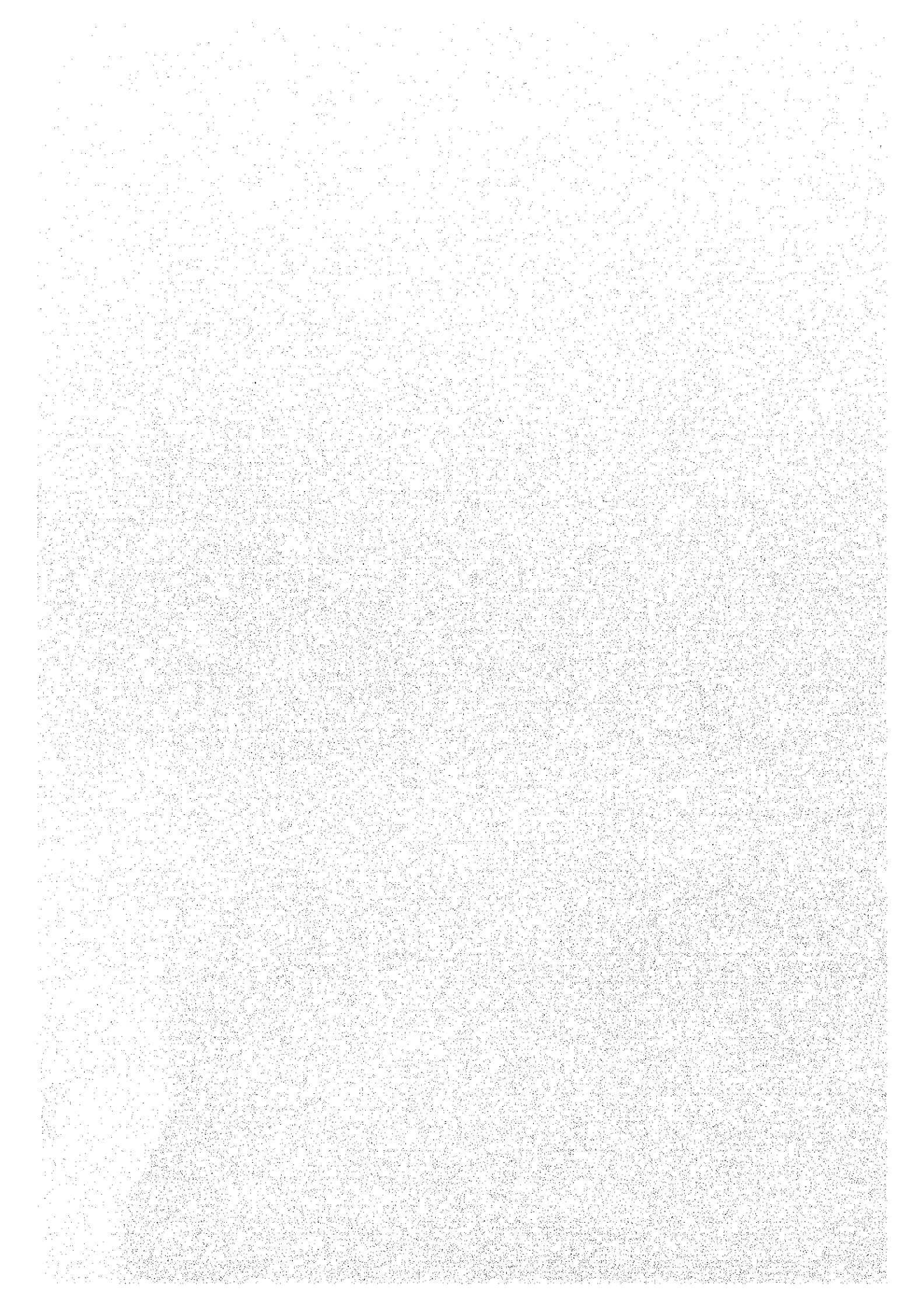
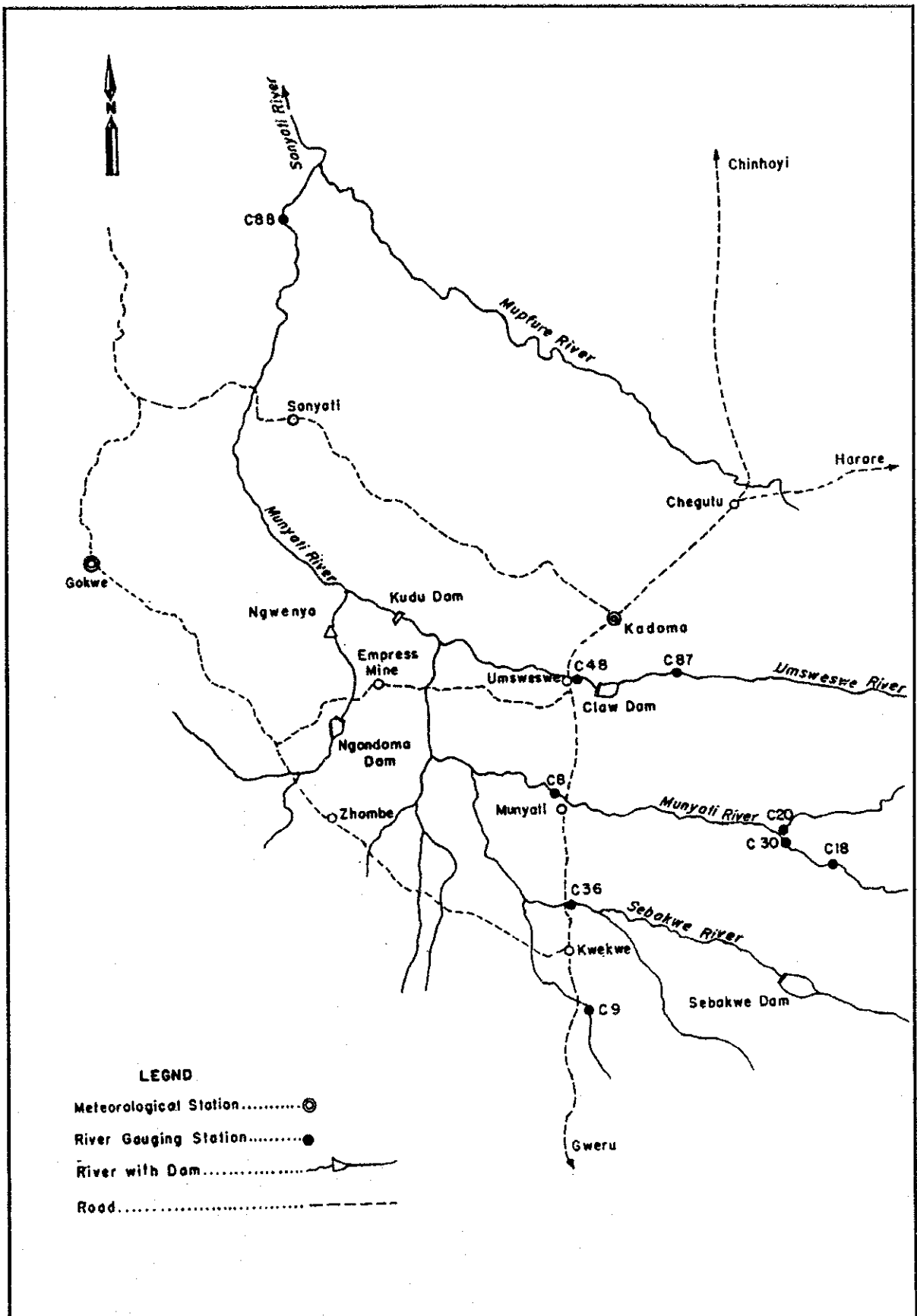


