultados de las observaciones, hasta la llegada de la Misión para el estudio de factibilidad.
- 4.- Los registradores automáticos serán donados al Gobierno Dominicano tan pronto termine el estudio sobre el Proyecto de desarrollo agrícola AGLIPO.
- 5.- El IAD y el INDRHI realizarán las gestiones para que el Gobierno Dominicano ofrezca a las misiones sucesivas, facilidades similares a las que se han brindado a la Misión, para el envío de instrumentos y equipos. Los instrumentos y equipos adicionales podrán ser donados al Gobierno Dominicano al finalizar el estudio, si así fuere solicitado.
- 6.- El IAD y el INDRHI garantizarán la asignación de contrapartes a las misiones sucesivas del Gobierno del Japón.
- 7.- La Misión hará gestiones para que el Gobierno Japonés otorgue becas a técnicos nacionales que trabajen como contraparte, para que éstos puedan adiestrarse en Japón.
- 8.- Dada la gran diferencia que existe entre la realidad en la zona y los mapas disponibles, se considera prioritaria la elaboración de nuevos planos.

Hecho y firmado en tres (3) copias en español de un mismo tener y efecto en Santo Domingo, Distrito Nacional, capital de la República Dominicana a los 19 días del mes de MARZO del año 1980.

POR LA MISIÓN JAPONESA

Shoji Takano
SHOJI TAKANO
Jefe de Misión

POR EL INSTITUTO AGRARIO
DOMINICANO

Eligio C. Jaques
AGRON. ELIGIO C. JAQUES C.
Director General.

POR EL INSTITUTO NACIONAL
DE RECURSOS HIDRAULICOS

Francisco I. Rodríguez
ING. FRANCISCO I. RODRIGUEZ
Director General

Anexo 1

Indicaciones sobre la observación del nivel de agua y la velocidad del flujo.

- 1- El INDRHI se encargará de la operación y mantenimiento de las estaciones hidrotétricas.
- 2- El INDRHI asignará bajo selección un lector de mira para cada estación que reúna las siguientes condiciones:
 - A.- Persona que disponga de modo permanente las horas fijadas para las observaciones.
 - B.- En cuanto a los registradores automáticos, persona hábil para labores de mantenimiento.
- 3- Normas de operación y mantenimiento de los registradores automáticos.
 - A.- El manual de operación y mantenimiento está contenido en el Anexo 2.
 - B.- El cambio de papel del registrador automático deberá realizarse una vez cada seis meses.
 - C.- Durante cada cambio de papel, deberá registrarse la fecha, hora y el nivel de agua de ese momento y demás condiciones hidrológicas, si las hubiere.
 - D.- Después de cada cambio de papel, deberá suministrarse agua a la batería y tinta al registrador, si fuere necesario. Además, deberá, de manera constante, mantenerse la limpieza tanto de la estructura física del registrador, como de sus alrededores.
 - E.- En caso de accidente, desperfecto o de paralización del registrador, el lector deberá notificarlo de inmediato al INDRHI.

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F.- El INDRHI, deberá realizar la colección de los registros.

4- Normas de operación y mantenimiento de los indicadores.

La operación de los indicadores se hará de acuerdo a instrucciones del INDRHI, prestando especial atención en los siguientes puntos:

A.- La lectura de la mira se realizará dos veces al día (7:00 a.m. y 5:00 p.m.). Sin embargo, durante los días que existan alteraciones significativas del nivel de agua originadas por fenómenos atmosféricos, la lectura deberá realizarse cada hora. En caso de que la mira fuere totalmente cubierta por caudales, la lectura deberá realizarse por apreciación, en base a la posición de la mira.

B.- Es imprescindible que el lector de mira tome nota de sus observaciones con la mayor precisión posible. En caso de que cualquier objeto o basura obstruya la visión, la lectura deberá realizarse después de la limpieza.

C.- La medida de la lectura se hará en centímetros.

D.- Será labor del lector el cuidado y adecuado mantenimiento de la mira.

