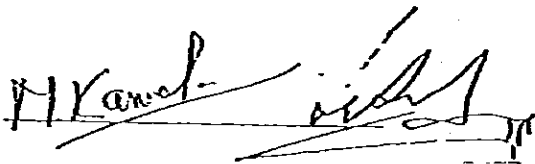


MINUTES OF MEETING  
OF  
FEASIBILITY STUDY  
ON  
NORTH HUSSINIA VALLEY AND SOUTH PORT SAID  
AGRICULTURAL DEVELOPMENT PROJECT  
IN  
ARAB REPUBLIC OF EGYPT

September 25, 1982, Cairo



ON BEHALF OF  
EGYPTIAN GOVERNMENT

*R. M. Anwar*

*Samir Wafmoud*



ON BEHALF OF  
JAPANESE TEAM  
SHIGETAKA TANIYAMA

MINUTES OF MEETING

(September 13 - September 25, 1982)

Reference to the letter of the Embassy of Japan dated September 12, 1982 addressed to the Chairman of the General Authority for Rehabilitation Projects and Agricultural Development a team of experts from Japan visited Egypt during the period from September 13 to 25th, 1982 to discuss the scope of works of the feasibility study of the North Hussinia Valley and South Port Said, Agricultural Development Project.

The scope of work 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 North Hussinia Valley and South Port Said Agricultural Development Project (hereinafter referred to as "the Project") in Arab Republic of Egypt with counterparts, Ministry of Land Reclamation, Ministry of Irrigation, and other authorities concerned. Member list of both sides are attached in Annex I (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. The team recognized the importance the government of Egypt attached to the project, as the development of this area will have a significant impact on the socio-economic aspects in Egypt. The selection of this project area for reclamation and integrated agricultural development is of great importance as it is adjacent to Port Said.

For the above reasons, both sides agreed to make an effort for the smoother execution of the feasibility study of the Project.

2. The Government of Egypt suggested a guideline of the feasibility study on the Project (Annex III). The Team agreed to convey the guideline to the Government of Japan.

LIST OF  
JAPAN INTERNATIONAL COOPERATION AGENCY TEAM MEMBER

Assignment	Name	Position
Leader	Shigetaka TANIYAMA	Chief Technical Advisor, Construction Dept., Bureau of Agricultural Structure Improvement, Ministry of Agriculture, Forestry & Fisheries (MAFF)
Irrigation & Swamp Development	Kazumi UEDA	Assistant Director, Land Development Div., Bureau of Agricultural Structure Improvement, MAFF
Soil & Agronomy	Yuji GOTO	Land Improvement Environment Officer, Resource Div., Kanto Regional Agricultural Administration Office, MAFF
Hydrology	Hide KAWAKAMI	Section Chief Irrigation & Drainage Div., Bureau of Agricultural Structure Improvement, MAFF
Agricultural Economy	Shogo TAKEMURA	Section Chief, Regional Planning Div., Kanto Regional Agricultural Administration Office, MAFF
Coordination	Teruyoshi KUMASHIRO	Technical Affairs Div., Agricultural, Forestry & Fisheries Planning and Survey Dept., Japan International Cooperation Agency (JICA)

LIST OF  
GOVERNMENT OF EGYPT TEAM MEMBERS

Eng. Zaki ARNAOUT

Chairman,  
General Authority for Rehabilitation  
Projects and Agricultural Development

Eng. Morris KAMEL

First Undersecretary,  
Ministry of Irrigation

Dr. Rifki ANWAR

Counselor,  
Ministry of Development and State for  
Housing and Land Reclamation

Dr. Samir NAGMOUSH

Technical Advisor,  
General Authority for Rehabilitation  
Projects and Agricultural Development

SCOPE OF WORKS FOR FEASIBILITY STUDY  
ON  
THE NORTH HUSSINIA VALLEY & SOUTH PORT SAID  
AGRICULTURAL DEVELOPMENT PROJECT  
IN  
THE ARAB REPUBLIC OF EGYPT

## 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 on the North Hussinia Valley & South Port Said Agricultural Development Project, (hereinafter referred to as "the Project") in accordance with laws and regulations in force in Japan. 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 to indicate 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. OBJECTIVE OF THE STUDY

The objective of the study is to examine and assess the feasibility of the Project which is a part of the El Salam Canal Project. The objective area is approximately 98,000 feddan (43,000 ha.).

## III. OUTLINE OF THE STUDY

The study will include field work and home work described as follows:

### A. Field Work

1-1 Collection and review of the relevant existing data and information including:

- a. Topographical maps and aerial photography
- b. Meteorology and hydrology
- c. Geology
- d. Soil
- e. Irrigation and drainage
- f. Agronomy
- g. Agro and regional economy and social structure
- h. Social infrastructure
- i. Land tenure system
- j. Others

1-2 Topographical mapping of the Project area on a scale of 1/10,000 using as a guide the existing 1/25,000 maps

1-3 Execution of reconnaissance survey for delineation of the Project area on the basis of review of data and information

1-4 Field Survey and Analysis

- a. Topography
- b. Meteorology & hydrology
- c. Geology
- d. Soil
- e. Land use
- f. Ground water elevation and water quality
- g. Intake rate and permeability
- h. Irrigation and drainage systems
- i. Irrigation and drainage facilities
- j. Other agricultural facilities
- k. Land reclamation
- l. Land disposal
- m. Agronomy (including mechanization)
- n. Fishery
- o. Stockbreeding
- p. Agroecology
- q. Agro industry
- r. Regional economy and socio-demography
- s. Construction materials and costs
- t. Marketing
- u. Determination of the basic items for the project planning including:
  - (a) Project boundary and acreage
  - (b) Outline of water requirement
  - (c) Outline of the land use and cropping pattern
  - (d) Outline of irrigation and drainage network
  - (e) Leaching method
  - (f) Estimation of yield
  - (g) Outline of social infrastructure plan
  - (h) Outline of land reclamation plan
  - (i) Outline of land disposal plan

Upon completion of the field work the general outline of development scheme will be defined. Different development scenarios will be compared and a preliminary appraisal of the different

scenarios will be given. It is also important to propose priority construction phase.

## 2. Home Work

- (1) Formulation of the integrated agricultural development project
- (2) Preliminary design of development scheme, comprising drainage & irrigation for typical plot arrangement, roads, electricity, potable water etc.
- (3) Predesign of the major structures and village in the project
- (4) Simplified design for non-hydraulic structures as housing, and infrastructure for agricultural production and industrialization, storage and marketing facilities
- (5) Estimation of the costs and benefits of the project
- (6) Economic evaluation
- (7) Preparation of implementation schedule of the project
- (8) Formulation of maintenance and operation plan for the project

## IV. WORK SCHEDULE

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

## V. REPORTS

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

### 1. Plan of Operation

Twenty (20) copies at the commencement of the study

### 2. Field Report

Twenty (20) copies at the end of the field work of each stage

### 3. Interim Report

Twenty (20) copies at the end of the stage 1 study

### 4. Draft Final Report

Twenty (20) copies at the end of stage 2 study



Fifteen days after presenting the final draft report to the government, a presentation of the final draft report will be made by the team leader and his experts for clarification of the contents with the various bodies involved.

A month after the above presentation the Government will forward its final comments on the final draft report.

#### 5. Final Report

Fifty (50) copies within two (2) months after receipt of the comments on the draft final report.

### VI. UNDERTAKING OF THE government of egypt

To facilities smooth performance of the field work the Government is requested:

- (1) To designate the counterpart personnel to cooperate the Team in conducting the survey effectively,
- (2) To provide the available data and information for the survey and permit the Team to bring them back to Japan within regulation in force for the home work,
- (3) To provide for the Team permission to enter and conduct the survey in the Project area,
- (4) To arrange the Team's visit to relevant ministries, local government and other public agencies,
- (5) To make arrangement for the quick and smooth custom clearance of the survey equipment and materials brought by the Team for field study into Egypt and for exemption from any taxes, duties and charges imposed on those,
- (6) To make arrangement 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,
- (7) To arrange vehicles and motorboats for the field operation,
- (8) To arrange the recruitment of non-technical local staff such as secretaries, typists, labourers, and drivers,
- (9) To provide the Team with an office space both near the Project site and in Cairo, and to arrange accommodation near the Project site,

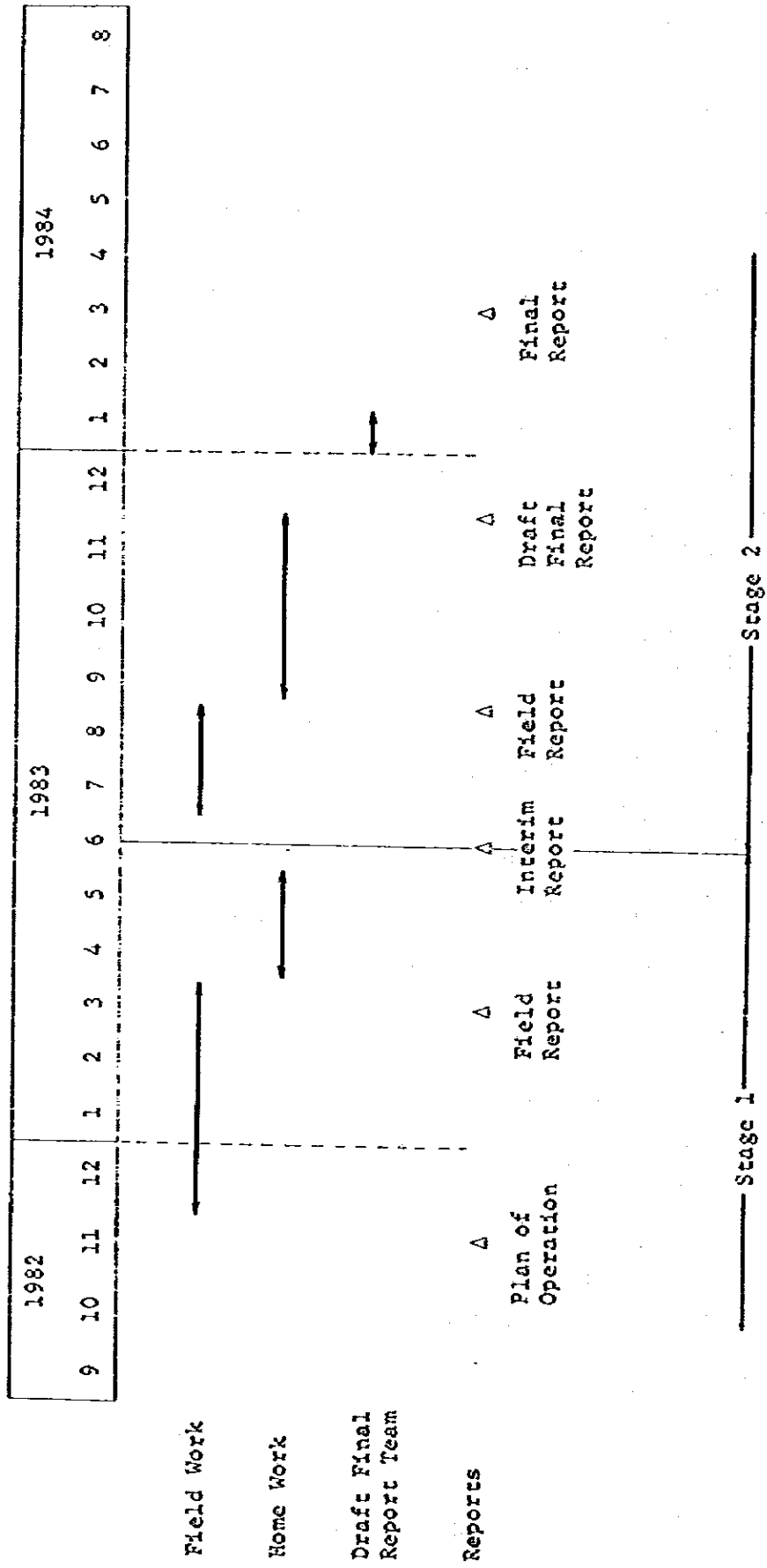
- (10) To guarantee the security of the Team members during the survey period
- (11) To arrange medical services for the Team during its stay in Egypt, if necessary,
- (12) To undertake to bear claims, if any arises, against the Team in the survey resulting from, occurring in the course of, or otherwise with the discharge of their official functions in Egypt, except for those claims arising from the willful misconducts or gross negligence of the Team,
- (13) To conduct extra hydrogeological study to be agreed upon for better knowledge about the underground water movements.

#### VII. UNDERTAKING OF THE GOVERNMENT OF JAPAN

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

- (1) To dispatch the Team to conduct field study,
- (2) To transfer the technology related to this survey to Egyptian counterparts through their participation in the survey, and
- (3) To bear the direct cost of the whole survey and preparation of the feasibility study and report except for the cost borne by the Government of Egypt.

TENTATIVE SCHEDULE OF THE FEASIBILITY STUDY



TERMS OF REFERENCE FOR A FEASIBILITY STUDY OF AN AREA BETWEEN 50-100  
THOUSAND FEDDANS

The study should include the following:-

1) LOCATION OF THE PROJECT:

A thorough description of the location of the Project area should be presented including sets of maps to show the location of the Project.

2) WEATHER NORMS:

A complete tabulation and interpretation of the weather norms of an area.

3) SOIL PROPERTIES:

A soil survey should be conducted on a F/S level. One example of the survey method is shown in the attached sheet.

4) TOPOGRAPHICAL STUDIES:

A contour map on a scale of 1:100,000 and difference between contour lines of 2 meters should be prepared to define in a preliminary way the area in which the project will be executed. Another set of maps on a scale of 1:10,000 with difference contour lines of 1 meter should be prepared on the selected area, with check areas with closer contour lines for higher accuracy.

5) METHODS OF RECLAMATION:

Pending the results of the soil studies the consultant is requested to study the method of reclamation which should be applied in the area. In order to do this, studies should be undertaken to cover the following points:-

a) Various Limiting Factors in the Soil:-

This point might include the presence of excess soluble salts in the soil profile which should be removed by leaching.

The soil may be gypseferous or calcareous which should be remedied prior to cropping. The soils should also be built up prior to cultivation.

b) Irrigation System:

Select the appropriate irrigation system depending on soil, weather utilization pattern and means of land tenure. The consultant is requested to explore the possibility of using modern irrigation systems which comply with the needs of specific plants and soils and to overcome the high cost of irrigation water including:

- i) Various systems of surface irrigation including flood irrigation; boarder, strip irrigation and farrow irrigation methods which should be investigated to select the optimum method which be used under the prevailing conditions of the project area and scarcity of manpower.
- ii) Various systems of sub surface irrigation.
- iii) The drip irrigation system, the consultant is requested to explore the possibilities of using such a system at least as far as high cash crops are concerned.

c) Drainage System:

Due to the fact that some soils might need leaching, a ground drainage system should be installed to remove excess water and control the underground water table. In covering this point the consultant is requested to study the possibility of tube well drainage, tile drainage and open drainage.

Under all circumstances, the study should include the selection of drainage outlets and pumping station for the entire areas so that drainage water could be removed continuously from the Project.

After the selection of irrigation, reclamation and drainage layout, the consultant is requested to make a general layout of the Project area in which main and secondary canals, drains, tracks network and various infrastructures are located. A typical plot arrangement is also requested.

6) CROP ROTATION:

Since irrigation water is very expensive, the consultant is requested to explore the various crops adapted to the area with the aim of selecting the most appropriate rotation to suit the prevailing conditions.

7) INFRASTRUCTURES AND SERVICE BUILDING:

The consultant is requested to study the various infrastructures needed for the area including the roads within the area and connections outside the area, sources of power and electrical works, potable water and sewage systems.

The consultant is also requested to study the various service buildings including hospitals, schools, community centers, houses for employees and settlers. The study should include the design and cost of the infrastructures and service buildings.

8) ANIMAL HUSBANDRY:

Since a sizeable portion of the area will be used for fodder production, a thorough study of the animal husbandry portion of the project will be undertaken. Such study will include the type and number of animals recommended, their stabilization system, their rations and products. The study also includes the specifications, costs, inputs and outputs of such investment.