## ***FIGURES***





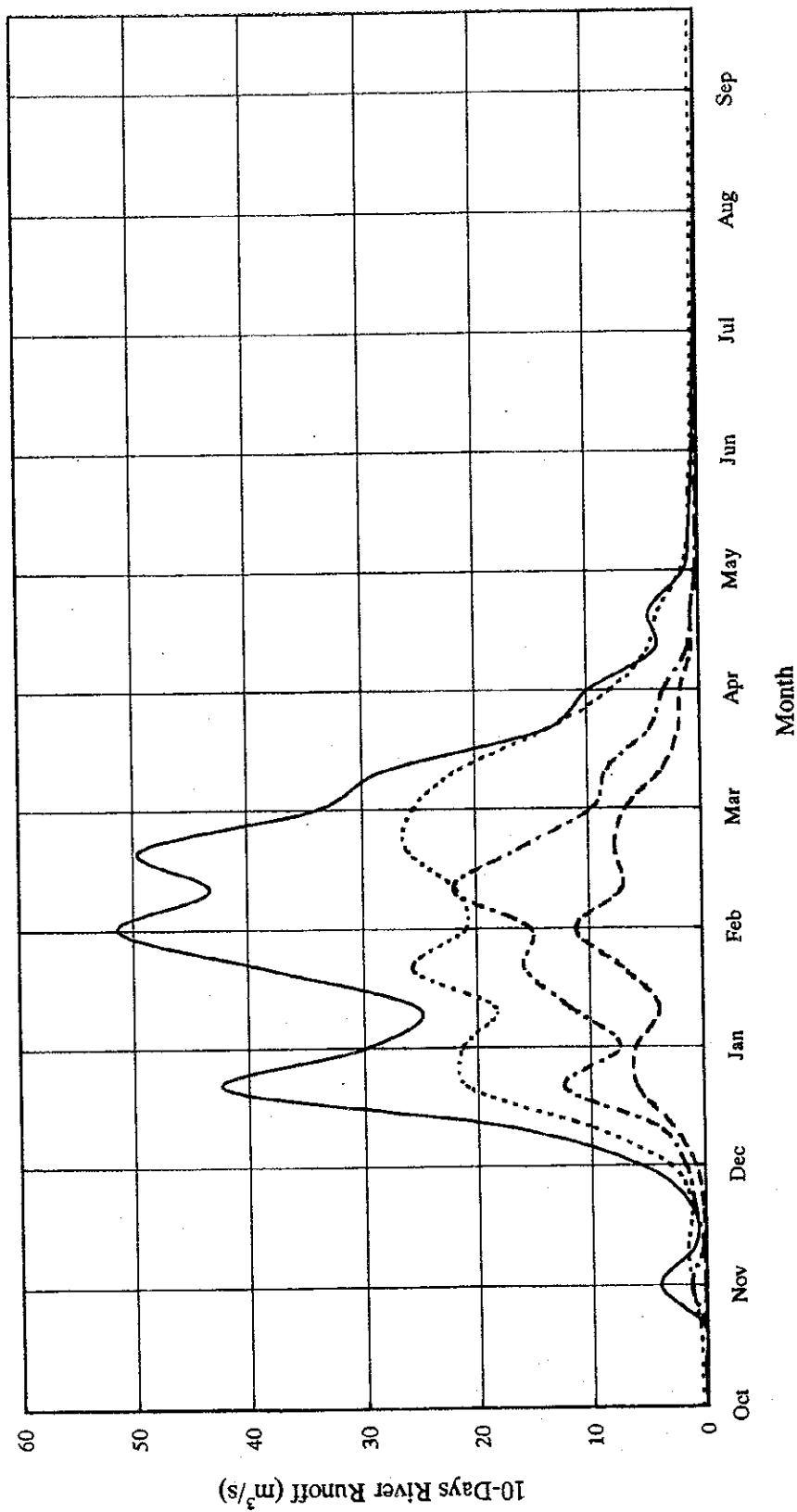
The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