E.- En caso de pérdida, accidente o deterioro de la mira, el lector deberá notificarlo de inmediato al INDRHI.

F.- El INDRHI deberá realizar la colección de los registros.

Para la medición de la velocidad del flujo, el INDRHI dará las instrucciones convenientes a fin de que en cada una de

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Cont.: Anexo 1

las cuatro (4) estaciones se realicen con regularidad registros de la medida de la velocidad del flujo de agua, particularmente en épocas de lluvia, sequía y tormenta. En estos casos, los registros deberán incluir la fecha, hora, clima, precipitación y nivel de agua.

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Anexo 2

NORMAS DE OPERACION Y MANTENIMIENTO DE LOS
REGISTRADORES AUTOMATICOS.

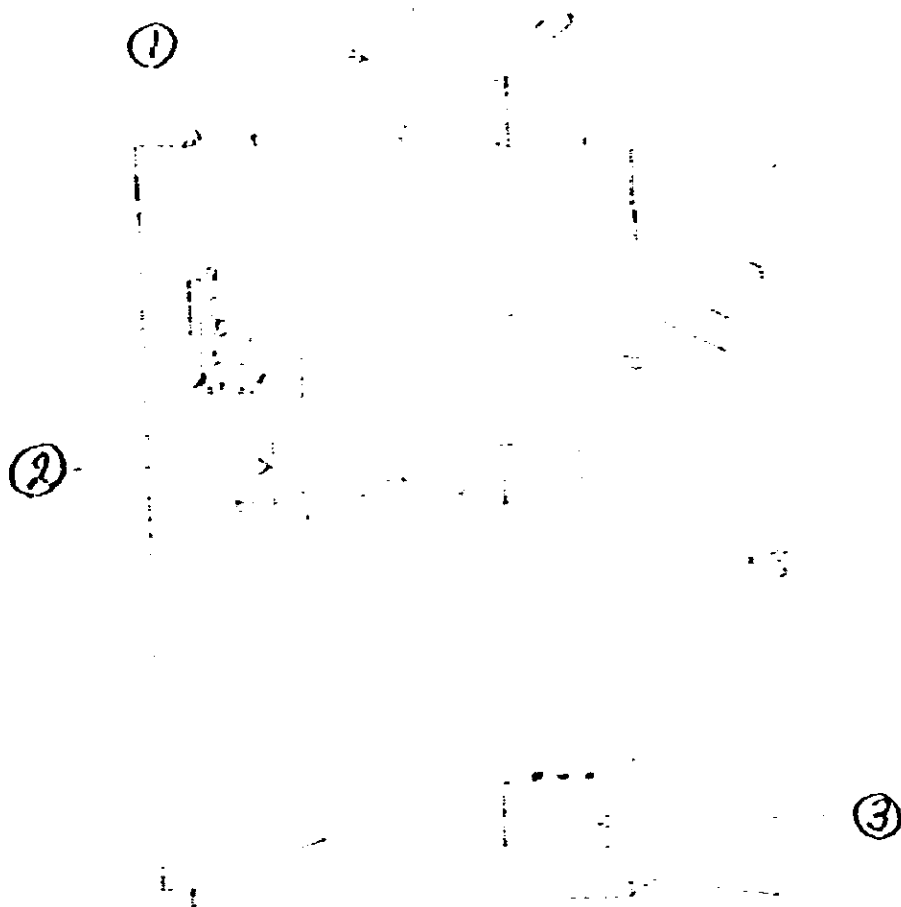
- A- Gráfico del equino
- B- Mantenimiento de la pantalla
- C- Mantenimiento del acumulador
- D- Mantenimiento del impresor digital
- E- Procedimiento para el cambio de papel
- F- Registro de chequeos