9) ORGANIZATION OF THE PROJECT:

The consultant is requested to study the organization of the Project and the various aspects of management needed to cover all the activities of the Project and to include all the necessary qualifications and categories of employees together with a job description for each profession. This will be illustrated in charts showing the various steps and downward flow of responsibility.

10) AGRO-INDUSTRIALIZATION AND MARKETING:

The study will indicate which crops and animal products can provide the base for agro-allied industrial development.

Accordingly, farm structures will be dimensioned and equipped taking into account the requirements of the processing plants, following the criteria of vertical integration.

The production capacity of existing crop processing factories will be evaluated, in order to identify possible levels of under-utilization and avoid duplication of initiatives.

A technical and economic feasibility study will be procured for each agro-industrial complex identified by the project.

The study will be worked out according to FAO/UNIDO standards. The technical component will focus: raw materials, location parameters, inputs, technology, output, manpower, organization, management, services, support infrastructures and training facilities. The economic and financial component will cover: investment and running costs, depreciation, income, input and output markets, procurement, taxes, economic and financial rates of return, impact on currency balance, external economies and diseconomies, financial procurement and debt service.

The market study will examine, for each crop and animal product, envisaged by the project, the technical, economic and financial implications of alternative marketing systems, such as sale of raw crops vs. industrial processing, individual vs. cooperative commercialization and so forth.

#### 11) COST ESTIMATES:

Analytical cost estimates will be provided for all the segments of the project, from final design to start-up of the future farms and agro-industrial complexes.

The whole range of capital and operational costs will be quantified, with breakdowns in national and foreign currency.

The cost analysis will be articulated according to the project components, namely:

- irrigation schemes
- agro-industrial complexes
- infrastructures and service facilities

For each component the costs of land reclamation and development, works, mechanization, inputs, manpower, operation and services will be laid out in detail.

Special attention will be paid to the cost analysis of mechanization of the agricultural production sectors requiring capital-intensive cropping systems.

#### 12) COMMUNITY DEVELOPMENT AND LAND DISPOSAL:

The consultant is requested to study different methods of land disposal in the Project area, namely, land distribution among settlers, distribution

among graduated, joint ventures with foreign firms, estate farms, and land sales. The consultant should select one of these systems which proves to be the best. After the selection of the land disposal, infrastructure and service buildings, a community development approach should meet the selected system. The study should also include the economical acreage allocated to each one of these categories.

13) ECONOMIC JUSTIFICATION:

In order to decide upon the economic viability of the Project, the consultant is requested to undertake an economic analysis of the Project and present tables showing the economic parameters of the Project. These parameters will reflect the cost of the capital investment, payment of loans, yearly operational cost and returns, cash flows, calculation of internal rate of return, sensitivity test and any other tables which might reflect the accurate economical status of the Project.

Additionally the following items should be studied specifically for the feasibility study on the North Hussinia Valley and South Port Said Agricultural Development Project.

14) MODEL FARM ESTABLISHMENT:

The consultant shall plan the lay out and designs necessary for the establishment of a model farm of about 500 feddans, within the selected area for future agricultural development. The design works of such model farm will include among others; irrigation and drainage systems, wind breaks, roads, houses, offices, stores, potable water, workshop, electric power and other facilities.

15) SALT WATER INTRUSION STUDIES:

Simplified studies on the effect of salt water intrusion should be carried out to determine its effect on underground water, both quantitatively and qualitatively. These studies will have direct bearing on the design of both the irrigation and drainagenetworks in the Project area.

16) FISHERY STUDIES:

Pre-feasibility study of the possibility of the economic use of the inundated area for development of a fishery project should be investigated roughly. Also, the establishment of fish farms should be studied and



assessed.

#### SOIL STUDIES:

The soils will be described morphologically according to FAO guidelines for profile description, land classification and land use classes will be based on the US Bureau of reclamation system for irrigated agriculture.

Some modifications could be introduced to meet the local condition so as to show the relative suitability of the land uses and crops.

The semi-detailed survey should be carried out with the density of 2 pits and 2 auger-holes per square kilometer (240 feddans). The depth of the pits should be 2.0 m, with 15% of the open pits to a depth of 3.0 m. The auger-holes will be 1.5 m deep. For the inundated area and marsh, 1 auger-hole will be made per square kilometer to a depth of 1.5 - 2.0 m. The soil samples will be collected from each open pit for each profile horizon, or in case of uniform horizon, it will be at the depth of 0 - 30, 30 - 60 and 60 - 120 cm.

The following soil analysis will be conducted:

- a. for each soil sample;
  - Ec of the saturation extract.
  - Soluble cations and anions.
- b. for the major soil types (with a minimum of 25% of the soil samples);
  - PH of the sat. paste.
  - Mechanical analysis.
  - Cation exchange capacity.
  - Exchangeable bases (Na, K, Ca, Mg).
  - Gypsum.
- c. for the major soil types (for a minimum of 10% of the soil samples);
  - Moisture held at  $\frac{1}{3}$  and 15 atmospheres.
  - Organic matter.
  - Total nitrogen.
  - Available phosphorus.
  - Exchangeable potassium.

- d. for 3 representative profiles for each soil type;
- Infiltration rate (double ring infiltrometer).
  - Hydraulic conductivity (auger-hole method).
  - Mineralogical analysis of clay.

The following investigations for drainage purposes will be performed:

- Boreholes up to a depth of 10 m, one every 2,000 feddans and field examination of each profile for the dry land, but for the inundated areas, less extensive profile intensity could be used which will be accepted by both parties.
- Hydraulic conductivity test (at least two for each borehole).

The soil types, land capability and land use maps will be prepared on the scale of 1:10,000 or - 1:25,000 superimposed on topographic maps of the soil types map.

A comprehensive report will be prepared when the results of the laboratory analysis will be made available.

MINUTES OF MEETING  
OF  
FEASIBILITY STUDY  
ON  
SOUTH HUSSINIA VALLEY  
AGRICULTURAL DEVELOPMENT PROJECT PHASE II  
IN  
ARAB REPUBLIC OF EGYPT

August 27, 1983, Cairo

藤野 健一

K. Fujino

ON BEHALF OF

JAPANESE-TEAM

KIKICHI FUJINO

A. Selim M. Kamil

ON BEHALF OF

EGYPTIAN GOVERNMENT

MINUTES OF MEETING

( August 21 - August 27, 1983 )

In response to the request of the Government of Arab Republic of Egypt ( hereinafter referred to as " the Government " ) 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 technical cooperation on behalf of the Government of Japan, discussed the feasibility study of the South Hussinia Valley Agricultural Development Project Phase II ( hereinafter referred to as " the Project " ) in the Arab Republic of Egypt with counterparts, General Authority for Rehabilitation Project and Agricultural Development ( hereinafter referred to as " GARPAD " ) as a representative for the Ministry of Development, State for Housing, and Land Reclamation and other authorities concerned. Member list of both sides are attached in Annex I ( 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 that the feasibility study would be executed, using the terms of reference attached in Annex III as a guideline after the terms of reference was amended as follows.

(1) Page 27-II-Re. 1

Re. 1 ( field soil survey )

a. Upland area ( 60% of total project area )

One augering per 200 feddan:

-General depth 2 m

-Depth 3 m : one every 2,000 feddan = ( one every 10 augerings )

-Depth 4-5 m : one every 5,000 feddan = ( one every 25 augerings )

Furthermore open pit survey would be executed by the Government in close contact with the feasibility study team as follows.

-Five open pits for each major soil type

-Three open pits for each secondary soil type

b. Swamp & inundated area ( 40 % of total project area )

One augering per 500 feddan with the depth of 2m

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- Approximate total number of augerings in the project area 74,000 feddan
- Depth 4-5 m : 9 (upland area )
  - Depth 3 m : 23 ( upland area )
  - Depth 2 m : 222 ( upland area ) + 60 (swamp & innundated area )

(2) page 28-II-Re. 2

Re.2 (hydraulic conductivity)

a. Upland area

One measuring site per 2,000 feddan

b. Swamp & innundated area

One measuring site per 4,000 feddan

In each site 2 locations; some 10 meters apart.

In each location measurement till 2 different depth.

These measurements to be combined with the field soil survey and to be executed by the same people.

Number of sites	23 (upland area) + 7 (swamp & innundated area)
Number of locations	46 (upland area) + 14 (swamp & innundated area)
Number of measurements	92 (upland area) + 28 (swamp & innundated area)

2. (1) Laboratory leaching experiment

Both sides agreed that the laboratory leaching test would be carried out by the Government with the expense of JICA by the end of November. JICA would supply the equipment necessary for the laboratory leaching test.

(2) Field leaching experiment

In order to improve the accuracy of the result of the Laboratory leaching experiment above both sides agreed that the following investigations would be carried out as soon as possible by the Government.

- a. Arrangement of the field leaching experiment plots at the location which both sides agreed upon and the source of water which is recommended by the team.
- b. Leaching tests described in the terms of reference.

The analysis of the leaching tests results would be carried out by the Japanese feasibility study team.

*A.S.*

3. As far as the marketing survey and socio-economic survey are concerned, both sides agreed that the Government would present data and information obtained in the feasibility study of North Hussinia Valley and South Port Said Agricultural Development Project and provide the obtained data and information to the Japanese feasibility study team of the Project.

4. Both sides agreed that the Government would designate needed number of counterparts for the feasibility study team in order to finish the study in a shorter period.

5. The Team recognized that the Project was scheduled to be implemented from 1983/1984 in the five year plan and that the Government attached the great importance to the Project. For the above reason, both sides agreed to make an effort for the smoother execution of the feasibility study of the Project.

6. Both sides agreed that the evaluation of the total cost includes among other things the cost of housing. The Government will clarify the concept of the facilities to be included in the study at the first meeting with the feasibility study team.

7. Both sides agreed that GARPAD will be the representative of the Government for the project and make good coordination among the relevant authorities of the Government in the feasibility study execution.

*A.S.*

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MEMBER LIST OF  
GOVERNMENT OF EGYPT TEAM

Name	Position
Eng. Abdel Wahab Selim	Chairman, General Authority for Rehabilitation Projects and Agricultural Development (GARPAD)
Eng. Maher Bahaa Eldin	Vice Chairman, GARPAD
Dr. Rifki Anwar	Technical Counselor, GARPAD
Dr. Samier Nagroush	Technical Counselor, GARPAD
Eng. Youssif Amin	Technical Counselor, GARPAD

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MEMBER LIST OF  
JAPAN INTERNATIONAL COOPERATION AGENCY TEAM

Name	Position
Mr. Kin-ichi FUJINO	Director, Integrated Rural Development Office, Land Improvement & Consolidation Div., Agricultural Structure Improvement Bureau, Ministry of Agriculture, Forestry, & Fisheries (MAFF)
Mr. Kazuyuki KOBAYASHI	Section Chief, Irrigation & Drainage Div., Agricultural Structure Improvement Bureau, MAFF
Mr. Teruyoshi KUMASHIRO	Staff, Technical Affairs Div., Agricultural, Forestry, & Fisheries Planning & Survey Dept., Japan International Cooperation Agency

*A.S.*



SCOPE OF WORKS FOR FEASIBILITY STUDY  
ON  
THE SOUTH HUSSINIA VALLEY  
AGRICULTURAL DEVELOPMENT PROJECT PHASE II  
IN  
THE ARAB REPUBLIC OF EGYPT

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## 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 on the South Hussinia Valley Agricultural Development Project Phase II, ( hereinafter referred to as " the Project ") in accordance with laws and regulations in force in Japan. 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 to indicate 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

The objectives of the study are :

1. To formulate the phase II development plan of the South Hussinia Valley Agricultural Development Project which mainly consists of cash crop cultivation, stockbreeding development, agroindustrialization, community development etc. on the basis of the result of the feasibility study of the phase I development of the project which was executed by JICA in 1980 and to examine and assess the feasibility of the overall project, and
- 2.2. To transfer the technology, related to the study to Egyptian counterparts through their participation in the survey.

The objective area is approximately 74,000 feddan ( 31,000 ha ).

## III. OUTLINE OF THE STUDY

The study will include field work and home work described as follows:

### A. Field Work

1-1 Collection and review of the relevant existing data and information including :

a. Soil

*A. Selby*

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- b. Irrigation and drainage
- c. Agronomy
- d. Stockbreeding
- e. Agro-industry
- f. Agro and regional economy and social structure
- g. Social infrastructure
- h. Other supplementary data and information

1-2 Field Survey and Analysis

- a. Soil survey
- b. Land use survey
- c. Irrigation and drainage survey
- d. Land reclamation survey
- e. Land disposal survey
- f. Agronomy survey (including mechanization)
- g. Stockbreeding survey
- h. Agro-economy survey
- i. Agro-industry survey
- j. Regional economy and socio-demography survey
- k. Construction materials and costs survey
- l. Marketing survey
- m. Determination of the basic items for the project planning including:
  - (a) Outline of water requirement
  - (b) Outline of the land use and cropping pattern
  - (c) Outline of irrigation and drainage method and network
  - (d) Leaching method
  - (e) Outline of land reclamation plan
  - (f) Estimation of yield
  - (g) Outline of Stockbreeding Development Plan
  - (h) Outline of Agroindustrialization Plan
  - (i) Outline of land disposal plan
  - (j) Outline of social infrastructure plan

B. Home Work

- (1) Formulation of overall agricultural development plan
- (2) Estimation of the costs and benefits of the project
- (3) Economic evaluation
- (4) Preparation of implementation schedule of the project
- (5) Formulation of maintenance and operation plan for the project

*A. Selby*

#### IV. WORK SCHEDULE

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

#### V. REPORTS

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

1. Plan of Operation

Twenty (20) copies at the commencement of the study

2. Field Report

Twenty (20) copies at the end of the field work

3. Draft Final Report

Twenty (20) copies at the end of the home work

Within one month after the draft final report presentation by JICA, the Government will forward its comments on the draft final report.

4. Final Report

Fifty (50) copies within two (2) months after receipt of the comments of the draft final report.

#### VI. UNDERTAKING OF THE GOVERNMENT OF EGYPT

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

(1) To designate the following counterpart personnel to cooperate the Team in conducting the survey effectively,

- a. General Planning
- b. Soil
- c. Irrigation and Drainage
- d. Agronomy
- e. Stockbreeding
- f. Agro-industry
- g. Community Development
- h. Agro-economy

*A. S. Elmy*

The number of counterpart personnel and their assignment period should be decided by prior consultation on the Team with Egyptian Authorities concerned at the commencement of the study.

- (2) To provide the available data and information for the survey and permit the Team to bring them back to Japan for the home work within regulation in force in Egypt,
- (3) To provide for the Team permission to enter and conduct the survey in the Project area,
- (4) To arrange the Team's visit to relevant ministries, local government and other public agencies,
- (5) To make arrangement for the quick and smooth custom clearance of the survey equipment and materials brought by the Team for field study into Egypt and for exemption from any taxes, duties and charges imposed on those,
- (6) To make arrangement 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,
- (7) To arrange vehicles and motorboats for the field operation,
- (8) To arrange the recruitment of non-technical local staff such as secretaries, typists, labourers, and drivers,
- (9) To provide the Team with an office space both near the Project site and in Cairo, and to arrange accommodation near the Project site,
- (10) To guarantee the security of the Team members during the survey period,
- (11) To arrange medical services for the Team during its stay in Egypt, if necessary, and
- (12) To undertake to bear claims, if any arises, against the Team in the survey resulting from, occurring in the course of, or otherwise with the discharge of their official functions in Egypt, except for those claims arising from the willful misconducts or gross negligence of the Team.

#### -VII. UNDERTAKING OF JICA

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

A. 5.14

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- (1) To dispatch the team to conduct field study,
- (2) To transfer the technology related to this survey to Egyptian counterparts through their participation in the survey,
- (3) To bear the direct cost of the whole survey and preparation of the feasibility study and report except for the cost borne by the Government of Egypt, and
- (4) To receive Egyptian counterpart personnel in Japan and bear the expense of transportation and stay.