---

Japan International Cooperation Agency

Figure 3.1.1  
 Location of Meteorological and  
 Hydrological Gauging Stations

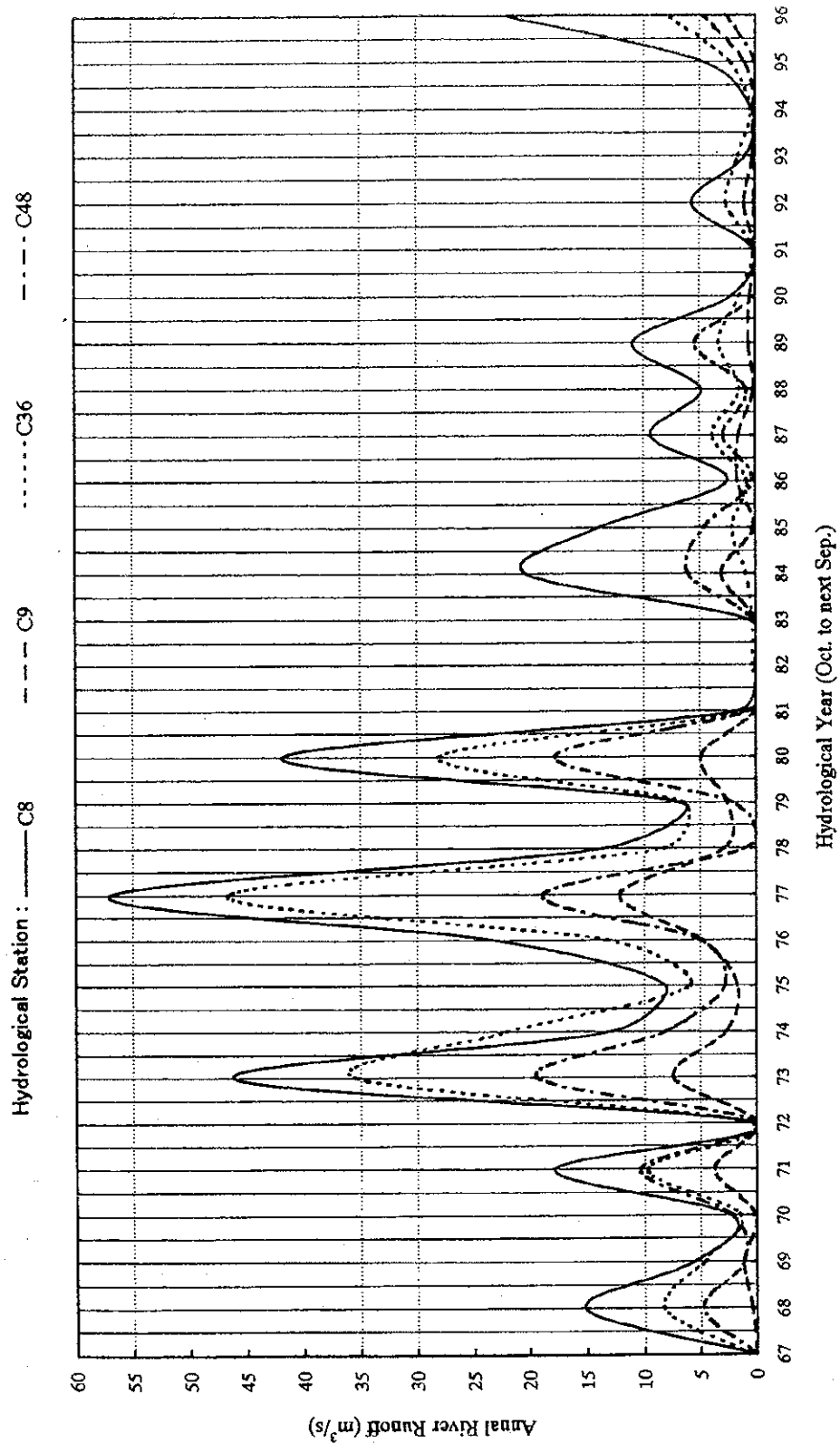
Hydrological Station : — C8 — — C9 — — — C36 — — — C48



The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Japan International Cooperation Agency

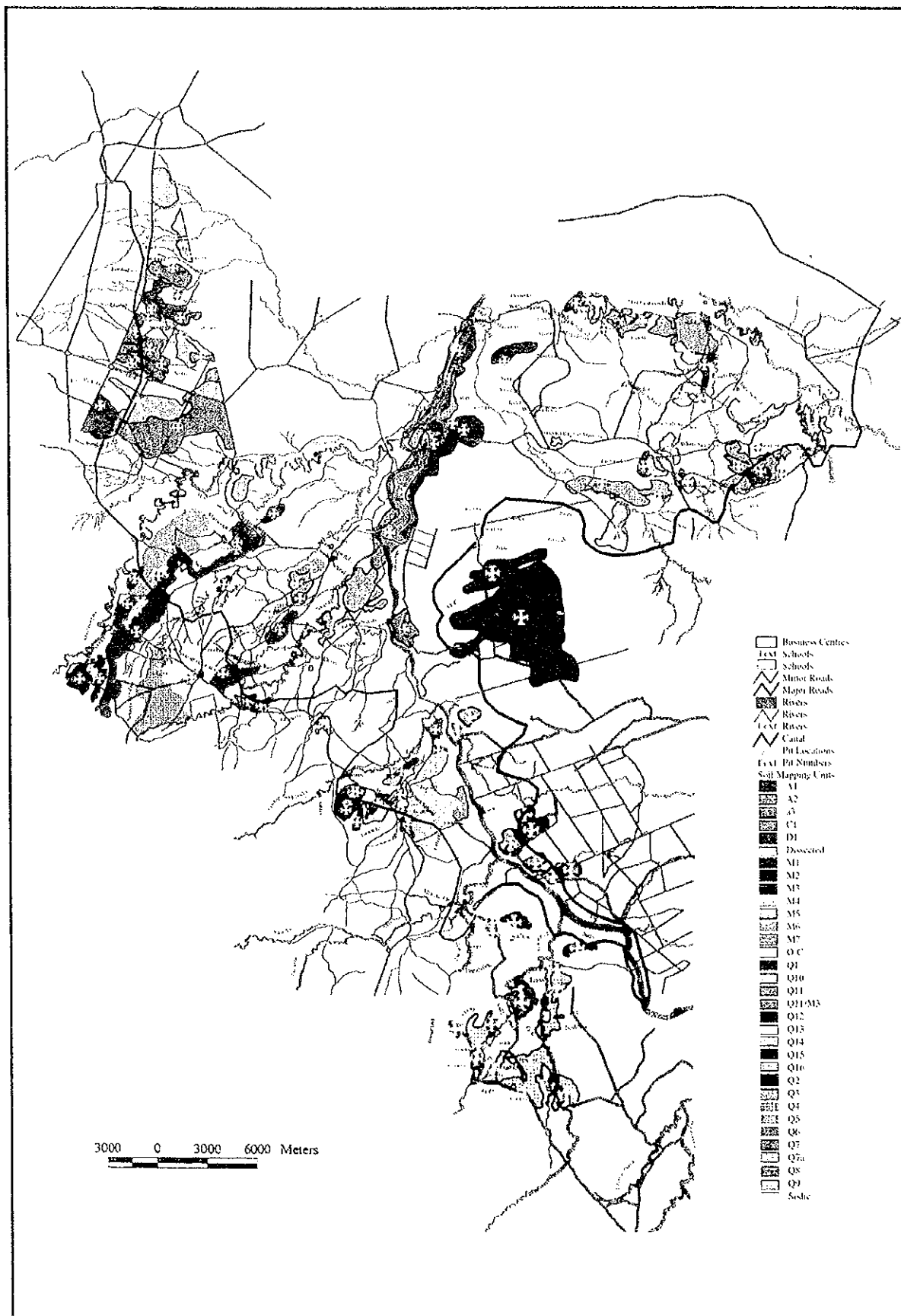
Figure 3.1.2  
 10-Days Average River Runoff