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Cont. anexo 2

3.- Grafico del equipo



1.- Pantalla del acumulador

2.- Impresor digital

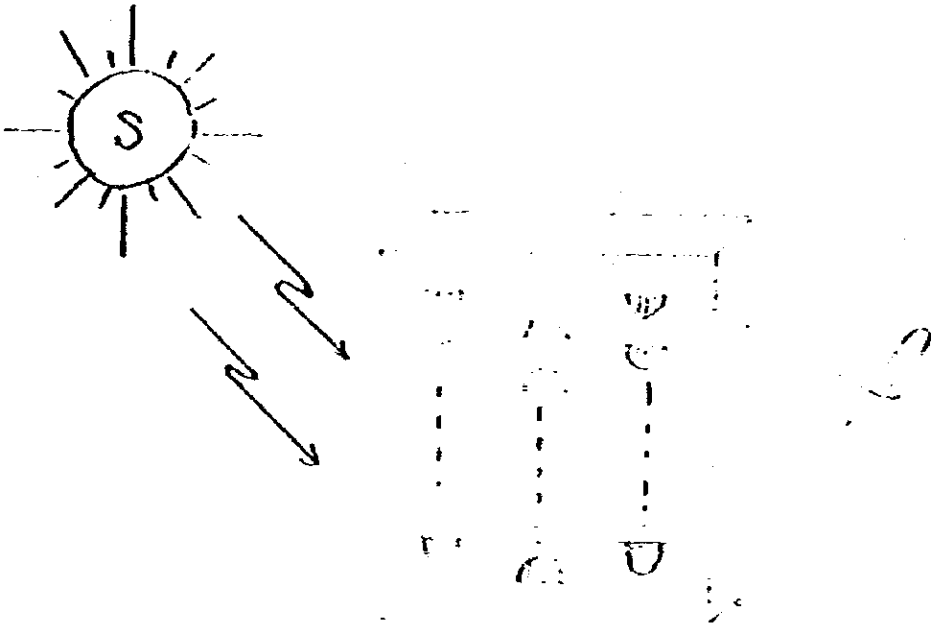
3.- Acumulador

JH
2/7

JH

Cont. anexo 2

B.- Mantenimiento de la Pantalla.

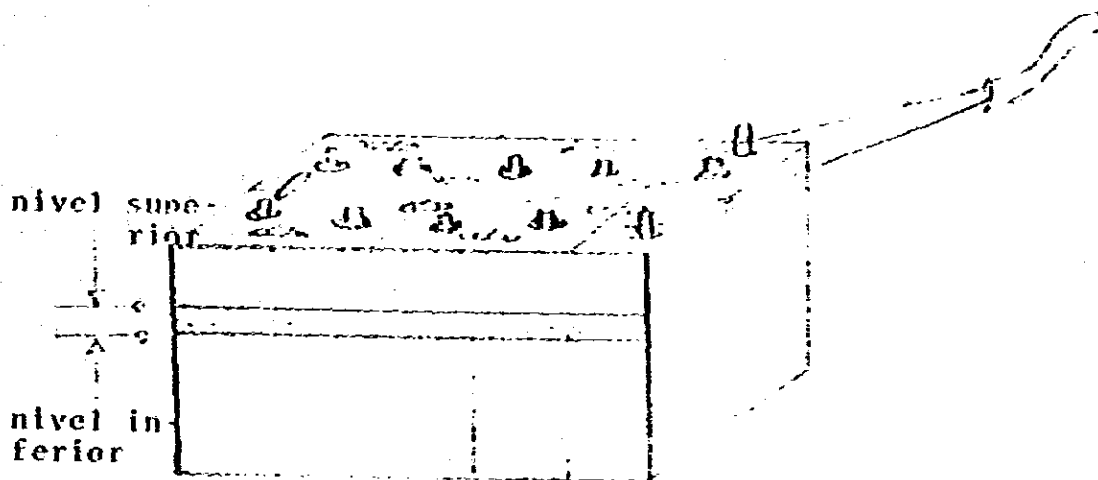


- 1- Cubrir con agua la pantalla
- 2- Lavarlo con la brocha
- 3- Cubrir de nuevo con agua
- 4- Secar con lanilla toda la pantalla, particularmente los cristales del frente.