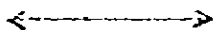
A. Schuy

R

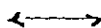
TEMPERATIVE SCHEDULE OF THE FEASIBILITY STUDY

1983				1984				
9	10	11	12	1	2	3	4	5

FIELD WORK



HOME WORK



DRAFT FINAL REPORT TEAM



REPORTS

Δ  
Plan of  
Operation

Δ Δ  
Field Draft Final  
Reppot Report

Δ  
Final  
Report


*A.S.*

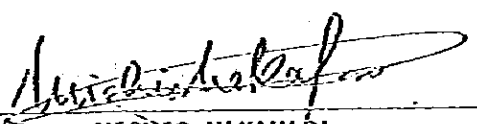
*R*

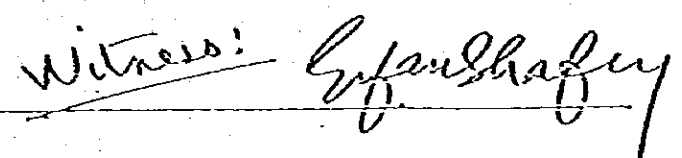
SCOPE OF WORKS  
FOR  
FEASIBILITY STUDY  
ON  
FAYOUM AGRICULTURAL DEVELOPMENT PROJECT  
IN  
THE ARAB REPUBLIC OF EGYPT

AGREED UPON BETWEEN  
FAYOUM GOVERNORATE  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

FAYOUM, August 10, 1983

  
Gen. SARWAT ATTALLAH  
GOVERNOR OF FAYOUM

  
Dr. MICHIO NAKAHARA  
LEADER OF THE JAPANESE  
STUDY TEAM, JICA

Witness:   
FIRST UNDERSECRETARY,  
MINISTRY OF INVESTMENT & INTERNATIONAL COOPERATION



## 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 decided to implement the feasibility study (hereinafter referred to as "the Study" ) on Fayoum Agricultural Development Project (hereinafter referred to as "the Project") in accordance with the relevant laws and regulations in force in Japan.

Japan International Cooperation Agency (hereinafter referred to as "JICA" ), the official agency responsible for the implementation of technical cooperation programs of the Government of Japan, will undertake the Study, in close cooperation with the authorities of the Government.

Fayoum Governorate (hereinafter referred to as "the Governorate") shall act as counterpart agency to the Japanese study team (hereinafter referred to as "the Team"), which will be dispatched by JICA for the Study and also as coordination body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

The present document constitutes the implementing arrangements between JICA and the Governorate.

## II. OBJECTIVES OF THE STUDY

The objectives of the Study will be:

1. To formulate the Project and verify its technical and economic feasibility; and
2. To undertake on-the-job training and transfer the technology to the Egyptian counterparts in the course of the Study.

M.A. P.S.  
S. Bay.

### III. OUTLINE OF THE STUDY

#### 1. Study Area

The Study will mainly cover three areas as follows:

- 1) about five thousand seven hundred (5,700) Feddan in North Wahby area and three thousand three hundred (3,300) Feddan in Kom-Osheim area;
- 2) about twentythree thousand (23,000) Feddan of existing farm land at Wahby down stream area; and
- 3) about fifteen thousand (15,000) Feddan lying along the south coast of Lake Karoun.

#### 2. Scope of Works

The scope of works to be conducted will be as follows:

- 1) Topographic mapping of the Project area on a scale of 1/10,000 by means of aerial-photographic survey.

#### 2) Feasibility Study

##### (1) Field Works

A. Collection and review of the existing data and information for the Study:

##### a. general

1 meteorology

2 hydrology

3 topography

4 geology

5 soil

##### b. agriculture

1 land use

2 land holding

3 land tenure system

4 cropping pattern

M.H. H.S.

S.B.Y.

- 5 crop yield and production
  - 6 animal husbandry
  - 7 water resources
  - 8 irrigation water requirement
  - 9 custom of water use and water rights
- c. agro-economy
- 1 marketing & prices
  - 2 agricultural production cost & production value
  - 3 farm economy
- d. agricultural supporting system
- 1 farmers cooperative
  - 2 extension service
  - 3 agricultural credit
  - 4 research
- e. infrastructure
- 1 irrigation/drainage system
  - 2 transportation & communication
  - 3 electricity & water supply
- B. Conducting the field surveys to supplement information and data mentioned above at A for project planning, and study and analysis of those obtained through the surveys.
- C. Formulation of basic development concept for the Project, including the establishment of a model farm in Wahby down stream area for betterment of water management.
- D. Preparation for preliminary design of project works and provisional determination of key dimensions thereof.

11.11.11

S.B.V.

(2) Home Office Works in Japan

- A. Finalization of the development concept for the Project
- B. Formulation of the Project
  - a. cropping pattern and land use plan
  - b. estimation of crop yield, crop production, production cost and value
  - c. preliminary design of irrigation/drainage facilities
  - d. layout of the model farm for water management
  - e. construction plan of project works
  - f. implementation schedule
  - g. estimation of the project cost
  - h. organization for the Project during/after construction
- C. Evaluation of the Project
  - a. economic evaluation by means of IRR
  - b. analysis of typical farm budget
  - c. other benefits
- D. Specific Recommendation

*M.H.*  
*S.S.*  
*S.Bq.*

#### IV. WORK SCHEDULE

The work schedule is shown in the attached sheet. To carry out the Study, JICA will dispatch the Team in accordance with the work schedule attached herewith.

#### V. REPORTS

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

1. Plan of Operation

Twenty (20) copies at the commencement of the Study.

2. Interim Report

Twenty (20) copies at the end of each field work.

3. Draft Final Report

Twenty (20) copies at the completion of the Phase II study.

Presentation of the draft final report will be made by the Team leader and his experts for clarification of the contents.

Within a month after the above presentation the Governorate will forward the final comments on the draft final report.

4. Final Report

Fifty (50) copies within two (2) months after receiving the comments on the draft final report.

#### VI. UNDERTAKING OF THE GOVERNORATE

To facilitate smooth performance of the field work the Governorate is requested:

1. To designate the counterpart personnel to cooperate with the Team in conducting the survey efficiently;

*M.M.*  
*H.S.*  
*S.P.y.*

2. To provide the available data and information for the survey and permit the Team to bring them back to Japan within regulation in force of Egypt for the home office work;
3. To provide the Team with the permission to enter and conduct the survey in the Project area;
4. To arrange the Team's visit to relevant ministries, local government and other public agencies;
5. To take necessary procedure for the quick and smooth custom clearance of the survey equipment and materials brought into Egypt by the Team and for exemption from any taxes, duties and charges imposed on those;
6. To take necessary procedure for conducting the aerial-photographic survey through the authorities concerned timely, i.e. by the middle of September, 1983;
7. To take necessary procedure for exemption from taxes, duties, and charges to be imposed on the incomes of the Team members;
8. To arrange vehicles and motorboats for the field operation;
9. To arrange the recruitment of non-technical local staff such as secretaries, typists, labourers and drivers;
10. To provide the Team with an office space and to arrange accommodation near the Project site;
11. To guarantee the security of the Team members during the survey period;
12. To arrange medical services for the Team during its stay in Egypt, if necessary; and
13. To undertake to bear claims, if any arises, against the Team in the survey resulting from, occurring in the course of, or otherwise with the discharge of their official functions in Egypt, except for those claims arising from the wilful misconducts or gross negligence of the Team.

M.H.

H.S. S.B.y.

VII. UNDERTAKING OF THE GOVERNMENT OF JAPAN

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

1. To dispatch the Team to conduct field study; and
2. To transfer the technology related to the Study to Egyptian counterparts through their participation in the Study and also to receive an Egyptian counterpart/s to Japan for technical training connected with the Study.

M.M. fs

S. Ry-

(Attached Sheet)

14.1.  
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TENTATIVE WORKING SCHEDULE FOR FEASIBILITY STUDY  
ON  
THE RAYOUR AGRICULTURAL DEVELOPMENT PROJECT

	1983					1984					1985											
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1. Topographic Mapping						=====	=====															
2. P/S Phase I						=====																
3. P/S Phase II											=====											
4. Explanation & Discussion of D.P.R.																						
5. Study & Preparation of Comments for D.P.R. by the Government																						
6. Submission of Reports																						

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

REMARKS : ===== in Egypt  
 ===== in Japan





ア フ リ カ



Procès-Verbal des discussions sur les  
Termes de Référence de l'Etude de  
Factibilité du Projet d'Aménagement  
Hydro-Agricole de Kourani-Baria  
en République du Niger.

Du 27 juillet au 3 août 1982, une mission d'enquête sur l'Etude de Factibilité du Projet d'Aménagement Hydro-Agricole de Kourani-Baria, conduite par M. KONDO Katsuhide, Chef adjoint du Service d'Aménagement de la Direction de l'Aménagement des Infrastructures au Ministère de l'Agriculture, de la Sylviculture et de la Pêche, a séjourné au Niger.

La délégation Nigérienne était conduite par M. AMADOU Halidou, Directeur des Services du Génie Rural au Ministère du Développement Rural.

Cette mission fait suite à la mission préliminaire qui a eu lieu du 16 au 22 avril 1982.

Les deux délégations ont eu à délibérer sur les Termes de Référence proposés par la mission.

Les points ayant fait l'objet de remarques ou de modifications sont les suivants :

II. Objet des études ;

VI. Dispositions à prendre par le Gouvernement du Niger :

1)-1) : La partie Nigérienne a demandé à la partie Japonaise le renvoi des documents précieux après les études, ce en quoi les deux parties ont été convenues.

2)-2) : 3 ou 4 personnes au moins seront mises à disposition en tant que personnel de contrepartie, et les deux parties ont convenu qu'elles en discuteraient lors du démarrage de l'Etude. La partie Nigérienne a fait savoir qu'elle tenterait de mettre à disposition le personnel cadre parlant anglais.

3)-3) : La partie Nigérienne a fait savoir qu'elle ne dispose pas de locaux, et a suggéré à la partie Japonaise de prendre un local en location, ce à quoi cette dernière a consenti ; étant entendu que la partie Nigérienne s'engage à fournir des facilités à cet effet.

4) Concernant la fourniture des véhicules : la partie Nigérienne a fait savoir qu'elle ne peut pas mettre des véhicules à la disposition de la mission. A la suite d'une longue discussion, la partie Japonaise a consenti à prendre à sa charge les frais de véhicules.

5) En ce qui concerne le point 4) : La partie Nigérienne a fait savoir qu'il lui est impossible de fournir les instruments et matériels ; la partie Japonaise a consenti à ce que la partie Nigérienne lui facilite les différents contacts.

6) En ce qui concerne les points - 8), 9), 10), 11), 12), 14), 15) : Les modalités des Notes-Verbales à échanger entre les deux Gouvernements seront mises en application, ce en quoi les deux parties sont convenues.

#### VII. Dispositions à prendre par le Gouvernement du Japon

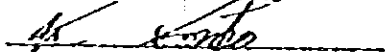
La partie Nigérienne a demandé à la partie Japonaise de spécifier plus en détail les dispositions à prendre par cette dernière ; la modification et l'addition figurent dans les Termes de Référence adoptés.

En plus de l'adoption des Termes de Référence, les deux délégations ont convenu ce qui suit :

- 1) Une visite de terrain a été effectuée le 31 juillet 1982.
- 2) La partie Japonaise a porté à la connaissance de son homologue Nigérienne l'offre d'une bourse de formation d'un mois pour un technicien Nigérien dans le domaine de l'irrigation et du drainage (du 21 octobre 1982 au 20 novembre 1982) au Japon.
- 3) La partie Japonaise demande à la partie Nigérienne de prendre les dispositions nécessaires pour recevoir l'équipe d'Etude.

Fait à Niamey, le 2 août 1982

Pour la partie Japonaise



KONDO Katsuhide  
Chef de Mission  
de Termes de Référence  
du Projet d'Aménagement  
Hydro-Agricole de Kourani-Baria

Pour la partie Nigérienne



AMADOU Halidou  
Directeur des Services  
du Génie Rural

REPUBLIQUE DU NIGER  
MINISTERE DU DEVELOPPEMENT RURAL  
DIRECTION DES SERVICES DU GENIE RURAL

AGENCE JAPONAISE DE LA  
COOPERATION INTERNATIONALE

TERMES DE REFERENCE  
DE  
L'ETUDE DE FACTIBILITE  
DU PROJET D'AMENAGEMENT HYDRO-AGRICOLE  
DE KOURANI BARIA

## I. INTRODUCTION

Suite à la requête officielle du Gouvernement de la République du Niger, le Gouvernement du Japon a décidé de faire l'Etude de Factibilité du Projet d'Aménagement Hydro-Agricole de la cuvette de KOURANI BARIA (ci-après dénommé le Projet) dans le cadre de son programme de Coopération Technique.

A cet effet, le Gouvernement du Japon a échangé les Notes Verbales sur cette étude avec le Gouvernement du Niger.

L'Agence Japonaise de Coopération Internationale (ci-après dénommée la JICA), qui est l'organisme officiel pour l'exécution du programme de Coopération Technique du Gouvernement du Japon, entreprendra les travaux d'Etude avec la collaboration du Ministère du Développement Rural et d'autres organismes intéressés du Niger.

Au vu du résultat de l'enquête préliminaire sur le Projet, menée du 8 au 26 avril 1982, ces termes de référence ont été préparés pour l'Etude de Factibilité dont la description porte sur les sujets d'études et calendrier des travaux d'Etude ainsi que sur la contribution à prendre par le Gouvernement du Niger en vue de la bonne réalisation de l'Etude. Ils définissent donc le cadre essentiel des études à effectuer en étroite collaboration avec le Gouvernement du Niger.

## II. OBJET DES ETUDES

Le but de ces études est : la recherche de la faisabilité technico-économique du Projet qui prévoit l'installation de 1 500 paysans (Superficie à aménager : 1 380 ha bruts environ - 750 ha nets environ) et d'établir un planning de réalisation du Projet, afin de contribuer à la politique d'autosuffisance alimentaire du Niger.

L'Etude de Factibilité vise, par ailleurs, l'échange des expériences entre les deux parties et la formation des techniciens nigériens.

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### III. APERÇU DES ETUDES

#### 1. Etudes sur le terrain

##### 1-1. Sujets des études

Les travaux d'Etude comportent : la collecte et l'analyse des données et des informations, en matières suivantes :

- 1) Etude socio-économique (économie régionale, agro-économie, circulation des produits, marchés, possession des terres, situation sociale actuelle, etc)
  - 2) Etude agronomique (système de culture, produit agricole, utilisation actuelle des terres, établissement agricole, technique de culture, etc.)
  - 3) Etude des sols (délimitation du site adéquat, et d'autres)
  - 4) Etude topographique et géologique (géologie des sites des principaux ouvrages, et d'autres)
  - 5) Etude météorologique et hydrologique (précipitation, température, état du Fleuve, etc.)
  - 6) Enquête sur le programme d'installation des paysans (programme agricole, programme d'utilisation des terres, etc.)
  - 7) Etude du programme d'établissement (système d'irrigation et de drainage, station de pompage, aménagement des parcelles, installations jointes, etc.)
  - 8) Enquête sur l'acquisition des matériaux et matériels de construction (acquisition des matériaux, coût d'unité, etc.)
  - 9) Enquête sur l'assistance agricole et sur l'organisation de gestion (organisation des paysans, institution financière agricole, organisation administrative, etc.)
  - 10) Etude sur les infrastructures sociales (routes, service des eaux potables, électricité, habitation, soins médicaux, éducation, etc.)
  - 11) Etude sur l'efficacité du développement
  - 12) Divers
- et les études nécessaires à l'établissement d'un planning de réalisation du Projet.

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1-2. Etudes complémentaires pour actualiser le dossier rédigé par la SOGREAH, "Aménagement Hydro-Agricole de Terrasses et Cuvettes dans la Vallée du Fleuve Niger, Périmètre de Kourani-Baria" (Ingénieurs Conseils, SOGREAH, avril 1976).

## 2. Travaux à effectuer au Japon

Basé sur les résultats des études sur le terrain, un planning pour le développement du Projet contenant les matières suivantes sera établi tout en étudiant la faisabilité technico-économique du Projet.

- 1) Planning de développement agricole général
- 2) Plans des principaux ouvrages et d'autres installations (ouvrage hydraulique, et d'autres)
- 3) Calendrier d'exécution de travaux du Projet
- 4) Organisation de fonctionnement et d'assistance du Projet
- 5) Estimation économique (analyse économique, analyse financière)
- 6) Révision du dossier de SOGREAH de Kourani-Baria.