The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Japan International Cooperation Agency

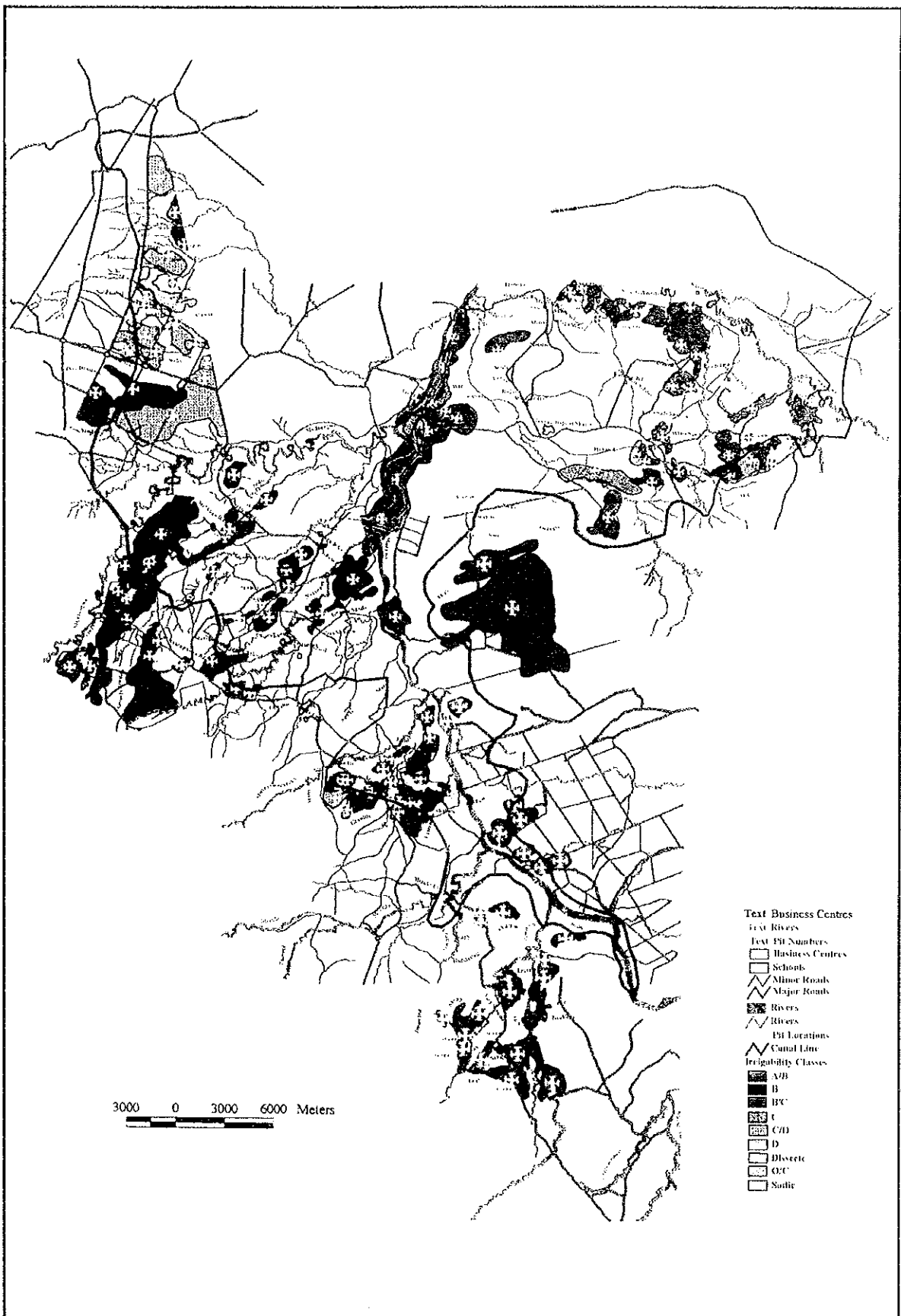
Figure 3.1.3  
 Fluctuation of Annual River Runoff  
 (Last 30 Years)