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C.- Mantenimiento del acumulador



- 1.- Chequeo del nivel de agua de cada celdilla
- 2.- In caso de que faltase el agua, el suministro se realizará con el gotero hasta que alcance el nivel superior.
- 3.- Una vez suministrada el agua, deberá revisarse de nuevo el nivel de cada celdilla.

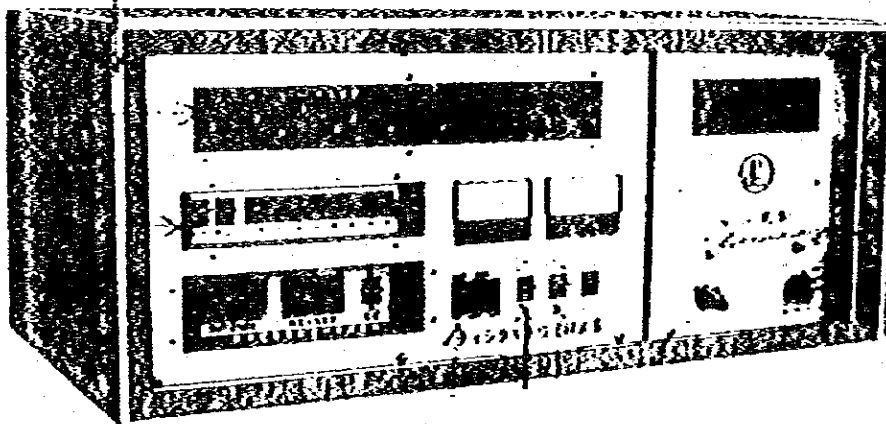
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D- Mantenimiento del impresor digital

- 1- Comprobar el funcionamiento normal del registrador y observar el nivel de agua registrado.
- 2- Abrir la portezuela frontal.
- 3- Encender el obturador "B" colocándolo en "ON" y comprobar si la lámpara "C" ha encendido.
- 4- Comprobar si el nivel que indica la mira corresponde al del registrador (1) y si la diferencia no sobrepasa un centímetro.
- 5- Comprobar si el reloj digital corresponde a la hora local. Se acepta como normal la diferencia hasta de 30 minutos.
- 6- Apagar el obturador "B" colocándolo en "OFF" y confirmar si la bombilla "C" se ha apagado.
- 7- Confirmar si el fusible "D" está o no apagado. Si la marca está blanquesina, debe cambiarse el fusible.
- 8- Encender bajando el obturador "E".
- 9- Anotar el último registro, viéndolo a través de la ventanilla.
- 10- Apagar subiendo el obturador "E".
- 11- Cerrar la portezuela frontal.

DIGITAL PRINTING DEVICE



E- Procedimientos para el cambio de papel

- 1.- Girar la palanca "A" hacia la izquierda (sentido contrario a la manecilla del reloj)
- 2.- Sostener la palanca "B" y halarlo hacia fuera.
- 3.- Presionar los switches "C" y "D" para que salga el papel.
- 4.- Sostener el rolo "E1" y cortar el papel y separar el cilindro del rolo.
- 5.- Sostener el rolo "E2" y retirar el papel sobrante.
- 6.- Presionar los switches "C" y "D" y retirar el papel sobrante que haya quedado.
- 7.- Sufir el nuevo papel siguiendo las instrucciones del punto 5.
- 8.- Desarrollar el nuevo papel y colocar su extremo en la abertura "F".
- 9.- Presionar los switches "C" y "D" hasta que el papel salga unos 20 centímetros y cortar esa porción innecesaria.
- 10.- Colocar el extremo del papel en el cilindro indicado en el punto 8 y envolverlo hasta que llegue a la posición que aparece marcada.
- 11.- Presionar los switches "C" y "D" y comprobar si el papel se halla bien enrollado.
- 12.- Sostener la palanca "B" introduciendo el papel a la máquina.
- 13.- Girar la palanca "A" hacia la derecha (en el sentido de la manecilla del reloj) y cerrar.

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J.P.