## IV. CALENDRIER DES TRAVAUX

Le calendrier provisoire des travaux d'Etude est annexé ci-dessous. La JICA enverra une équipe d'Etude pour exécuter les études du Projet en conformité avec ce calendrier.

## V. RAPPORTS

Les rapports (en français) seront préparés et soumis au Gouvernement du Niger de façon suivante :

### 1. Plan d'Opération

Vingt (20) copies de ce rapport seront soumises lors du démarrage des études sur le terrain.

### 2. Rapport Intérimaire

Trente (30) copies de ce rapport seront soumises à la fin des études sur le terrain.

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### 3. Projet du Rapport Final

Trente (30) copies de ce rapport seront sousises après les travaux au Japon.

### 4. Rapport Final

Cinquante (50) copies du Rapport Final seront soumises dans les deux mois après la réception des commentaires sur le Projet du rapport ci-dessus de la part des autorités concernées du Gouvernement Nigérien.

## VI. DISPOSITIONS A PRENDRE PAR LE GOUVERNEMENT DU NIGER

Afin de favoriser la bonne exécution des études sur le terrain, le Gouvernement du Niger s'engage :

- 1) à fournir les données disponibles et autres informations relatives aux études du Projet, et à donner l'autorisation pour les emporter au Japon en vue des études ;
- 2) à collaborer avec les membres de l'équipe à une exécution efficace des études, et à mettre à disposition le personnel cadre (le personnel de contrepartie du Gouvernement du Niger) nécessaire aux études ;
- 3) à faciliter les contacts pour la recherche d'un local à louer et le recrutement du personnel ;
- 4) à faciliter les contacts avec des différents laboratoires existants de la place en vue de la réalisation des analyses nécessaires aux études ;
- 5) à prendre les dispositions nécessaires à la visite de l'équipe auprès des pouvoirs publics et autorités locales ainsi qu'autres organismes intéressés, et à une étroite collaboration de ces autorités concernées avec l'équipe d'Etude ;
- 6) à faciliter l'installation de l'équipe sur les lieux des études ;
- 7) à prendre des arrangements dans le recrutement de la main-d'oeuvre ;
- 8) à fournir aux membres de l'équipe japonaise visas, les cartes d'autorisation de travail, cartes d'identité et autres documents nécessaires pour l'exécution de l'Etude ;
- 9) à donner l'autorisation de pénétrer dans les terrains soit publics, soit privés destinés à l'Etude ;
- 10) à prendre les mesures nécessaires pour assurer la sécurité de l'équipe japonaise ;

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- 11) à exonérer les membres de l'équipe japonaise des taxes, des droits de douanes et d'autres charges imposées sur les machines, les équipements et les autres matériaux nécessaires pour l'exécution de l'Etude ainsi que sur les effets personnels de membres de l'équipe japonaise, et à en faciliter le dédouanement ;
- 12) à faciliter la remise et l'utilisation des fonds importés du Japon au Niger pour la réalisation de l'Etude, et à exonérer les membres de l'équipe japonaise de diverses taxations sur les rémunérations versées par le Gouvernement du Japon ;
- 13) à fournir les soins médicaux en cas de besoin aux membres de l'équipe japonaise séjournant au Niger, étant entendu que les frais médicaux seront réglés par l'équipe japonaise ;
- 14) à assumer la responsabilité relative aux réclamations, s'il y a lieu, faites par le tiers contre les membres de l'équipe japonaise au cours de, ou en relation avec la réalisation de l'Etude, à l'exception de celles faites suites à une négligence grave ou à une inconduite volontaire de la part des membres mentionnés ci-dessus ;
- 15) à autoriser l'équipe japonaise à utiliser les postes de radio-communication, y compris les transmissions et les instruments électro-magnétiques à longue distance ;
- 16) à prendre en général toutes les autres mesures favorables à l'exécution des études.

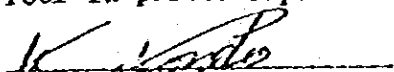
#### VII. DISPOSITIONS A PRENDRE PAR LE GOUVERNEMENT DU JAPON

Pour atteindre les objectifs de l'Etude, le Gouvernement du Japon s'engage :

- 1) à envoyer une équipe d'Etude de Factibilité, et à prendre à sa charge les frais de véhicules et de location du bureau, ainsi que d'autres frais nécessaires aux études ;
- 2) à former les techniciens nigériens participant au Projet.

Fait à Niamey, le 2 août 1982

Pour la partie Japonaise



KATSUHIDE KONDO

Chef de Mission

de Terres de Référence

du Projet d'Aménagement

Hydro-Agricole de Kourani-Baria

Pour la partie Nigérienne



AMADOU HALIDOU

Directeur des Services

du Génie Rural

ANNEXE

CALENDRIER PROVISOIRE DES TRAVAUX

Nature des Travaux	1982			1983							
	Sep	Oct	Nov	Dec	Jan	Fév	Mar	Avr	Mai	Juin	Juillet
Etudes sur le terrain		←	←	←			↔				
Travaux à effectuer au Japon		↔		←	←	←	←	←			
Présentation des Rapports		△ P.O.		△ R.I.			△ P.R.			△ R.F.	

Remarques : P.O. : Plan d'Opération  
 R.I. : Rapport Interiminaire  
 P.R. : Projet du Rapport Final  
 R.F. : Rapport Final

MINUTES OF MEETINGS

ON

FEASIBILITY STUDY

ON

THE RICHES SWAMP AGRICULTURAL DEVELOPMENT PROJECT

IN

THE REPUBLIC OF SIERRA LEONE

(JAPAN/AIDB COOPERATION PROGRAM)

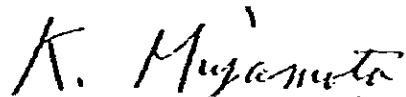
(July 13 1982, Freetown)



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W.B. KRUU

LEADER OF:  
SIERRA LEONE'S TEAM FOR  
FEASIBILITY STUDY ON RICHES SWAMP  
AGRICULTURAL DEVELOPMENT PROJECT



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KAZUMI MIYAMOTO

LEADER OF:  
THE SCOPE OF WORKS TEAM FOR  
FEASIBILITY STUDY ON RICHES SWAMP  
AGRICULTURAL DEVELOPMENT PROJECT

MINUTES OF MEETINGS  
(JULY 9 - JULY 15, 1982)

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 Fofaibe Swamp Agricultural Development Project (hereinafter referred to as "the Project") in the Republic of Sierra Leone with counterparts, Ministry of Agriculture and Forestry and other authorities concerned. Member list of both sides are attached in Annex I (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. The Team recognized the importance the Government of Sierra Leone attached to the Project and agreed to work earnestly for the early realization of the Project.
2. In this concern both sides agreed to make an effort for the smoother execution of the feasibility study on the Project.
3. The Government of Sierra Leone recognized the importance of keeping close contact with the AfDB for the eventual implementation of the Project.
4. The Government of Sierra Leone reiterated its strong desire for the consideration of its earlier proposals spelled out in Annex III of the previous minutes (3rd December 1981).

LIST OF  
JAPAN INTERNATIONAL COOPERATION AGENCY TEAM MEMBERS

Japan-Team Members

<u>Assignment</u>	<u>Name</u>	<u>Position</u>
Leader	Mr. Kazuo MIYAHARA	Assistant Director, Disaster Prevention Div., Agricultural Structure Improvement Bureau, Ministry of Agriculture, Forestry and Fisheries.
Irrigation/ Drainage	Mr. Yoshinori KITAHARA	Director, System Development Div., Land Improvement Engineering Service Centre, Tokyo National Agricultural Administration Office, Ministry of Agriculture, Forestry, and Fisheries
Coordination	Mr. Teruyoshi IRIHARA	Technical Affairs Division, Agricultural, Forestry, and Fisheries Planning and Survey Dept. Japan International Coopera- tion Agency.



**LIST OF  
MEMBERS OF SIERRA LEONE TEAM**

Sierra Leone-Team Members

<u>Assignment</u>	<u>Name</u>	<u>Position</u>
Leader	Mr. W.B. KUNU	Permanent Secretary, Ministry of Agriculture & Forestry
Chief Coordinator	Mr. A.R. SIAPA	Chief Agriculturist Ministry of Agriculture & Forestry
Project Coordinator	Mr. Ambassador A.W. JALLOH	Asst. Director, Land & Water Development Division, Ministry of Agriculture & Forestry
Irrigation/ Drainage	Mr. J.C. Hanelberg	Head of Water Resources Section, Land & Water Development Division, Ministry of Agriculture & Forestry
Cooperation Policy	Dr. L. KUMALA	Assistant Secretary, Ministry of Foreign Affairs Technical Cooperation Div.

SCOPE OF WORKS  
OF  
TECHNICAL COOPERATION  
BETWEEN  
JAPAN INTERNATIONAL COOPERATION AGENCY  
AND  
MINISTRY OF AGRICULTURE AND FORESTRY  
ON  
FEASIBILITY STUDY  
IN  
GEMTI NORTH AREA  
ON  
THREE YEAR AGRICULTURAL DEVELOPMENT PROJECT  
IN  
THE REPUBLIC OF SIERRA LEONE

## 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 Kono District Agricultural Development Project (hereinafter referred to as "the Study") as part of the technical cooperation programs of the Government of Japan.

Accordingly, Japan International Cooperation Agency (JICA), the official agency responsible for the implementation of the technical cooperation programs 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 feasibility study on the basis of the results obtained from the Preliminary Survey (February 2 to 10, 1964) 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 Study which is to be carried out in close cooperation with the Government and its authorities.

## II. OBJECTIVE OF THE STUDY

The objective of the study is to formulate the agricultural development plan in Gwenti North (approx. 1,300 hectare) which has high priority in the overall Kono District Agricultural Development Project.

## III. OUTLINE OF THE STUDY

The study will be carried out by Japanese team in two stages.

- (1) Field work in Sierra Leone
- (2) Home office work in Japan

Each work consists of the following items:

## 1. Field Work:

### (1) Collection of existing data

- a. Meteorology and hydrology
- b. Topographical maps and aerial photography
- c. Geology and soil property
- d. Soil
- e. Water quality
- f. Farming
- g. Agricultural facility
- h. Existing water utilization facility
- i. Agricultural economy and institution
- j. Irrigation system
- k. Infrastructure (road, transportation, etc)
- l. Land tenure system

### (2) Field survey and analysis

- a. Meteorological and hydrological survey (surface water and groundwater)
- b. Water quality survey (especially salinity)
- c. Geological survey and soil property survey
- d. Irrigation requirement survey
- e. Topographical survey
- f. Soil survey
- g. Vegetational survey
- h. Farming system survey
- i. Agro-economical survey
- j. Construction material survey
- k. Unit cost survey for estimating total project cost
- l. Marketing survey
- m. Design of the following:
  - (a) outline of irrigation system
  - (b) outline of irrigation, drainage, and road net plan, and
  - (c) type of construction
  - (d) outline of land consolidation plan
  - (e) outline of farming plan

### (3) Complementary survey for the review of the Koshi Stamp Engineering Feasibility Study (KAT Consulting Engineers Ltd., 1972)

## 2. Home Office Work

- (1) Formulation of the overall agricultural development project for the project area Gbanti North
- (2) Pre-design of the major structures in the project
- (3) Preparation of implementation schedule of the project
- (4) Estimation of the cost and benefits of the project
- (5) Formulation of maintenance and operation plan for the main structures in the project
- (6) Economic evaluation
- (7) Review of the HET Consulting Engineers Ltd. report

## IV WORK SCHEDULE

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

## V REPORTS

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

1. Plan of Operation  
Thirty (30) copies at the commencement of each stage of the field work.
2. Field Report  
Thirty (30) copies at the end of the dry season field work.
3. Interim Report  
Thirty (30) copies at the end of the rainy season home office work.
4. Draft Final Report  
Thirty (30) copies at the end of the dry season home office work.
5. Final Report  
One hundred (100) copies within one and a half (1.5) months after the receipt of the comments of the authorities concerned on the Draft Final Report.

## VI. UNDERTAKING OF THE GOVERNMENT OF SIERRA LEONE

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

- (1) to designate the counterpart personnel to cooperate with the Team in conducting the study effectively in the following fields:
  - (a) general planning, (b) irrigation & drainage, (c) agronomy,
  - (d) hydrology, (e) soil, (f) land consolidation, (g) structures,
  - (h) rural development, (i) economic evaluation, and (j) topographical survey.
- (2) to arrange the Team's visit to relevant ministries, local governments and other public agencies,
- (3) to provide the available data and information necessary for the Study,
- (4) to provide office and residential space for the field work of the Team,
- (5) to provide typewriters and other equipment necessary for the Study to the Team,
- (6) to arrange the recruitment of non-technical local staff including secretaries, typists, labourers, Drivers and other personnel necessary for the Study.
- (7) to arrange for the provision of several vehicles and/or boats for the field operation,
- (8) 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,
- (9) to make arrangement 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,
- (10) to guarantee the security of the Team members during the surveying period,
- (11) to provide medical services for the Team during its stay in Sierra Leone, if necessary, and
- (12) to undertake to bear claims, if any arises, against the Team in the survey resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in Sierra Leone, except for those claims arising from the willful misconducts or gross negligence of the Team.

**VII.  Undertaking of the Government of Japan**

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

- (1) to dispatch the Team to conduct field work,
- (2) to transfer the technology related to this survey to the Sierra Leonean counterparts through their participation in the survey,
- (3) to bear the cost of the whole survey except for the cost borne by the Government, and
- (4) to receive one Sierra Leonean counterpart in Japan and bear the expense of transportation and stay.

Tentative Schedule of Feasibility Study on Ihombe Swamp Agricultural Development Project

	1982	JULY	AUGUST	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY
Scope of Works Team														
Wet Season Study			← Field Work		← Office Work									
Dry Season Study					← Field Work					← Office Work				
Draft Final Report Team														
Reports			A P.O.			A I.R.			A F.R.		A D.F.R.		A F.R.	

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





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MINUTES OF MEETING  
ON  
SCOPE OF WORK  
FOR  
THE FEASIBILITY STUDY  
ON  
THE PAMPLONITA RIVER BASIN AGRICULTURAL DEVELOPMENT PROJECT IN  
THE REPUBLIC OF COLOMBIA

The Preliminary Survey Team (hereinafter referred to as "the Team") sent by the Japan International Cooperation Agency and the staff of Instituto Colombiano de Hidrología, Meteorología y Adecuación de Tierras (hereinafter referred to as "HIMAT") exchanged their views concerning the draft of the Scope of Work for the Feasibility Study on the Pamplonita River Basin Agricultural Development Project (hereinafter referred to as the "Study") prepared by the Team.

At the series of discussion, HIMAT requested the Team to include a conservative study of watershed in upper stream of the Pamplonita river from the viewpoint of river control in the Study. On the other hand, the Team insisted that agricultural development of the lower region of the Pamplonita river had the first priority for the purpose of getting maximum benefit by minimum cost within a short term, based upon the result of the field survey.

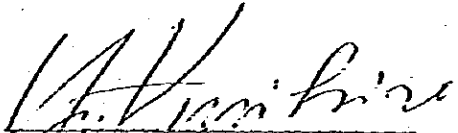
However, both sides agreed with the Scope of Work.



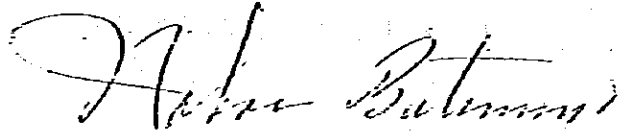
Attachment I: Scope of Work

II List of Attendants

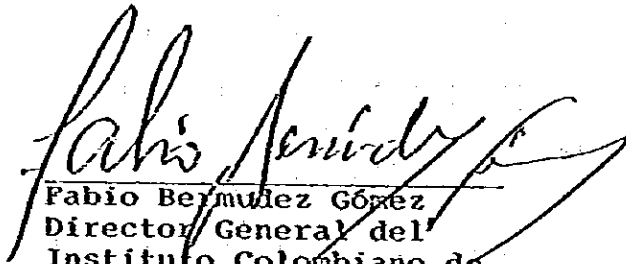
Bogota, February 2, 1983



Yasuhiko Kunihiro  
Leader of the Preliminary  
Survey Team, Japan Interna-  
tional Cooperation Agency  
(JICA).