The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Figure 3.1.4  
 Soil Map

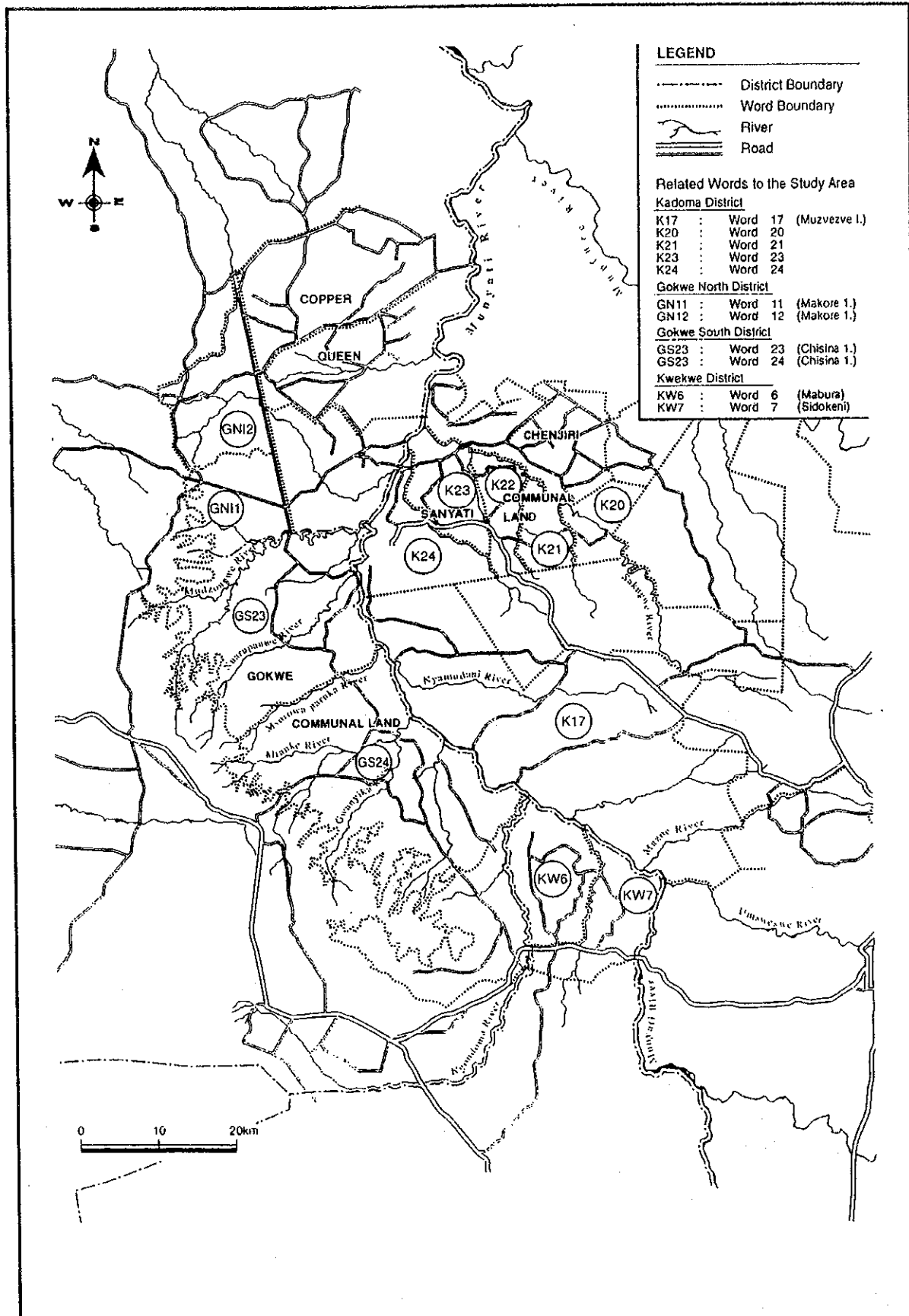
Japan International Cooperation Agency



The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Figure 3.1.5  
 Land Classification Map

Japan International Cooperation Agency

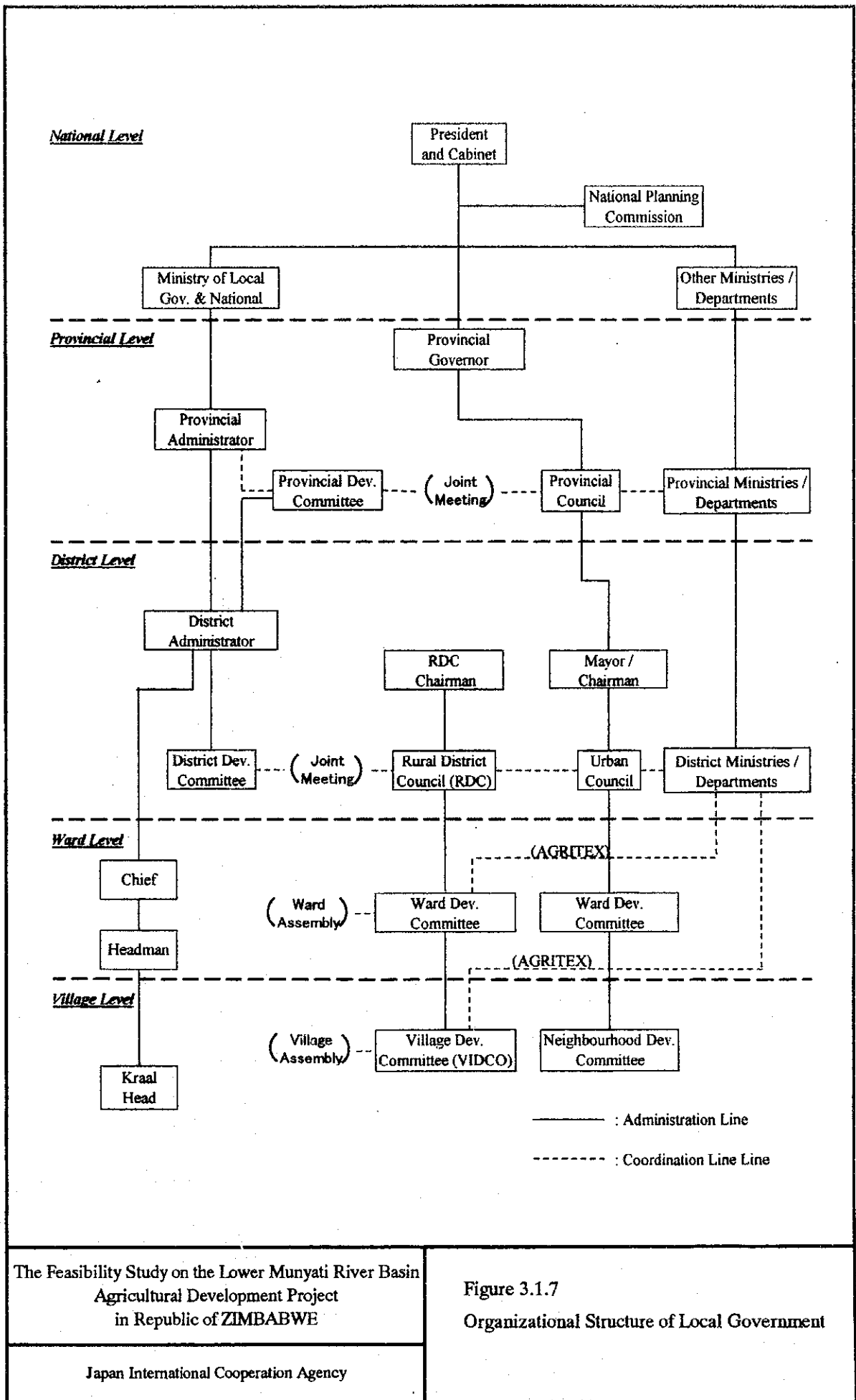


The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Figure 3.1.6  
 Administration Boundaries of the Study Area