Cont. anexo 2

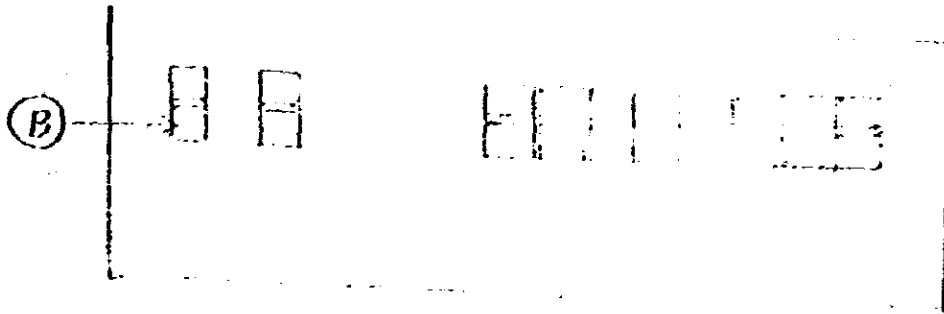
F- Registro de chequeos

- 1.- Anotar fecha, hora, temperatura de la caja del registrador y nombres del lugar y del chequeador.
- 2.- Estado de suciedad de las celdillas del acumulador. Por eje.
Muy sucio
Sucio
Limpio
- 3.- Cantidad de agua suministrada al acumulador.
- 4.- Nivel de agua en el momento del chequeo.
- 5.- Anotar el dato que da el Registrador.
- 6.- Anotar la diferencia del reloj del registrador con la hora local.

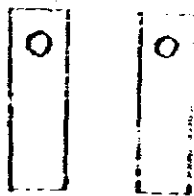
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C. DISPLAY

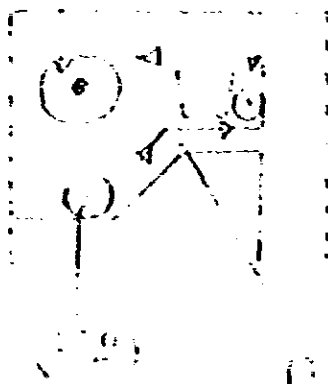
DATE		TIME		WATER LEVEL	
MONTH	DAY	HOUR	MINUTE	M.	CM.
01	01	15	23	02	45

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③



本調査団のミニッツについて

本調査団は、1980年3月19日次のようなミニッツをドミニカ側と協議して作成し、本調査団団長と INDRHI 局長との間で合意した。ドミニカ共和国 AGLIPO 農業開発計画基礎調査団ミニッツ、ドミニカ共和国大統領府農地局および水利局の代表と日本国政府が、前回事前調査結果に基づき派遣した AGLIPO 農業開発計画基礎調査団（団長 高野洋二 以下5名）は、共同現地調査にもとずき次の事項について合意した。

1. AGLIPO 農業開発計画調査を実施することにあたり、本調査団は、基礎調査のうち水文調査の一環として自記水位計ならびに量水標を下記地点に当ミッションが滞在中に設置する。

- | | |
|-----------|-------|
| 1) ジュナ川 | 自記水位計 |
| 2) ナグワ川 | 自記水位計 |
| 3) ナグワ川 | 量水計 |
| 4) ヘルチャル川 | 量水計 |

なお、水位および流速観測の要領と、自記水位計の使用方法は、別紙 1) 2) とする。

2. 設置された自記水位計ならびに量水標の維持管理および継続観測調査については、ドミニカ共和国大統領府農地局と共同協力のもとに、大統領府水利庁が主体となって実施する。

3. 継続観測調査結果の資料は、AGLIPO 農業開発計画調査に F/S 調査団が派遣されるまでの間、ドミニカ共和国大統領府農地局より、日本国国際協力事業団に定期的を送付することとする。

4. AGLIPO 農業開発調査が完了した時、本調査団設置の自記水位計はドミニカ共和国政府に譲渡する。

5. 今後調査用資機材がさらに送付される予定であるが今回同様の便宜供与を与えるものとする。また自記水位計以外の機材についてもドミニカ共和国政府の要望により調査、調査終了後、ドミニカ共和国政府に贈与することが可能である。