Nohra Bateman Durán  
Jefe de División de  
Cooperación Técnica  
Internacional, Depar-  
tamento Nacional de  
Planeación (DNP).



Fabio Bermúdez Gómez  
Director General del  
Instituto Colombiano de  
Hidrología, Meteorología  
y Adecuación de Tierras  
(HIMAT).

**(Attachment I)**

**SCOPE OF WORK  
FOR  
THE FEASIBILITY STUDY  
ON  
THE PAMPLONITA RIVER BASIN AGRICULTURAL DEVELOPMENT PROJECT  
IN  
THE REPUBLIC OF COLOMBIA**

## I. INTRODUCTION

In response to the request of the Government of Colombia, the Government of Japan decided to conduct the Feasibility Study on the Pamplonita River Basin Agricultural Development Project (hereinafter referred to as "the Study"), with the general framework of technical cooperation between Japan and Colombia which is set forth in the Agreement of Technical Cooperation between the Government of Japan and the Government of the Republic of Colombia signed on 22 November, 1976. The Japan International Cooperation Agency (JICA), the official agency responsible for the implementation of technical cooperation programme of the Government of Japan, will accordingly undertake the Study in accordance with the relevant laws and regulations in force in Japan, in close cooperation with the Government of Colombia and authorities concerned.

The present document sets forth the Scope of Work for the Study.

## II. OBJECTIVES OF THE STUDY

The Study area of about 13,800 ha is located in a lower reach of the Pamplonita river <sup>basin,</sup> in the Province of Norte de Santander, and is bounded with the Grita river and the Guaramito river on the north and the east, Cucuta-Puerto Santander road on the west and La Union farm on the south.

The objectives of the Study are to formulate the following three plans and to verify their feasibility.

1. Drainage plan covering the benefitted area of about 7,000 ha.
2. Irrigation plan considering the effective utilization of the limited water resources and arable land in above mentioned area.
3. Inundation control plan of a lower reach of the Study area, covering the benefitted area of about 2,000 ha.

### III. OUTLINE OF THE STUDY

The activities to be undertaken by the Feasibility Study Team (hereinafter referred to as the "the Team") will be divided as follows;

- Field work in the Republic of Colombia
- Home office work in Japan

#### 1. Field work

The field work will cover the following items;

- (1) Collection and review of the relevant existing data and information including;
  - a. Topography
  - b. Meteorology
  - c. Hydrology and Geohydrology
  - d. Geology
  - e. Soil



- f. Irrigation and drainage
- g. Agriculture
- h. Agro and regional economy
- i. Inundation
- j. Water pollution
- k. Vegetation
- l. Others

(2) Execution of the field survey in the Study area including;

- a. Topographical survey
- b. Meteorological survey
- c. Hydrological and geohydrological survey
- d. Geological survey
- e. Soil and land classification survey
- f. Irrigation and drainage survey
- g. Agricultural survey
- h. Agro and regional economic survey
- i. Inundation survey
- j. Water pollution survey
- k. Land conservation survey
- l. Other surveys

(3) Selection and delineation of the Project area on the basis of review of data and information, and the field survey.

(4) Determination of the basic items for the Project planning including;

- a. Project area
- b. Land use
- c. Agriculture production
- d. Farm management
- e. Farmers' association
- f. Supporting services
- g. Irrigation and drainage
- h. Inundation
- i. Road
- j. Land leveling
- k. Others

2. Home office work

Based on the result of the field work, the home office work will be carried out for the Study including;

- a. Project formulation
- b. Preparation of the implementation schedule
- c. Estimation of the Project cost and benefit
- d. Economic and financial evaluation of the Project

#### IV. WORK SCHEDULE

The Study will be executed in accordance with the attached tentative work schedule. (Appendix)

#### V. REPORTS

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

1. Plan of operation

Thirty (30) copies at the commencement of the first (1) stage field work.

2. Interim report

Thirty (30) copies at the commencement of the second (2) stage field work

3. Draft final report

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

The Government of Colombia is requested to provide its comments on the draft final report within a period of one (1) month after its receiving.

4. Final report

Fifty (50) copies within two (2) months after receiving the comments of the Government of Colombia on the draft final report.

## VI. UNDERTAKING OF THE GOVERNMENT OF COLOMBIA

In accordance with the Agreement on Technical Cooperation between the Government of Japan and the Government of the Republic of Colombia, the Government of Colombia shall accord privileges, immunities and other benefits to the Team and through the authorities concerned, take necessary measures to facilitate smooth conduct of the Study, especially,

1. (1) To provide the Team with relevant data, information, reports and materials necessary for the conduct of the Study.  
(2) To allow the Team to take the necessary data and information related to the Study including aerial photographs out of Colombia to Japan.
2. To undertake necessary measures to secure the safety of the Team.
3. To arrange the medical services for the Team during its stay in Colombia, if necessary.
4. (1) To arrange for the quick and smooth customs clearance of the field survey equipment and materials required for the Study.  
(2) To exempt the Team members from taxes duties, fees and other charges imposed on the machinery, equipment and other materials required for the field survey and on the personnel effects of the Team members.

5. To provide the necessary entry and exit visa, resident and work permit, and travel permit for the Team.

6. To provide the Team with the followings

(1) Counterpart personnel to cooperate and assist for the Team during the field work without charging any cost to the Team.

The number of counterpart personnel and their respective assignment period should be decided in consultation with the Team at the commencement of the field work.

(2) Office space for the Team with equipment and utencils in Bogota and at the job site.

(3) Necessary number of JEEPS or PICK-UPS with drivers for the Team to carry out the field survey.

(4) Accomodation facilities.

(5) Interpreters, typists and labourers necessary for the conduct of the Study.

(6) facilities for analysis of soil samples taken from the Project area.

(7) To bear claims, if any arises, against the members of the Team resulting from, occuring in the course of, or otherwise connected with the discharge of their duties in Colombia, except when such claims arise from willful misconduct or gross negligence on the part of members of the Team.

## VII. UNDERTAKING OF THE GOVERNMENT OF JAPAN

1. To dispatch the Team to conduct the Study.
2. To undertake on-the-job training and transfer of knowledge to Colombian counterpart personnel during the period of the Study.
3. To prepare the equipment necessary for the field work.

APPENDIX

TENTATIVE WORK SCHEDULE

Year Month		1983												1984								
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Oct
F/S	Preliminary Survey Team	△																				
	Field Work																					
	Home Office Work																					
	Submission of Reports																					

(Remarks)

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

(Attachment II)

List of Attendants

Japanese Side

(The Team)

Yasuhiko Kunihiro

Takumi Hiraso

Yoshiaki Otsubo

Hironi Nakamura

Tadatsugi Hatakenaka

Iwao Yamashita

(Embassy of Japan)

Kenichi Ogasawara

Fusakazu Takahashi

(JICA BOGOTA Office)

Kazuo Ishii

Colombian Side

(D N P )

Nohora Bateman Durán

Ligia Rodríguez

(HIMAT)

Fabio Bermúdez Gómez

Victor M. González C.

Pedro Barjuch M.



MINUTES OF MEETING  
ON  
THE SCOPE OF WORK  
FOR  
THE FEASIBILITY STUDY OF AGUAN VALLEY  
AGRICULTURAL DEVELOPMENT PROJECT  
( SABA - OLANCHITO AREA )

In response to the request of the Government of the Republic of Honduras (hereinafter referred to as "HONDURAS"), the Government of Japan dispatched the Study team of Japan International Cooperation Agency (hereinafter referred to as "THE TEAM"), headed by Mr. YASUO ICHIHAWA.

The officials of National Agrarian Institute and other authorities concerned and THE TEAM discussed and exchanged their views concerning the draft Scope of Work prepared by THE TEAM.

Following are main items which both sides agreed and understood.

1. Coordinating Body

While THE TEAM stressed the necessity of coordination among the Honduran Governmental authorities concerned in order to promote the survey effectively, HONDURAS expressed that a committee will be organized by the relevant Governmental authorities and chaired by INA.

2. Submission of the Aguan Master Plan Project Reports

THE TEAM requested that HONDURAS should submit the Draft Final Report and the Final Report of the Aguan Master Plan Project, which will be reflected to the Feasibility Study, to JICA through the Embassy of Japan in Honduras when those are completed respectively.

HONDURAS will submit them as soon as possible.

3. Details of the Study

1. Social Infrastructure

The Study of Social Infrastructure, though not mentioned in the

(11)

Scope of Work, should be conducted in a form of locating and does not include designs of each facilities.

## 2.) Marketing and Prices

The study of marketing and prices should be conducted, using existing data obtained both in Honduras and in Japan, and does not include investigations in the other countries.

## 3.) Design alternatives

Design alternatives, which are to be compared and examined in consultation with HONDURAS in order to select the preliminary design, should be mentioned in the Final Report.

## 4.) Analysis of Typical Farm Budget

Analysis of typical farm budget should include the study on cooperative level and should be done on various farm types.

## 5.) Social Aspects

Analysis of social aspects should be worked together by the Japanese study team and HONDURAS, based on information obtained by HONDURAS.

## 6.) Conservation of the water and forest resources

In view of the importance of conservation of the water and forest resources for the agricultural development in the Study area, necessary recommendation should be made in the Final Report.

## 4. Field Survey

All the field investigations and laboratory tests, concerning soil, hydrology, groundwater, etc. shall be conducted at the expense of JICA.

## 5. Work Schedule

Since the budget of HONDURAS for the execution of the Feasibility Study has already been approved for the fiscal year 1984, HONDURAS strongly requested that the Study will be started in January 1984 and completed in May 1985.

THE TEAM will convey the request to authorities concerned in JAPAN.

(11)

## 6. Control of Operation

### 1.) Control Method

In order to control the operation of the Feasibility Study, Critical Path Method will be adopted, which specifies activities done by the Japanese study team and by HONDURAS.

### 2.) Monthly Meeting

Monthly meeting should be held in order to discuss and control the work schedule.

Reporting of the meeting, including preparation of minutes of the meeting, to authorities concerned in Honduras should be done by INA.

## 7. Facilities concerning tax exemption

INA should be responsible to give facilities to the Japanese study team concerning tax exemption mentioned at VI-1-4.) of the Scope of Work.

## 8. Training

HONDURAS eagerly requested that JICA will accept five (5) counterpart personnel for the purpose of technology transfer in Japan as well as smoother execution of the Feasibility Study.

THE TEAM will convey the request to authorities concerned in Japan.

## 9. Contents of F/S Phase I and II

The contents of Phase I and II of the Feasibility Study should be defined at the beginning of the Study.

## 10. Mapping Work

0.5 m contour will be interpolated if it is necessary.

## 11. Home Office work in Japan

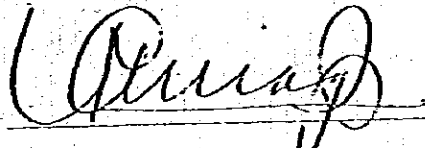
HONDURAS strongly requested that all the office work should be

done in Honduras in consultation with the Honduran counterparts, -  
except for those not to be done in Honduras.

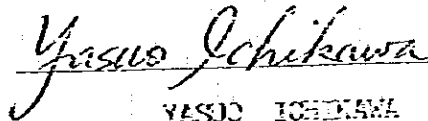
In view of the importance of technical transfer as stated in the  
Scope of Work, THE TEAM will convey the request to authorities concerned  
in Japan.

12. Dispatch of the Feasibility Study Team

At least one month before the dispatch of the Feasibility Study -  
team, the Government of Japan will make a notice to HONDURAS, who will  
make all the preparation for receiving the team.



UBODORO ARIASA IRUETA  
EXECUTIVE DIRECTOR  
NATIONAL AGRARIAN INSTITUTE



YASUO ICHIKAWA  
LEADER OF THE JAPANESE  
STUDY TEAM, JICA

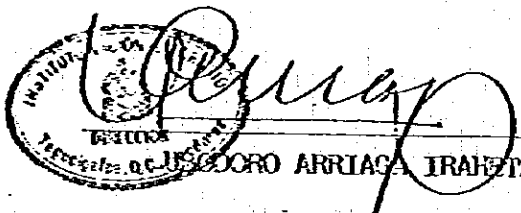
SCOPE OF WORK  
FOR  
THE FEASIBILITY STUDY  
ON  
AGUAN VALLEY AGRICULTURAL DEVELOPMENT PROJECT  
( SABA-OLANCHITO AREA)

IN  
THE REPUBLIC OF HONDURAS

AGREED UPON BETWEEN  
NATIONAL AGRARIAN INSTITUTE

AND  
THE JAPAN INTERNATIONAL COOPERATION AGENCY

Tegucigalpa, November 24, 1983.



OSCARO ARRIAGA IRAETA

EXECUTIVE DIRECTOR  
NATIONAL AGRARIAN INSTITUTE



YASUO ICHIKAWA

LEADER OF THE JAPANESE  
STUDY TEAM, JICA

## I. INTRODUCTION

In response to the request of the Government of the REPUBLIC OF HONDURAS (hereinafter referred to as "HONDURAS"), the Government of Japan decided to implement the feasibility study on AGUAN VALLEY Agricultural Development Project (SABA-OLANCHITO AREA) (hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan and in Honduras.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of technical cooperation programs of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of HONDURAS.

The present document sets forth the Scope of Work with regard to the above mentioned Study.

## II OBJECTIVES OF THE STUDY

The objectives of the Study will be :

1. To formulate the Project and verify its technical and economic feasibility ; and
2. To undertake on-the-job training and transfer the technology to the Honduras counterpart in the course of the Study.

## III OUTLINE OF THE STUDY

### 1. Study Area

The study area will be about 23,000 ha, of plain land, with slopes



of about 10% or less, between the towns of Sabá and Olanchito. and at the foot of the mountains in both sides of the Aguan river outlined in the guide of the Aguan Master Plan Project, and excluding the Isletas Area.

## 2. Scope of the Study

The Scope of the Study to be conducted will be as follows :

### 1.) Mapping Work

Topographic mapping of the Project area on a scale of 1/5000 with 1.0 m contour by means of an aerial photographic survey by using existing aerial photos.

### 2.) Feasibility Study

#### Field Work

A.) Collection and review of the existing data of the Aguan Master Plan Project and other sources, related with the below information.

#### a. general

1. meteorology
2. hydrology
3. topography
4. geology
5. soil

#### b. agriculture

1. land use
2. land holding
3. land tenure system
4. cropping pattern



- 5. crop yield and production
- 6. animal husbandry
- 7. water resources including ground water
- 8. irrigation water requirement
- 9. custom of water use and water rights
- c. agro-economy
  - 1. marketing & prices
  - 2. agricultural production cost & production value
  - 3. farm economy
- d. agricultural supporting system
  - 1. farmers cooperative
  - 2. extension service
  - 3. agricultural credit
  - 4. research
  - 5. agricultural inputs
- e. infrastructure
  - 1. irrigation/drainage system
  - 2. transportation & communication
  - 3. electricity & water supply

- B.1 Conducting the field surveys to supplement information and data mentioned above at A for project planning, and study - and analysis of those obtained through the surveys.
- C.1 Formulation of basic development concept for the Project, based on the National Development Plan.

(117)



- D.] Preparation for preliminary design of the project works and provisional determination of key dimensions thereof in accordance with HONDURAS.

Home Office Work in Japan

- A.] Studying and analyzing in detail the data and information obtained through the field work
- B.] Finalization of the development concept for the Project
- C.] Formulation of the Project
- a. cropping pattern and land use plan
  - b. estimation of crop yield, crop production, production cost and value
  - c. preliminary design of irrigation/drainage facilities
  - d. construction plan of project works
  - e. implementation schedule
  - f. estimation of the project cost
  - g. agricultural supporting services
  - h. organization for the project during/after construction
- D.] Evaluation of the Project
- a. economic evaluation by means of IRR
  - b. analysis of typical farm budget
  - c. other benefits
- E.] Specific Recommendation

IV. WORK SCHEDULE

The Study will be conducted in accordance with tentative working schedule attached herewith.