Japan International Cooperation Agency

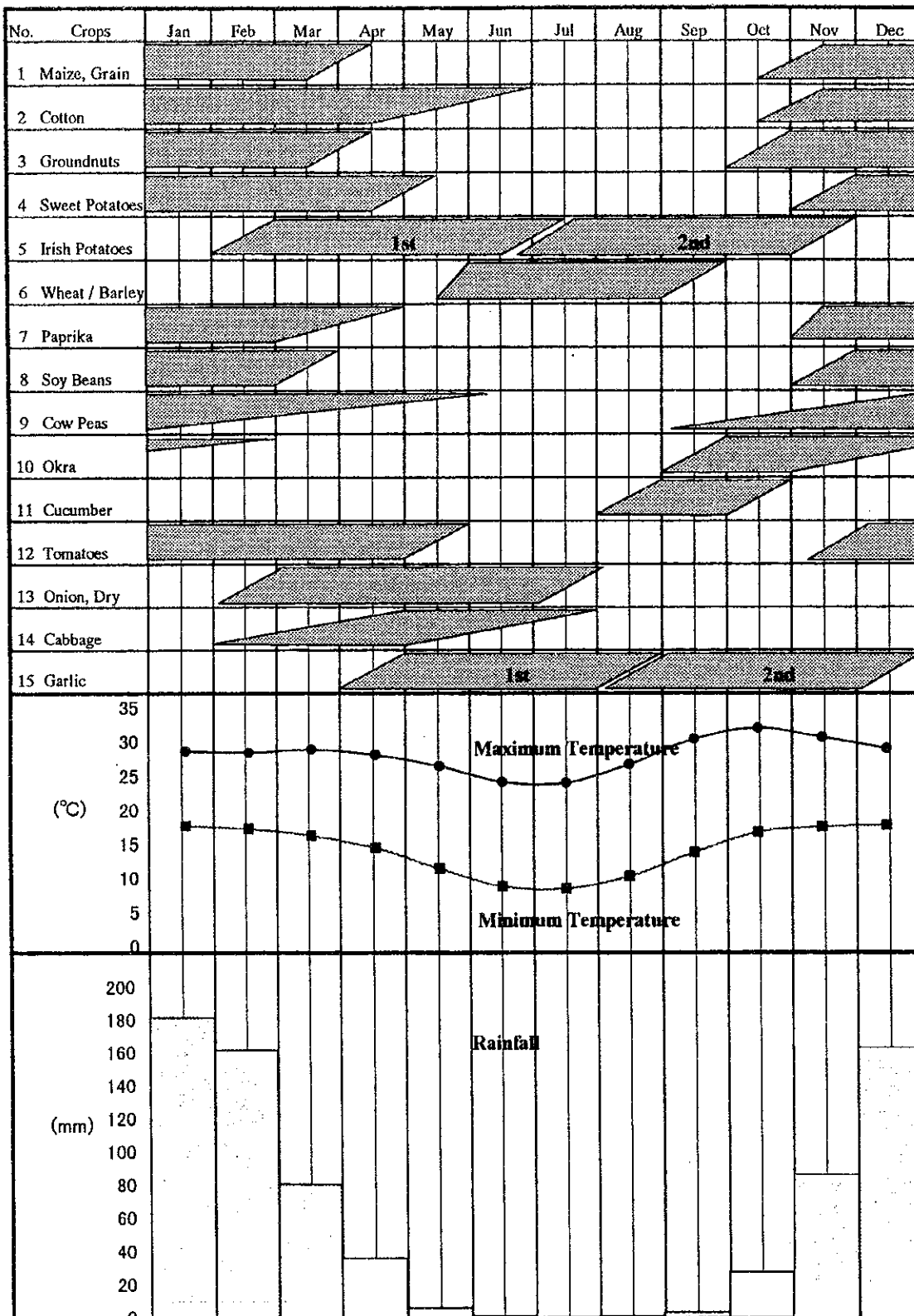




The Feasibility Study on the Lower Munyati River Basin  
Agricultural Development Project  
in Republic of ZIMBABWE

Figure 3.1.7  
Organizational Structure of Local Government

Japan International Cooperation Agency

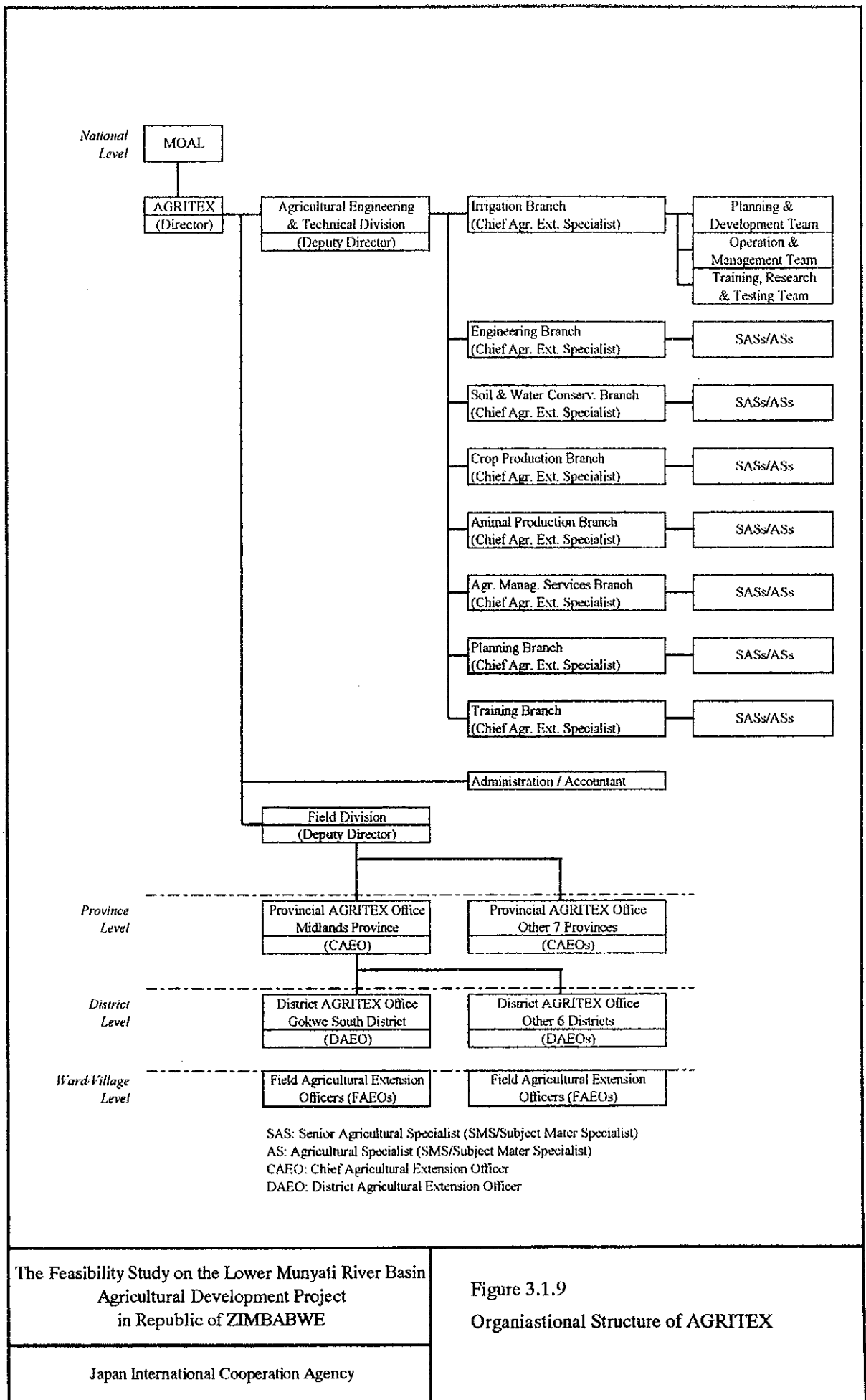


Source : Interview from extension workers, Dec. 1998

The Feasibility Study on the Lower Munyati River Basin  
Agricultural Development Project  
in Republic of ZIMBABWE