6. 当ミッションは、数名のカウンターパートが日本で研修を行えるよう便宜を与える。

7. 今後の調査は、地図と現況地形が大きく変化しているので地形図を作成することから作業を進める。

別紙 1)

水位および流速の観測要領

1. INDRHI は IAD と協議して水位観測所 1ヶ所につき、1名の水位観測員を次の条件を有する者から選定し、水位観測、水位計の管理を委嘱するものとする。

- a. 長期間継続し、一定の時間に観測作業に従事することが可能な者。
- b. 自記水位計の観測所にあつては、自記計器の取扱いに関し理解できる者。

2. 自記水位計による観測心得

INDRHI 又は IAD は次のことに留意して観測を行うものとする。

- a. 自記水位計の取扱いは別紙により行うものとする。(別紙2)
- b. 記録用紙の取り換えは原則として6ヶ月に1回行う。
- c. 記録用紙を取り換える場合は、その年月日、時間および量水標の水位など附近の状況を記録しておくこと。
- d. 記録用紙の取り換え後、電池の水記録用インクその他必要な補給を行う。また時々計器全体について異常がないか点検すると共に観測施設附近のごみ、流木など雑物を常に取り除き、観測機能を損なわないよう管理すること。
- e. 災害発生、計器の故障、盗難などによる事故があった場合、調査員は至急 INDRHI 事務所に報告のこと。
- f. 観測記録の収集は、原則として INDRHI において行う。

3. 水位標による観測心得

水位標による観測は、原則として INDRHI の観測要領に従って行うが次の事に留意して観測を行うものとする。

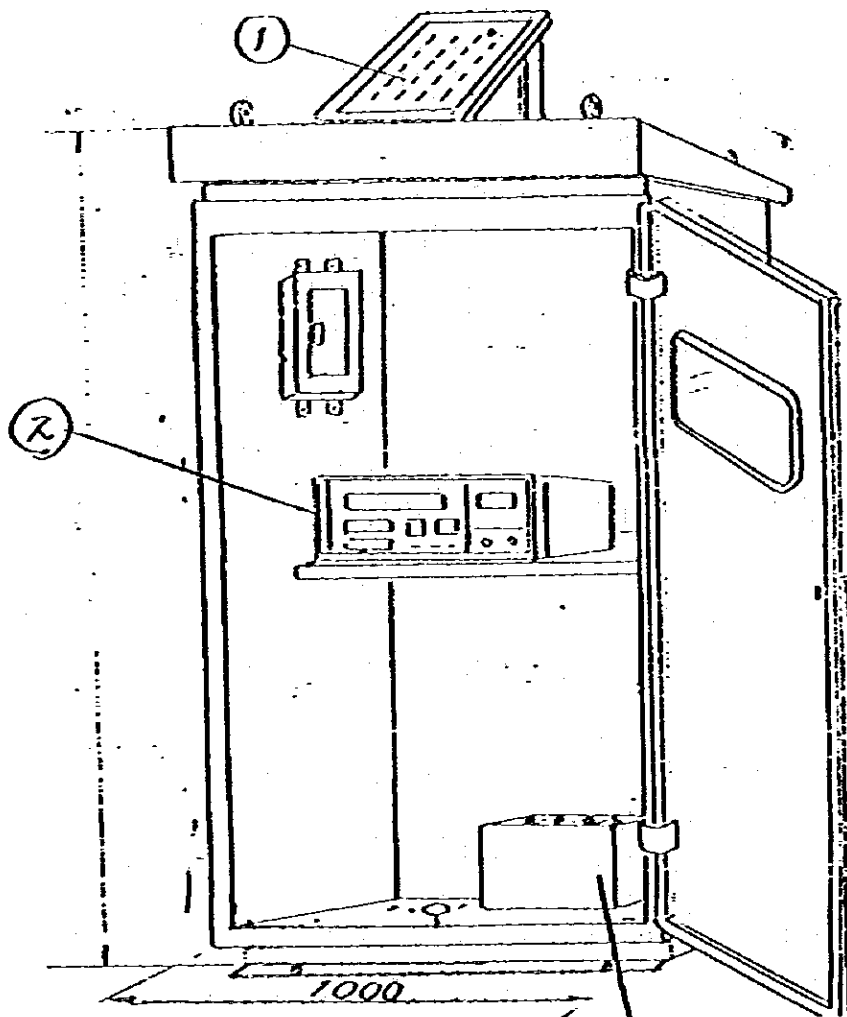
- a. 水位観測は原則として1日2回(7 A.M および 5 P.M)の定時観測とする。また、洪水時などに水位上昇又は水位低下のばげしい時には、水位の変化状況を時間ごとに記録しておくこと。
但し、水位標が埋没した場合は、なるべく痕跡などを記録しておくこと。
- b. 水位標の水位を読みとり、所定の記録用紙に記入する。
但し、水位標に、ごみ等が附着している場合はこれを取り除いた後に水位を読みとること。
- c. 水位の読みとり単位はセンチメートル (cm) とする。
- d. 観測員は観測機能を損なわないよう観測施設の日常の管理を行う。
- e. 観測員は災害発生その他の事故が起きた場合には、至急 INDRHI 事務所に連絡すること。