## V. REPORTS

JICA will prepare and submit following reports to HONDURAS :

### 1. PLAN OF OPERATION

Twenty (20) copies at the commencement of the Study, in English.

### 2. INTERIM REPORT

Twenty (20) copies at the end of each field work; summary in English and in Spanish and others in English.

### 3. DRAFT FINAL REPORT

Twenty (20) copies at the completion of the Phase II of the Study; main report in English and in Spanish and others in English.

Within forty five (45) days after the presentation of the Draft Final Report of the Study, HONDURAS will forward the final comments on the Draft Final Report to JICA through the Embassy of Japan.

### 4. FINAL REPORT

Fifty (50) copies within 2 months after receiving the comments on the Draft Final Report; main report in English and in Spanish and others in English.

## VI. UNDERTAKING OF HONDURAS

1. To facilitate smooth conduct of the Study, HONDURAS will take necessary measures:
  - 1.) To secure the safety of the Japanese study team;
  - 2.) To permit the members of the Japanese study team to enter, leave and sojourn in Honduras for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees;

- 3.) To exempt the members of the Japanese study team from taxes, duties, fees and any other charges on equipment, machinery and other material brought into Honduras for the conduct of the Study ;
- 4.) To exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emolument or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study ;
- 5.) To provide necessary facilities to the Japanese study team for the remittance as well as the utilization of funds introduced into Honduras from Japan in connection with the implementation of the Study;
- 6.) To secure permission for entry into private properties or restricted areas for the conduct of the Study;
- 7.) To secure permission to take all data and documents related to the Study including posi-photo-film for mapping work out of Honduras to Japan by Japanese study team ;
- 8.) To secure permission to use survey equipment including walkie-talkie for the conduct of the Study ;
- 9.) To facilitate the quick and smooth custom clearance of the survey equipment and materials brought into Honduras by Japanese study team for their field study ;
- 10.) To give facilities for the rental of vehicles for the field operation ;
- 11.) To arrange the recruitment of non-technical local staff such as secretaries, typists, laborers and drivers;
- 12.) To arrange medical services for the study team during its stay in Honduras, if necessary, and
- 13.) To give facilities for the inscription in the civil engineers and

economy association for the Japanese consultant.

2. HONDURAS shall bear claims, if any arises, against the members of the Japanese study team resulting from, occurring in the course of or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Japanese study team.
3. National Agrarian Institute (hereinafter referred to as "INA") shall act as counterpart agency to the Japanese study team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.
4. INA shall, at its own expense, provide the Japanese study team with the following, in cooperation with other agencies concerned, if necessary:
  - 1.] available data and information related to the Study;
  - 2.] counterpart personnel;
  - 3.] suitable office with necessary equipment both near the project site and in Tegucigalpa, and
  - 4.] credentials or identification cards

#### VII. UNDERTAKING OF THE GOVERNMENT OF JAPAN

For the implementation of the Study, the government of Japan, through JICA, will take necessary measures:

- 1.] To dispatch, at its own expense, study teams to Honduras;
- 2.] To pursue technology transfer to the Honduras counterpart personnel in the course of the Study;
- 3.] To provide the necessary equipment and two (2) vehicles for the implementation of the Study, which will remain the property of the Government

of Japan unless otherwise agreed upon, and

4.] HONDURAS could demand, with justified cause, the substitution of any-  
members of the Japanese study team.

VIII. CONSULTATIONS

JICA and INA will consult with each other in respect of any matter that  
may arise from or in connection with the Study.

IX. LANGUAGE

In case there is any divergence of interpretation of this Scope of Work,  
which is done in English and in Spanish, the English text shall prevail.



(Attached Sheet)

002


TENTATIVE WORKING SCHEDULE FOR FEASIBILITY STUDY

ON.

AGUAN VALLEY AGRICULTURAL DEVELOPMENT PROJECT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1. TOPOGRAPHIC MAPPING																					
2. F/S PHASE I																					
3. F/S PHASE II																					
4. EXPLANATION & DISCUSSION OF D.F.R.																					
5. STUDY & PREPARATION OF COMMENTS FOR D.F.R. BY HONDURAS																					
6. SUBMISSION OF REPORTS																					
						△															
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REMARKS:

 in HONDURAS

 in JAPAN

P.O. : PLAN OF OPERATION

INT.R. : INTERIM REPORT

D.F.R. : DRAFT FINAL REPORT

F.R. : FINAL REPORT

F/S PHASE I : Study in dry/wet Season

F/S PHASE II : Study in wet/dry Season



SCOPE OF WORK  
FOR  
THE FEASIBILITY STUDY  
ON  
BLACK RIVER LOWER MORASS AGRICULTURAL DEVELOPMENT PROJECT  
IN  
JAMAICA

AGREED UPON BETWEEN  
NATIONAL PLANNING AGENCY  
AND  
THE JAPAN INTERNATIONAL COOPERATION AGENCY

KINGSTON, DECEMBER 13, 1983

Yvonne E. Roache  
Yvonne E. ROACHE  
for Chief Technical Director  
National Planning Agency

Shingi Takahashi  
Shingi TAKAHASHI  
Leader of the Japanese  
Study Team, JICA

## 1. INTRODUCTION

In response to the request of the Government of JAMAICA (hereinafter referred to as "JAMAICA"), the Government of Japan decided to implement the feasibility study on BLACK RIVER LOWER MORASS Agricultural Development Project (hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of technical cooperation programs of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of JAMAICA.

The present document sets forth the Scope of Work with regard to the abovementioned study.

## II. OBJECTIVES OF THE STUDY

The objectives of the Study will be:

1. to formulate the Project and verify its technical and economic feasibility; and
2. to undertake on-the-job training and transfer the technology to the Jamaican counterpart personnel in the course of the Study.





### III. OUTLINE OF THE STUDY

#### 1. Study Area

The study area will be about 14,000 ha located in the alluvial plain of Black River downstream, and bounded on the north and west by the Black River - Santa Cruz Road, on the east by the Lacovia Bridge - Mountainside Road, and on the south by the Mountainside - Black River Road.

#### 2. Scope of the Study

The scope of the Study to be conducted will be as follows:

##### 1) Field Work

(1) Collection and review of the existing data and information for the Study:

##### A. natural condition

- a. meteorology and marine meteorology
- b. hydrology
- c. topography
- d. geography
- e. geology
- f. soil

##### B. general condition

- a. land use
- b. land tenure
- c. water utilization
- d. transportation and communication
- e. electricity
- f. socio-economy
- g. social infrastructure
- h. natural resources
- i. environmental aspect

(J)

91

**C. agriculture:**

- a. farm household
- b. farm management
- c. crop yield and production
- d. agricultural machinery
- e. animal husbandry
- f. inland water fishery
- g. water resources
- h. groundwater
- i. irrigation water requirement
- j. custom of water use and water rights

**D. agro-economy:**

- a. marketing and prices
- b. agricultural production cost and production value
- c. farm economy

**E. agricultural supporting system:**

- a. farmers organization
- b. agricultural techniques and its extension
- c. agricultural credit
- d. experiment and research activities
- e. agricultural training

**F. agricultural infrastructure:**

- a. irrigation and drainage system
- b. land reclamation
- c. land consolidation
- d. farm road
- e. milling and storage facilities
- f. agro-industry

(2) Necessary field surveys for project planning.



- (3) Formulation of basic development concepts for the Project
- (4) Preparation for preliminary design of project works and provisional determination of key dimensions thereof.

2. Home Office Work in Japan:

- (1) Detail study and analysis of the data and information obtained through the field work.
- (2) Finalization of the optimum development concept for the project.
- (3) Formulation of the Project:
  - A. land use plan
  - B. land resettlement plan
  - C. farming programme and cropping pattern
  - D. estimation of crop yield, crop production, production cost and value
  - E. irrigation and drainage plan
  - F. plan and preliminary design of irrigation and drainage facilities, and other agricultural infrastructures
  - G. construction plan of project works
  - H. plan for operation and maintenance system of facilities
  - I. implementation schedule of the Project
  - J. estimation of the project cost
  - K. agricultural supporting services
  - L. organization for the Project during and after construction
- (4) Evaluation of the Project:
  - A. economic evaluation by means of IRR
  - B. analysis of typical farm budget
  - C. other benefits
- (5) Specific recommendation



#### IV. WORK SCHEDULE

The Study will be conducted in accordance with tentative working schedule attached herewith.

#### V. REPORTS

JICA will prepare and submit the following reports in English to JAMAICA:

1. Plan of Operation  
twenty (20) copies at the commencement of the Study.
2. Progress Report  
twenty (20) copies at the end of each field work.
3. Interim Report  
twenty (20) copies at the beginning of the Phase II study.
4. Draft Final Report  
twenty (20) copies at the completion of the Phase II study.  
Within a month after the presentation of Draft Final Report, JAMAICA will forward the final comments on the Draft Final Report to JICA through the Embassy of Japan.
5. Final Report  
fifty (50) copies within two (2) months after receiving comments on the Draft Final Report.

#### VI. UNDERTAKING OF JAMAICA

1. To facilitate smooth conduct of the Study, JAMAICA will take necessary measures:
  - 1) To secure the safety of the Japanese study team;
  - 2) To permit the members of the Japanese study team to enter, leave and sojourn in Jamaica for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees;

- 3) To exempt the members of the Japanese study team from taxes, duties, fees and any other charges on equipment, machinery and other materials brought into Jamaica for the conduct of the Study;
- 4) To exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study;
- 5) To provide necessary facilities to the Japanese study team for the remittance as well as the utilization of funds introduced into Jamaica from Japan in connection with the implementation of the Study;
- 6) To secure permission for entry into private properties or restricted areas for the conduct of the Study;
- 7) To secure permission to take necessary data and documents related to the Study out of Jamaica to Japan by Japanese study team;
- 8) To secure permission to use survey equipment including walkie talkie (subject to agreement on specification) for the conduct of the Study;
- 9) To facilitate the quick and smooth custom clearance of the survey equipment and materials brought into Jamaica by Japanese study team for their field study;
- 10) To provide vehicles for the field operation;
- 11) To recruit local staff such as secretaries, typists, labourers and drivers; and
- 12) To arrange medical services for the team during its stay in Jamaica, if necessary.

2. The Government of JAMAICA shall bear claims, if any arises, against the members of the Japanese study team resulting from, occurring in the course of or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Japanese study team.

3. National Planning Agency (hereinafter referred to as NPA) shall act as counterpart agency to the Japanese study team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.
4. NPA shall, at its own expense, provide the Japanese study team with the following, in cooperation with other agencies concerned, if necessary:
  - 1) available data and information related to the Study;
  - 2) counterpart personnel;
  - 3) suitable office with necessary equipment both near the project site and in Kingston; and
  - 4) credentials or identification cards.

#### VII. UNDERTAKING OF THE GOVERNMENT OF JAPAN

For the implementation of the Study, the Government of Japan, through JICA, will take necessary measures:

1. To despatch, at its own expense, study teams to Jamaica;
2. To pursue technology transfer to the Jamaican counterpart personnel in the course of the Study; and
3. To provide the necessary equipment for the implementation of the Study, which will remain the property of the Government of Japan unless otherwise agreed upon.

VIII. JICA and NPA will consult with each other in respect of any matter that may arise from or in connection with the Study.

(S)

( Attached Sheet )

TENTATIVE WORKING SCHEDULE FOR FEASIBILITY STUDY  
ON  
BLACK RIVER LOWER MORASS AGRICULTURAL DEVELOPMENT PROJECT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. P/S PHASE I																		
2. P/S PHASE II																		
3. EXPLANATION & DISCUSSION OF D.F.R.																		
4. STUDY & PREPARATION OF COMMENTS FOR D.F.R. BY JAMAICA																		
5. SUEMSSION OF REPORTS																		
	△			△				△				△		△				△
	P.O.			PRO.R.(1)				INT.R.				PRO.R.(2)		D.F.R.				F.R.

REMARKS:

IN JAMAICA

IN JAPAN

P.O. : PLAN OF OPERATION  
 PRO.R. : PROGRESS REPORT  
 INT.R. : INTERIM REPORT  
 D.F.R. : DRAFT FINAL REPORT  
 F.R. : FINAL REPORT

(2)

*Handwritten signature*

MINUTES OF MEETING  
ON  
THE BLACK RIVER LOWER MORASS AGRICULTURAL DEVELOPMENT PROJECT

In response to the request for technical assistance for a feasibility study on the Black River Lower Morass Agricultural Development Project (the Project) by the National Planning Agency (NPA) in Jamaica, Japan International Cooperation Agency (JICA), governmental agency in Japan, despatched the Study Team for the Scope of Work of the Feasibility Study on the Project (the Study Team) headed by Mr. Shingi TAKAHASHI from November 30 to December 15, 1983.

During the stay in Jamaica the Study Team conducted field reconnaissance survey of the project area and discussed and exchanged views on the Scope of Work of the Feasibility Study on the Project with the representatives of the agencies concerned.

The main items which both sides agreed and understood are as follows:

1. Formation of Basic Development Concepts of the Project

The basic development concepts of the Project will be examined on several alternatives and finalized on the basis of the optimum development concepts agreed through discussions and meetings between the Japanese study team and the Jamaican counterpart personnel concerned.

2. Method for Economic Evaluation of the Project

As regard to the method for economic evaluation of the Project stated in Scope of Work (S/W), IRR means Economic Internal Rate of Return, which is a measure of the rate of return on the investment.







Furthermore, economic evaluation is to be conducted not only by means of IRR, but also by additional economic analysis on benefits obtained as a result of the Project, for instance, rising of foreign exchange balance, increase of employment opportunities, etc.

### 3. Implementation Schedule

JICA will inform the NPA at least one month in advance of the commencement of the study. However, the study is likely to begin early in 1984 just as soon as the Japanese Government is able to conclude preparation of the budget for the study.

### 4. Provisions of Vehicles

The expression "equipment", to be provided by the Government of Japan in S/W, includes vehicles and/or boats necessary for the Study.

The Government of Jamaica will provide vehicles necessary for the field operation of Jamaican counterpart personnel, and the Government of Japan will provide vehicles (4-wheel-drive cars) including boats necessary for the activities of the Japanese study team.

The above-mentioned provision of vehicles by Japan does not necessarily mean purchase in Japan and transportation to Jamaica, but may include procurement in Jamaica at Japan's expense.

### 5. Selection of Counterpart Personnel

Immediately after the Japanese study team is fixed, JICA will send a list of the members to NPA,

NPA will select appropriate counterpart personnel from the relevant Jamaican agencies in accordance with the composition of the Japanese study team.



6. Frequency of Walkie Talkie

For the purpose of obtaining permission for using a walkie talkie, the Japanese study team is to inform the frequency range of the instrument to be used to the Government of Jamaica as early as possible.

Signed in Kingston on  
December 13, 1983

Shingi Takahashi  
Shingi TAKAHASHI  
Leader of the Japanese Study  
Team, JICA

Yvonne E. Roache  
Yvonne E. ROACHE  
for Chief Technical Director  
National Planning Agency



MINISTERIO DE AGRICULTURA Y GANADERIA  
CINCUENTENARIO DE LA DEFENSA DEL CHACO

MINUTES OF MEETING  
OF  
SCOPE OF WORKS  
FOR  
THE MASTER PLAN STUDY  
ON  
THE IRRIGATION AND DRAINAGE PROJECT IN THE  
ADJACENT AREA TO THE YACYRETA DAM  
IN  
THE REPUBLIC OF PARAGUAY

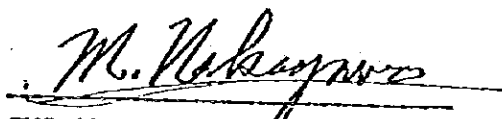
The Minister of the Ministry of Agriculture and Livestock of the Government of the Republic of Paraguay Ing. Agr. HERNANDO BERTONI, and the Scope of Works Team of the Government of Japan headed by Ing. Agr. MINORU NAKAGAWA, Deputy Director-General of Agricultural Structure Improvement Bureau, Ministry of Agriculture, Forestry and Fisheries, discussed and exchanged their views concerning the draft of Scope of Works for the Master Plan Study on the Irrigation and Drainage Project in the Adjacent Area to the Yacyreta Dam (hereinafter referred to as the Study) prepared by the Scope of Works Team.