Figure 3.1.8  
Present Cropping Patterns

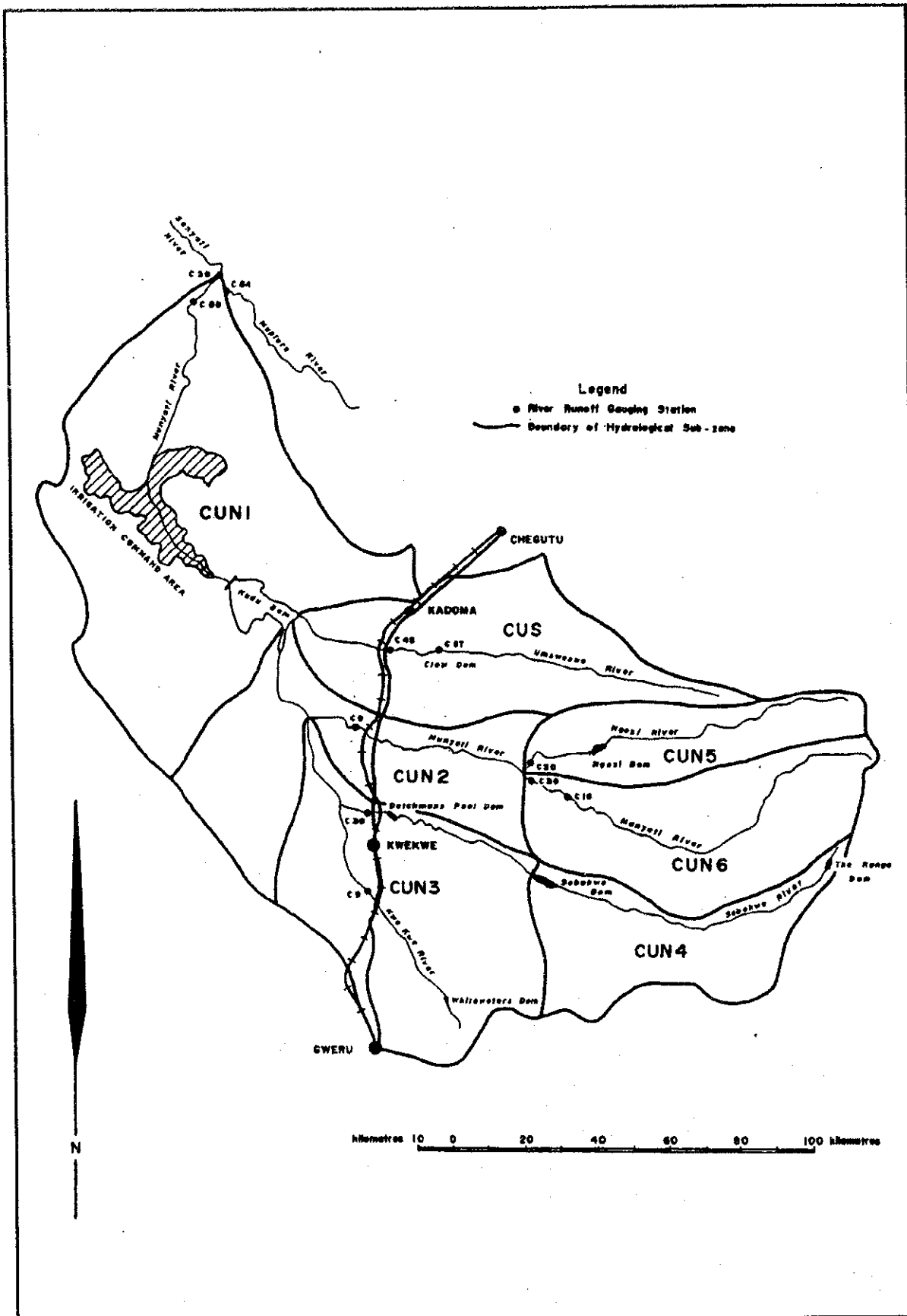
Japan International Cooperation Agency



The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Figure 3.1.9  
 Organizational Structure of AGRITEX