f. 観測記録の収集は原則として INDRHI において行う。

4. 流速の観測

自記水位計の設置ヶ所（2ヶ所，ジュナ・ナグワ）および水位標設置ヶ所（2ヶ所，ナグワ・エルチャル）における流速の測定は INDRHI の観測要領によって行い記録を保管すること。特に乾期，雨期のある時点および大雨の降った時に測定するものとし，測定年月日，時間，天候，降雨量，測定時の水位などの事項を記録しておくこと。

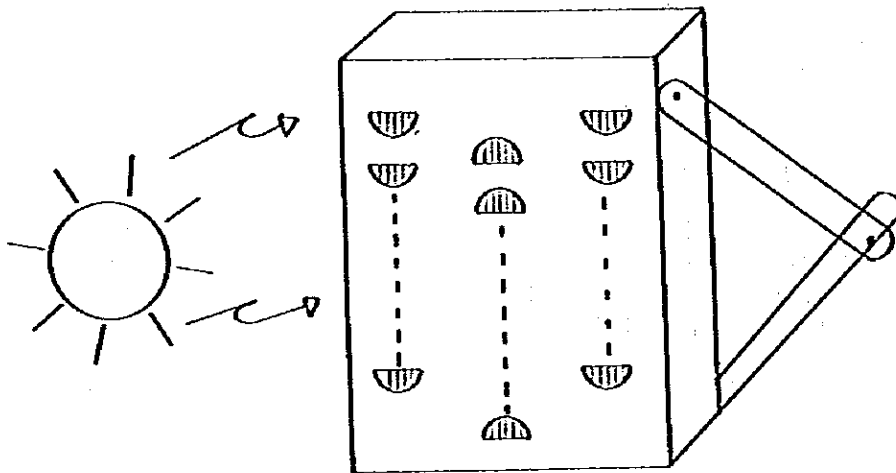
1. 点検機器配置図



- ① 太陽電池セル
- ② デジタルプリンター
- ③ バッテリー-60 AH (10セル)

2. 太陽電池点検順序

- (1) 太陽電池に水をかける。
- (2) 太陽電池をブラシで洗う。
- (3) 太陽電池に水をかける。
- (4) 布きれで表面を良くふきとる。
- (5) 終了



3. バッテリー点検順序

- (1) 各セル(10セル)の蒸留水が基準レベル(中心以上)にあるかどうか調べる。
- (2) 各セルの蒸留水が中心以下のセルには予備の蒸留水をスポイトにて足りないセルのキャップをあげ上側の線の所まで入れる。
- (3) (1)項を再度確認する。
- (4) 終了