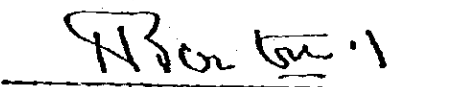
Both sides agreed the Scope of Works (refer to the Attachment 1).

Attachment

1. Scope of Works
2. Attendants

Asuncion, September 22 , 1982

  
ING. AGR. MINORU NAKAGAWA  
Leader of the Scope of Works  
Team for the Master Plan Study  
on the Irrigation and Drainage  
Project in the Adjacent Area to  
the Yacyreta Dam

  
ING. AGR. HERNANDO BERTONI  
Minister of Agriculture and  
Livestock



MINISTERIO DE AGRICULTURA Y GANADERIA  
CINCUNETENARIO DE LA DEFENSA DEL CHACO

SCOPE OF WORKS  
FOR  
THE MASTER PLAN STUDY  
ON  
THE IRRIGATION AND DRAINAGE PROJECT IN THE  
ADJACENT AREA TO THE YACYRETA DAM  
IN  
THE REPUBLIC OF PARAGUAY

SEPTEMBER, 1982



MINISTERIO DE AGRICULTURA Y GANADERIA  
CINCUNETENARIO DE LA DEFENSA DEL CHACO

## I. INTRODUCTION

In response to the request of the Government of the Republic of Paraguay, the Government of Japan has decided to provide the technical cooperation, in accordance with the relevant laws and regulations in force in Japan and with "Acuerdo Sobre Cooperación Técnica Entre El Gobierno del Japón y el Gobierno de la República del Paraguay", for undertaking the Master Plan Study on the Irrigation and Drainage Project in the Adjacent Area to the Yacyreta Dam (hereinafter referred to as "the Study").

The Japan International Cooperation Agency (hereinafter referred to as "the JICA"), the official agency responsible for the implementation of technical cooperation programs of the Government of Japan, will carry out the Study in close cooperation with the Ministries concerned of the Government of the Republic of Paraguay.

## II. OBJECTIVE OF THE STUDY

The objective of the Study is to draw up a comprehensive rural development plan related to the proposed area for realizing high productive agriculture utilizing the water provided by Yacyreta Dam under construction.

The comprehensive rural development plan will provide a basis for a future feasibility study on the area.



MINISTERIO DE AGRICULTURA Y GANADERIA  
CINCUNETENARIO DE LA DEFENSA DEL CHACO

### III. OUTLINE OF THE STUDY

The Study will cover the area of approximately 140,000 ha along the Parana River, located between San Cosme City and the Yabebyry River.

The Study will consist of field works in Paraguay and home office works in Japan.

#### 1. Field Works in Paraguay

The Study Team will make discussion and consultation with the Ministry of Agriculture and Livestock and other Agencies concerned, and carry out data collection and field survey on the following items.

- (1) Topography
- (2) Meteorology
- (3) Hydrology
- (4) Soil and geology
- (5) Land classification
- (6) Vegetation
- (7) Irrigation
- (8) Drainage
- (9) Agriculture and livestock farming
  - 1) Land use
  - 2) Land ownership
  - 3) Cropping pattern
  - 4) Crop production
  - 5) Agricultural facilities
  - 6) Grassland improvement



MINISTERIO DE AGRICULTURA Y GANADERIA  
CINCUENTENARIO DE LA DEFENSA DEL CHACO

- (10) Agro and regional economy
- (11) Agricultural cooperatives and other related institution
- (12) Agricultural marketing
- (13) Administrative organizations
- (14) Social infrastructure, and
- (15) Other necessary items related to the project

2. Home Office Works

Base on the results of field works in Paraguay, home office works to be carried out in Japan are as follows:

- (1) Data analysis and assessment
- (2) Formulation of a Master Plan including following items
  - 1) Irrigation
  - 2) Drainage
  - 3) Land reclamation
  - 4) Land rearrangement
  - 5) Farm road
  - 6) Grassland improvement
  - 7) Farm management
  - 8) Settlement
  - 9) Operation and maintenance of facilities
  - 10) Agricultural institutions
  - 11) Marketing
  - 12) Executing organization
  - 13) Implementation schedule
  - 14) Cost and benefit, and
  - 15) Other necessary items related to the project
- (3) Definition of development approach and identification of sub-projects
- (4) Identification of development priority of subprojects.



MINISTERIO DE AGRICULTURA Y GANADERIA  
CINCUENTENARIO DE LA DEFENSA DEL CHACO

#### IV. WORK SCHEDULE

The Study will be conducted for approximately three (3) years from November 1982 to March 1985 in accordance with the attached tentative work schedule.

##### (1) The First Year

- 1) To collect and analyze existing data
- 2) To install measuring equipment for data collection
- 3) To conduct a field survey on the existing conditions such as meteorology, hydrology, soil, farm management, facilities, etc.
- 4) To outline development area

##### (2) The Second Year

- 1) To continue the fundamental survey started from the First Year
- 2) To formulate an outline of the project components

##### (3) The Third Year

- 1) To give a rough estimate of the project cost
- 2) To carry out economic and financial analysis
- 3) To finalize the comprehensive rural development project
- 4) To identify priority subprojects

#### V. REPORTS

The following reports written in English will be submitted to the Government of Paraguay.

- (1) Plan of Operation  
Thirty (30) copies at the commencement of the field works in each year
- (2) Interim Report  
Thirty (30) copies at the end of the field works in each year





MINISTERIO DE AGRICULTURA Y GANADERIA  
CINCUENTENARIO DE LA DEFENSA DEL CHACO

(3) Draft Final Report

Thirty (30) copies within one (1) month after the end of the final home office works.

The Government of Paraguay is requested to provide its comments on the Report within one (1) month after the submission of the Report, through the Embassy of Japan in Asuncion.

(4) Final Report

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

VI. UNDERTAKING OF THE GOVERNMENT OF PARAGUAY

To facilitate smooth performance of the Study, the Government of Paraguay shall take necessary measures as follows:

1. To bear claims, if any arises, against the members of the Japanese study team resulting from, occurring in the course of, or otherwise connected with the discharge of their duties in the Republic of Paraguay, except when such claims arise from willful misconduct or gross negligence on the part of the members of the Japanese study team.
2. To ensure the safety of the Japanese study team.
3. To exempt the Japanese study team members from taxes, duties and any other charges imposed on machinery, equipment and other materials required for the conduct of the Study, and to facilitate the customs clearance thereof.



MINISTERIO DE AGRICULTURA Y GANADERIA  
CINCUENTENARIO DE LA DEFENSA DEL CHACO

4. To secure the permission for entry into private properties and other areas necessary for the conduct of the Study.
5. To secure the permission for the use of radio communication equipments whenever necessary.
6. (1) To provide the study team with relevant data, information, reports and materials necessary for the conduct of the Study.  
  
(2) To allow the study team to take all the necessary data and information related to the Study including aerial photographs out the Republic of Paraguay.
7. To provide the study team with the followings:
  - (1) Counterpart personnels (the number and assignment period shall be decided in consultation with the Japanese study team)
  - (2) Interpreters, typists and laborers necessary for the conduct of the Study
  - (3) Suitable office space with equipments in Asuncion and Ayolas
  - (4) Facilities for analysis of soil samples taken from the project area
  - (5) Accommodation facilities in Ayolas, and
  - (6) Vehicles with drivers necessary for the conduct of the Study.



MINISTERIO DE AGRICULTURA Y GANADERIA  
CINCUNETENARIO DE LA DEFENSA DEL CHACO

8. To provide medical facilities, if necessary (expenses will be borne by the Japanese study team).
9. Others.

VII. UNDERTAKING OF THE GOVERNMENT OF JAPAN

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

- (1) To dispatch the Japanese study team to conduct the Study.
- (2) To transfer the knowledge and technology related to the Study to the counterpart personnels during the period of the Study.
- (3) To provide the equipment necessary for the purpose of the Study.

Year	1982						1983						1984						1985																	
	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
Month																																				
Field Works																																				
Home Office Works																																				
Submission of Repots																																				

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

P.O.    I.R.    P.O.    I.R.    D.F.R.    F.R.



MINISTERIO DE AGRICULTURA Y GANADERIA  
CINCUENTENARIO DE LA DEFENSA DEL CHACO

A T T E N D A N T S

JAPANESE OFFICIALS

ING. AGR. MINORU NAKAGAWA  
Team Leader

ING. AGR. YASUNOBU MATOBA  
Member

ING. AGR. TORU HASE  
Member

ING. AGR. HITSUAKI WATANABE  
Member

ING. AGR. MASAHIRO MURAKAMI  
Member

ING. TAKEHIKO MAEDA  
Asuncion office official JICA

PARAGUAYAN OFFICIALS

ING. AGR. HERNANDO BERTONI  
Minister

ING. AGR. LUIS PAMPLIEGA  
General Director

ING. AGR. OSCAR MEZA ROJAS  
Technical Cabinet-Director

ING. AGR. SHIRO HIRATA  
Advisor

ING. HUMBERTO YALUK  
Paraguayan Secretary, Executive  
Committee Yacyreta Binacional  
Entity

ING. AGR. NELSON DARIO BLANCO  
Coordinator




MEMORANDUM

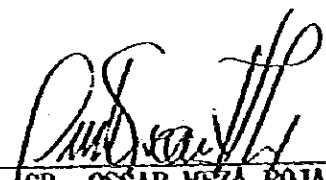
The staff of the Ministry of Agriculture and Livestock of the Government of Paraguay and the Japanese Scope of Works team held meetings on September 20th and 21st to discuss the details of SCOPE OF WORKS for the Master Plan Study on the Irrigation and Drainage Project in the Adjacent Area to the Yacyretá Dam.

Through the discussions, both the Paraguayan side and the Japanese team confirmed the importance of the following elements and recognized the necessity to make efforts to realize them:

1. The home office works mentioned in Item III - 2 should be carried out by the Japanese experts in cooperation with their Paraguayan counterparts. The participation of the Government of Paraguay staff in the final report making should be considered to the extent possible.
2. The Final Report mentioned in Item V -(4) should be prepared in close cooperation with Paraguayan side and be submitted in Spanish to the Government of Paraguay, if possible.
3. Undertakings mentioned in Item VI - 7 should be carried out by the Government of Paraguay. However, in case the Government of Paraguay encounters difficulties to provide these undertakings due to budgetary limitations or some other reasonable causes, the Government of Japan may take appropriate measures such as the provision of vehicles, office equipments and materials, and laborers.

Asunción, September 22, 1982

  
ING. AGR. MINORU NAKAGAWA  
Leader of the Scope of Works  
Team for the Master Plan Study  
on the Irrigation and Drainage  
Project in the Adjacent Area to  
the Yacyretá Dam

  
ING. AGR. OSCAR MEZA ROJAS  
Director of Technical Cabinet  
Ministry of Agriculture and  
Livestock

MINUTES OF MEETINGS  
ON  
SCOPE OF WORK  
FOR  
FEASIBILITY STUDY ON CHANCAY-HUARAL  
VALLEY REHABILITATION PROJECT  
(December 7 - 16, 1983)

In response to the request of the Government of Republic of Peru (hereinafter referred to as "PERU"), the Government of Japan dispatched the preliminary survey & scope of work team headed by Mr. Yoji Takano (hereinafter referred to as the "Team") for the feasibility study on Chancay-Huaral Valley Rehabilitation Project (hereinafter referred to as the "Study") through Japan International Cooperation Agency (hereinafter referred to as "JICA").

The officials of Instituto Nacional de Ampliación de la Frontera Agrícola (hereinafter referred to as "INAF"), Proyecto Especial de Rehabilitación de Tierras Costeras (hereinafter referred to as "PE-REHATIC"), and other authorities concerned of Peru and the Team discussed and exchanged their views concerning the draft Scope of Work prepared by the Team and finally agreed on the Scope of Work.

In this connection both sides had the following discussion:

1. Coordinating Body

Both sides agreed that INAF will act as the coordinating body of PERU through PE-REHATIC for the Study.

2. Study Area

Both sides agreed that the study area will be 26,000 ha of existing farmland in Chancay-Huaral Valley.

Both sides also agreed that recommendation for water resources development of the upstream of Rio Chancay will be made in the Study.

3. Form of the Final Report

PERU requested that the form of the final report of the Study such as index will be discussed between PE-REHATIC and the feasibility study team considering the balance with the form of study reports of the other projects in PLAN REHATIC III.

4. Presentation of Final Report

PERU requested that the final report of the Study will be presented by July in 1985.

5. Provision of office

PERU agreed to provide office for the Study in Lima and Huaral in reference to VI-4-(4) in the Scope of Work.

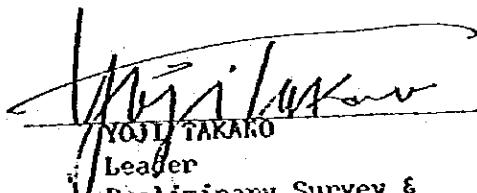
6. Acceptance of Peruvian Counterpart Personnel in Japan


PERU requested that JICA will accept Peruvian counterpart personnel of the Study in Japan for more effective technical transfer.

7. Dispatch of Feasibility Study Team

Both sides agreed that at least one month before the dispatch of feasibility study team the Government of Japan will make a notice to PERU, who will make all the preparation for receiving the team. The Team stated that JICA will make an effort to dispatch the feasibility study team in July, 1984 at the latest.

Lima, December 16, 1983

  
YOJI TAKANO  
Leader  
Preliminary Survey &  
Scope of Work Team,  
Japan International  
Cooperation Agency  
(JICA)

  
JOAQUIN MARUY TASHIMA  
Chairman  
Instituto Nacional de  
Ampliación de la Frontera  
Agrícola  
(INAF)




SCOPE OF WORK  
FOR  
THE FEASIBILITY STUDY  
ON  
CHANCAY-HUARAL VALLEY REHABILITATION PROJECT  
IN  
THE REPUBLIC OF PERU

AGREED UPON BETWEEN  
JAPAN INTERNATIONAL COOPERATION AGENCY

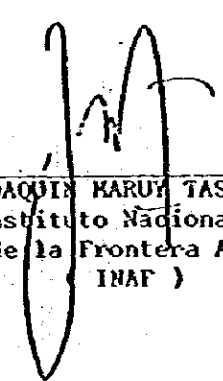
AND

EL INSTITUTO NACIONAL DE AMPLIACION DE LA FRONTERA AGRICOLA  
DEL MINISTERIO DE AGRICULTURA

LIMA 16, December, 1983

  
TOSHI TAKANO  
Team Leader  
JAPAN INTERNATIONAL COOPERATION  
AGENCY ( JICA )



  
JOAQUÍN KARUY TASHIMA  
Jefe del Instituto Nacional de Ampliación de la Frontera Agrícola  
( INAF )

## I. INTRODUCTION

In response to the request of the Government of the Republic of Peru (hereinafter referred to as "PERU"), the Government of Japan decided to implement the feasibility study on Chancay-Huaral Valley Rehabilitation Project (hereinafter referred to as "the Study") in accordance with the relevant laws, regulations in force in Japan, and with "Acuerdo Básico Sobre Cooperación Técnica Entre El Gobierno de la República Peruana y el Gobierno del Japón", which was signed on December 20, 1979 (hereinafter referred to as "Acuerdo Básico"). Accordingly, Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of technical cooperation programme of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of PERU.

The present document sets forth the Scope of Work with regard to the above mentioned study.

## II. OBJECTIVES OF THE STUDY

The objectives of the Study will be :

1. To formulate the project and verify its technical and economic feasibility, and
2. To undertake on-the-job training and transfer the technology to the Peruvian counterparts in the course of the Study.

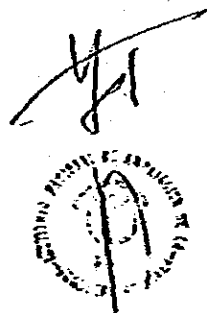
## III. OUTLINE OF THE STUDY

### 1. Study Area

The study area will be about 26,000 ha of Chancay Huaral Valley.

### 2. Scope of the Study

The Study will include field work in Peru and home work in Japan.



(1) Field Work in Peru

A. Collection and review of the existing data and information for the Study:

- a. topography
- b. meteorology
- c. hydrology
- d. water quality
- e. geology
- f. soil
- g. agronomy
- h. irrigation & drainage
- i. agricultural economy
- j. social infrastructure
- k. others

B. Field Survey

- a. topography
- b. meteorology
- c. hydrology
- d. water quality
- e. soil
- f. geology
- g. present farming system and cropping pattern
- h. marketing system and agricultural product price
- i. farm economy and agricultural supporting system
- j. present irrigation and drainage system
- k. existing irrigation and drainage facilities
- l. flood and sediment
- m. underground water
- n. existing social infrastructure
- o. construction material and cost

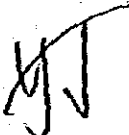


C. Determination of outline of the basic items for the -  
project including:

- a. land use
- b. solution of salinity problem
- c. cropping pattern and farming system
- d. water requirement
- e. irrigation and drainage network and roads
- f. crop yield

(2) Home work in Japan

- A. Formulation of overall rehabilitation project
- B. Preparation of implementation schedule of the project
- C. Formulation of maintenance and operation plan for the project
- D. Estimation of the costs and benefits of the project
- E. Economical and financial evaluation.

  
IV. WORK SCHEDULE

The Study will be conducted in accordance with tentative working schedule attached herewith.

V. REPORTS

JICA will prepare and forward the following reports in English to PERU.

1. Plan of Operation  
Twenty (20) copies at the commencement of the Study.
2. Field Report  
Twenty (20) copies at the end of the field work.
3. Draft Final Report  
Twenty (20) copies at the completion of home office work

Within a month after the presentation of Draft Final Report, PERU will forward the final comments on the Draft Final Report.

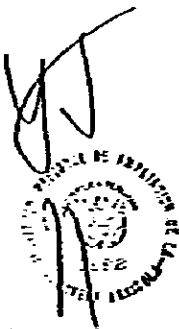
4. Final Report

Fifty (50) copies within two (2) months after receiving the comments on the Draft Final Report.

VI. UNDERTAKING OF PERU

1. To facilitate smooth conduct of the Study PERU will provide all the facilities and privileges agreed in "Acuerdo Básico" as follows :

- (1) To secure the safety of the Japanese study team,
- (2) To permit the members of the Japanese study team to enter, leave and sojourn in Peru for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees,
- (3) To exempt the members of the Japanese study team from taxes, duties, fees and any other charges on equipment, machinery and other materials brought into Peru for the conduct of the Study,
- (4) To exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study,
- (5) To provide necessary facilities to the Japanese study team for the remittance as well as the utilization of funds introduced into Peru from Japan in connection with the implementation of the Study,
- (6) To make arrangement for entry into private properties or restricted areas for the conduct of the Study,
- (7) To secure permission to take data and documents necessary for the Study from Peru to Japan by Japanese study team,
- (8) to facilitate the quick and smooth custom clearance of the survey equipment and materials brought into Peru by Japanese study team for their field study,



- (9) To arrange vehicles for the field operation,
- (10) To arrange the recruitment of local staff such as laborers and drivers, and
- (11) To arrange medical services for the study team during its stay in Peru, if necessary.
2. PERU shall bear claims, if any arises, against the members of the Japanese study team resulting from, occurring in the course of or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Japanese study team.
3. The Instituto Nacional de Ampliación de la Frontera Agrícola (hereinafter referred to as INAF) through the Proyecto Especial de Rehabilitación de Tierras Costeras (hereinafter referred to as PE-REHATIC) shall act as counterpart agency to the Japanese study team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.
4. INAF through PE-REHATIC shall, at its own expense, provide the Japanese study team with the following, in cooperation with other agencies concerned, if necessary :
- (1) available data and information related to the Study,
  - (2) counterpart personnel,
  - (3) secretaries and typists
  - (4) suitable office with necessary equipment both near the project site and in Lima, and
  - (5) credentials or identification cards.

VII. UNDERTAKING OF THE GOVERNMENT OF JAPAN

For the implementation of the Study, the Government of Japan, through JICA, will take necessary measure :

1. To dispatch, at its own expense, the study team to Peru,
2. To pursue technology transfer to the Peruvian counterpart personnel in the course of the Study, and
3. To provide the necessary equipment for the implementation of the Study, which will remain the property of the Government of Japan unless otherwise agreed upon.

VIII. INAF through PE-REHATIC will consult with JICA in respect of any matter that may arise from or in connection with the Study.

IX. The present Scope of Work will be valid for two (2) years, unless that period is extended based on the agreement of both parties. In spite of the above this document will be invalidated on the day when PERU receives the Final Report of the Study.

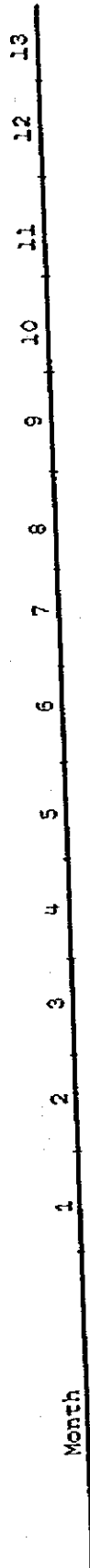
X. Both parties prepared the Scope of Work in the City of Lima, Peru on December 16, 1983 in both Spanish and English. Each party will keep two copies one in English and one in Spanish.



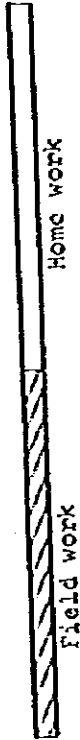


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TENTATIVE SCHEDULE OF FEASIBILITY STUDY ON CHANCAY-HUARAL REHABILITATION PROJECT



Feasibility Study Team



Draft Final Report Team



Reports

△ Plan of Operation

△ Field Report

△ Draft Final Report

△ Final Report



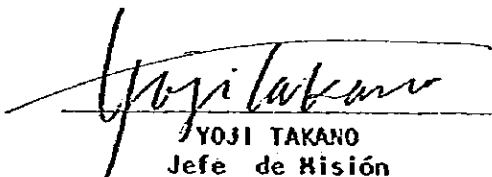
ALCANCE OPERATIVO DE TRABAJO PARA EL ESTUDIO DE FACTIBILIDAD  
DEL PROYECTO DE REHABILITACION DEL VALLE CHANCAY - HUARAL EN  
LA REPUBLICA DEL PERU

ALCANCE OPERATIVO DE TRABAJO ENTRE LA  
AGENCIA DE COOPERACION INTERNACIONAL DEL JAPON


Y

EL INSTITUTO NACIONAL DE AMPLIACION DE LA FRONTERA AGRICOLA  
DEL MINISTERIO DE AGRICULTURA

Lima, Diciembre 16 de 1983

  
YOJI TAKANO  
Jefe de Misión  
Agencia de Cooperación  
Internacional de Japón  
(JICA)



  
JOAQUIN HARUY ASHIRA  
Jefe  
Instituto Nacional de Ampliación  
de la Frontera Agrícola  
(INAF)

## I. INTRODUCCION

En respuesta a la solicitud del Gobierno de la República del Perú que en adelante se llamará "PERU", el Gobierno del Japón decidió implementar el Estudio de Factibilidad del Proyecto de Rehabilitación del Valle Chancay-Huaral (que en adelante se denominará "EL ESTUDIO"), en concordancia -- con las leyes y regulaciones de Japón y el "Acuerdo Básico" sobre Cooperación Técnica entre el Gobierno de la República Peruana y el Gobierno - del Japón, suscrito el veinte de Agosto de mil novecientos setentinueve- (que en adelante se denominará "ACUERDO BASICO").

Por lo tanto, la Agencia de Cooperación Internacional del Japón que en adelante se llamará "JICA", la que constituye la agencia oficial responsable de la implementación del programa de Cooperación Técnica del Gobierno del Japón, se encargará de la realización del "ESTUDIO" en estrecha - cooperación con las autoridades competentes del "PERU".

El presente documento establece el alcance de trabajo con respecto al -- "ESTUDIO".

## II. OBJETIVOS DEL ESTUDIO

Los objetivos del "ESTUDIO" son:

1. Formular el Proyecto y Verificar su factibilidad técnico-económica, y
2. Entrenar y transferir tecnología a la contraparte peruana en el transcurso del "ESTUDIO".

## III. PLAN GENERAL DEL ESTUDIO

### 1. Area del "ESTUDIO"

El área de estudio será de alrededor de 26,000 Ha. del Valle de Chancay-Huaral.

### 2. Alcance del "ESTUDIO"

El "ESTUDIO" incluirá trabajos de campo en Perú, y trabajos en Japón-  
(1) Trabajos en Perú.

**A. Compilación y análisis de los datos existentes e información para el "ESTUDIO".**

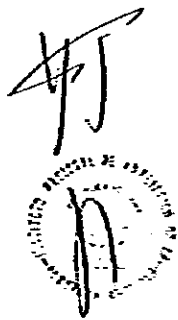
- a. Topografía
- b. Meteorología
- c. Hidrología
- d. Calidad del Agua
- e. Geología
- f. Suelo
- g. Agronomía
- h. Irrigación y Drenaje
- i. Economía Agrícola
- j. Infraestructura Social
- k. Otros.

**B. Estudios en el Campo**

- a. Topografía
- b. Meteorología
- c. Hidrología
- d. Calidad del Agua
- e. Suelo
- f. Geología
- g. Sistema de Cultivo Actual y Cédula de Cultivo
- h. Sistema de Mercadeo y Precio de Productos Agrícolas
- i. Economía de Fincas y Sistema de Apoyo a la Agricultura
- j. Sistema Actual de Riego y Drenaje
- k. Infraestructura Actual de Riego y Drenaje
- l. Inundaciones y Sedimentos
- ll. Agua Subterránea
- m. Infraestructura Social existente
- n. Material de Construcción y Costo.

**C. La determinación del contenido general de los Items básicos para el Proyecto incluyendo:**

- a. Uso de la Tierra
- b. Solución de los Problemas de Salinidad
- c. Cédula de Cultivo y Sistema Parcelario
- d. Requerimiento de Agua.



- e. Sistema de Riego, Drenaje y Vial
- f. Rendimiento de Cultivos.

(2) Trabajos en Japón

- A. Formulación del Proyecto Integral de Rehabilitación
- B. Preparación del Programa de Implementación del Proyecto
- C. Formulación del Plan de Operación y Mantenimiento para el Proyecto.
- D. Estimado de los Costos y Beneficios del Proyecto
- E. Evaluación Económica y Financiera.

IV. PROGRAMA DE TRABAJO

El "ESTUDIO" se llevará a cabo de acuerdo al Programa Tentativo adjunto.

V. INFORMES

"JICA" preparará y enviará los siguientes Informes en Inglés a Perú:

1. Plan de Operación:

Veinte (20) copias al comienzo del "ESTUDIO".

2. Informe de Campo:

Veinte (20) copias, al final del trabajo de campo.

3. Borrador del Informe Final:

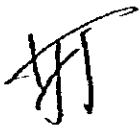

Veinte (20) copias, a la terminación del trabajo de Oficina en Japón. Dentro del plazo de un mes, de la presentación del Borrador del Informe Final, "PERU" enviará sus comentarios definitivos al Borrador del Informe Final.

4. Informe Final:

Cincuenta (50) copias, dos (2) meses después de recibir los comentarios al Borrador del Informe Final.

VI. COMPROMISOS DE PERU

- 1. Para facilitar el desarrollo del "ESTUDIO", el "PERU" brindará todas las facilidades y privilegios convenidos en el "Acuerdo Básico", tales como:

- 
- 
- (1) Brindar seguridad al equipo técnico Japonés.
  - (2) Permitir a los miembros del equipo técnico Japonés entrar, salir y permanecer en el Perú por la duración de la tarea encomendada y exonerarlos de registros de extranjería y tarifas consulares.
  - (3) Exonerar a los miembros del equipo técnico Japonés de impuestos, obligaciones, tarifas y cualquier otro cargo en los equipos, maquinaria y materiales traídos al Perú, para la ejecución del "ESTUDIO".
  - (4) Exonerar a los miembros del equipo técnico Japonés de impuestos a los sueldos y cualquier gravamen en relación con los emolumentos o montos asignados a los miembros del equipo técnico Japonés por sus servicios relacionado con la implementación del "ESTUDIO".
  - (5) Brincar las facilidades necesarias a los miembros del equipo técnico Japonés tanto para el envío como para la utilización de fondos introducidos en el Perú desde Japón en relación con la implementación del "ESTUDIO".
  - (6) Hacer gestiones que permitan el ingreso de los miembros del grupo técnico Japonés a zonas privadas y/o restringidas que estén incluidas dentro del "ESTUDIO".
  - (7) Suministrar a los miembros del equipo técnico Japonés un permiso para la toma de datos y documentos necesarios para el "ESTUDIO" pertenecientes al Perú.
  - (8) Facilitar una rápida y fácil salida de la aduana de los equipos y materiales traídos al Perú por los miembros del equipo técnico Japonés para el estudio de campo.
  - (9) Hacer arreglos para el aprovisionamiento de vehículos para las actividades de campo.
  - (10) Hacer arreglos para el reclutamiento de operarios y chóferes, y
  - (11) Hacer arreglos para la atención médica de los miembros del equipo Japonés durante su estadía en el Perú, si fuera necesario.

2. "PERU" se hará responsable de las reclamaciones, si se presentara alguna, contra los miembros del equipo técnico Japonés, que pudieran surgir como consecuencia de la ejecución del "ESTUDIO" o de cualquier acción relacionada con el cumplimiento de sus obligaciones, excepto --- cuando tales reclamos se originen por dolo o negligencia grave de los miembros del equipo técnico Japonés.

3. El Instituto Nacional de Ampliación de la Frontera Agrícola (que en adelante se denominará INAF), por intermedio del Proyecto Especial de Rehabilitación de Tierras Costeras (que en adelante se denominará PE-REHATIC), actuará como contraparte al equipo técnico Japonés y - también como elemento coordinador en relación con otras organizaciones gubernamentales o no que se necesiten para la fácil implementación del estudio.
4. INAF por intermedio del PE-REHATIC a sus expensas suministrará al equipo técnico Japonés, y si fuera necesario en cooperación con otras agencias relacionadas con el Estudio, lo siguiente:
  - (1) Datos disponibles e información relacionada con el Estudio.
  - (2) Personal de contraparte
  - (3) Secretarías y Mecanógrafas
  - (4) Oficina apropiada con el equipo necesario que esté en Lima y - cerca del Proyecto.
  - (5) Credenciales ó Tarjetas de Identificación



#### VII. RESPONSABILIDADES DEL JAPON

Para la implementación del Estudio, el Gobierno de Japón a través de -- "JICA", tomará las siguientes medidas:

1. Enviar el equipo técnico Japonés al Perú, a sus expensas.
2. Realizar durante el desarrollo del Estudio, la transferencia de tecnología a la contraparte peruana, y
3. Suministrar el equipo necesario para la implementación del Estudio, el cual quedará en propiedad del Gobierno Japonés, a menos que se acuerde de otra manera.

VIII. "JICA" y el "INAF" por intermedio del PE-REHATIC se consultarán mutuamente respecto a cualquier materia que pueda suscitarse con referencia al Estudio.

IX. El presente Alcance Operativo de Trabajo tendrá una vigencia de dos (2) años, plazo que podrá ser prorrogado por mutuo acuerdo de las partes. Este documento quedará sin efecto en la fecha que PERU reciba el Infor

me Final del Estudio.

- X. Hecho en la ciudad de Lima - PERU el dieciseis de Diciembre de mil novecientos ochentitres en cuatro ejemplares y en idiomas Inglés y Español. - Cada una de las partes conservará dos ejemplares, uno en Inglés y otro en Español.



Y.T.



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CRONOGRAMA TENTATIVO DEL ESTUDIO DE FACTIBILIDAD DEL PROYECTO DE REHABILITACION DEL VALLE CHANCAY-HUARAL



Equipo para el Estudio de Factibilidad.



Borrador del Informe Final.



Informes

Plan de Operación

Informe de Campo

Borrador del Informe Final.

Informe Final







JICA