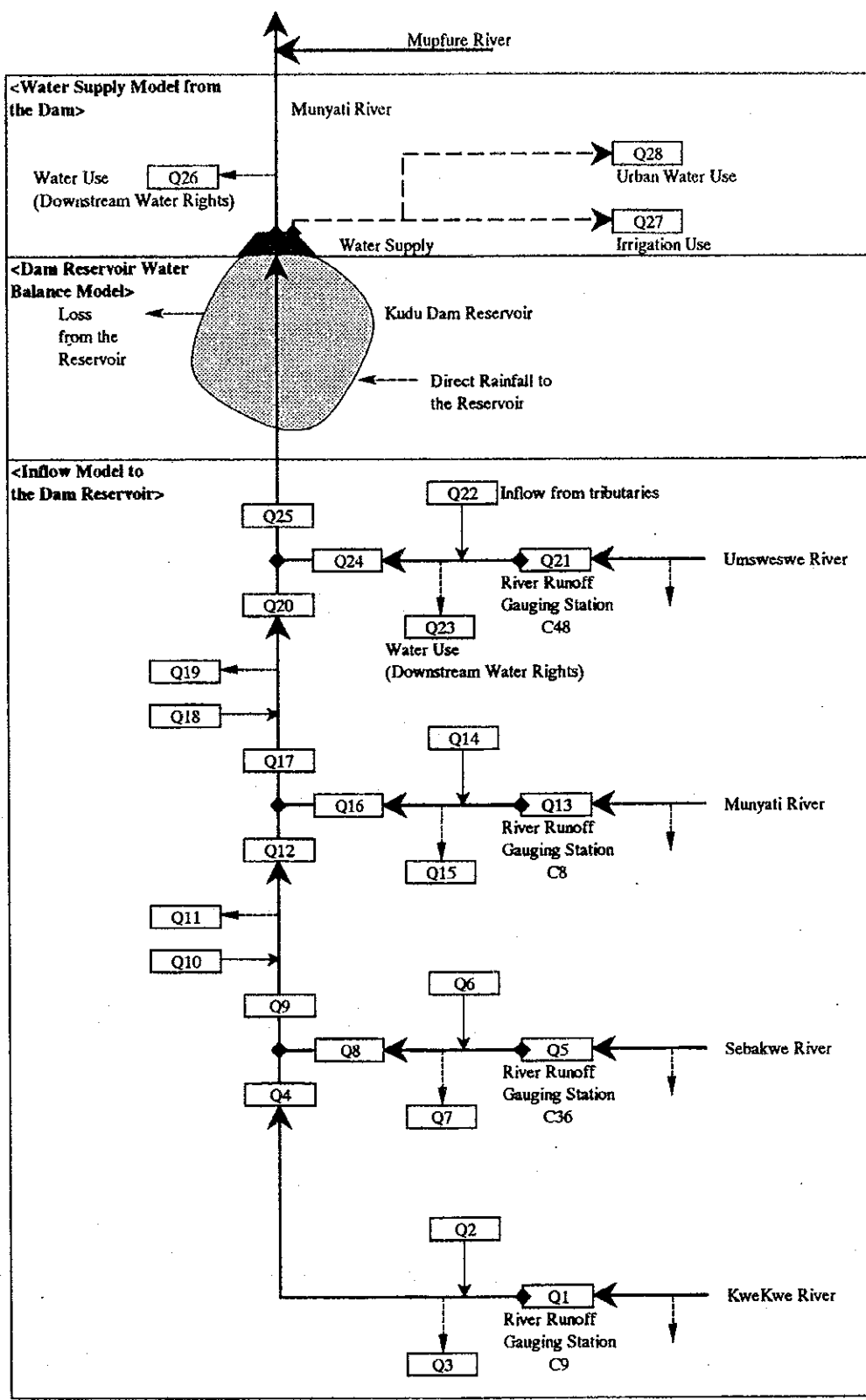
Japan International Cooperation Agency



The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Japan International Cooperation Agency

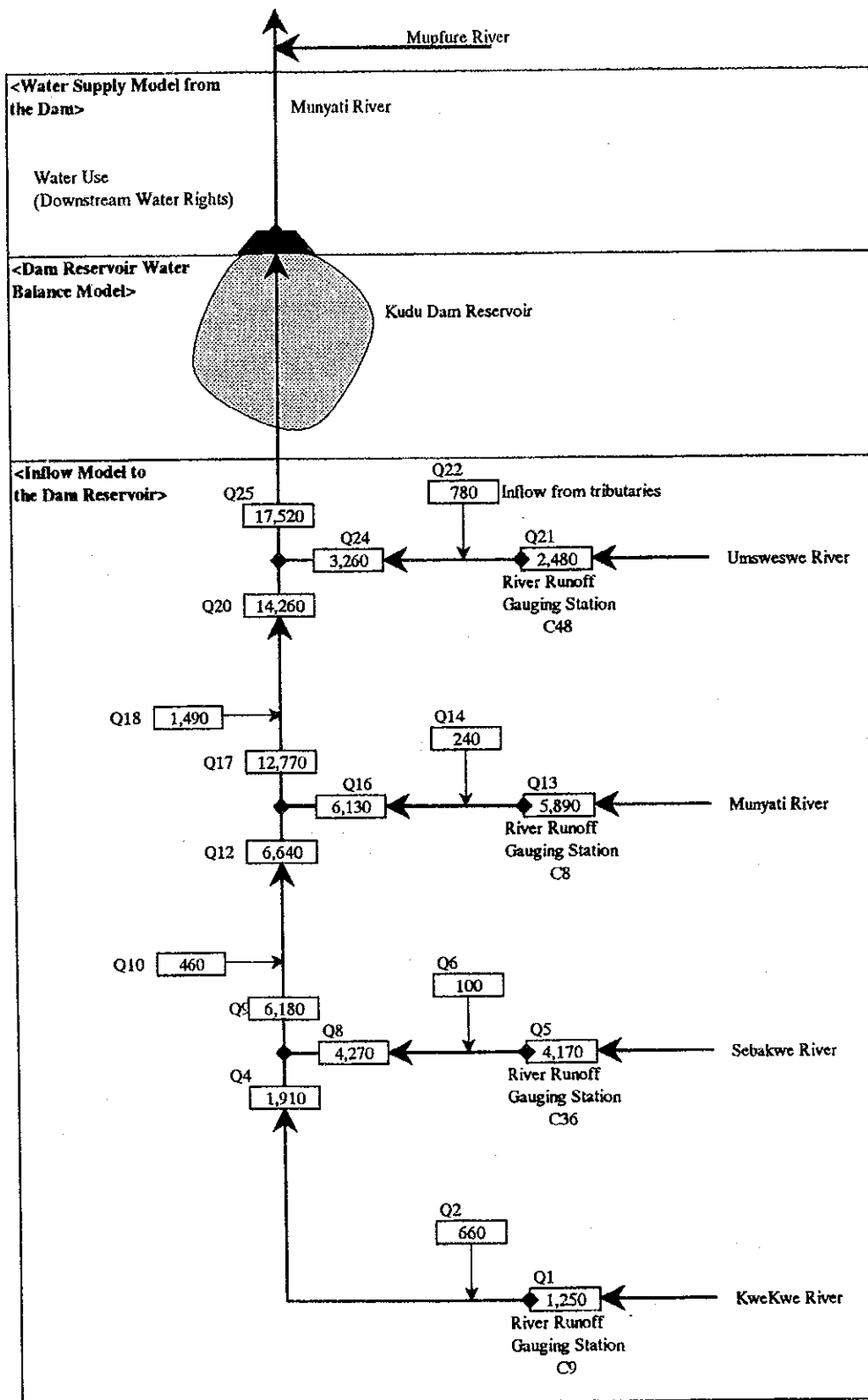
Figure 3.2.1  
 Sub-Hydrological Zones in the Kudu Dam  
 Catchment Area



The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Figure 3.2.2  
 Water Balance Model of Munyati River Basin

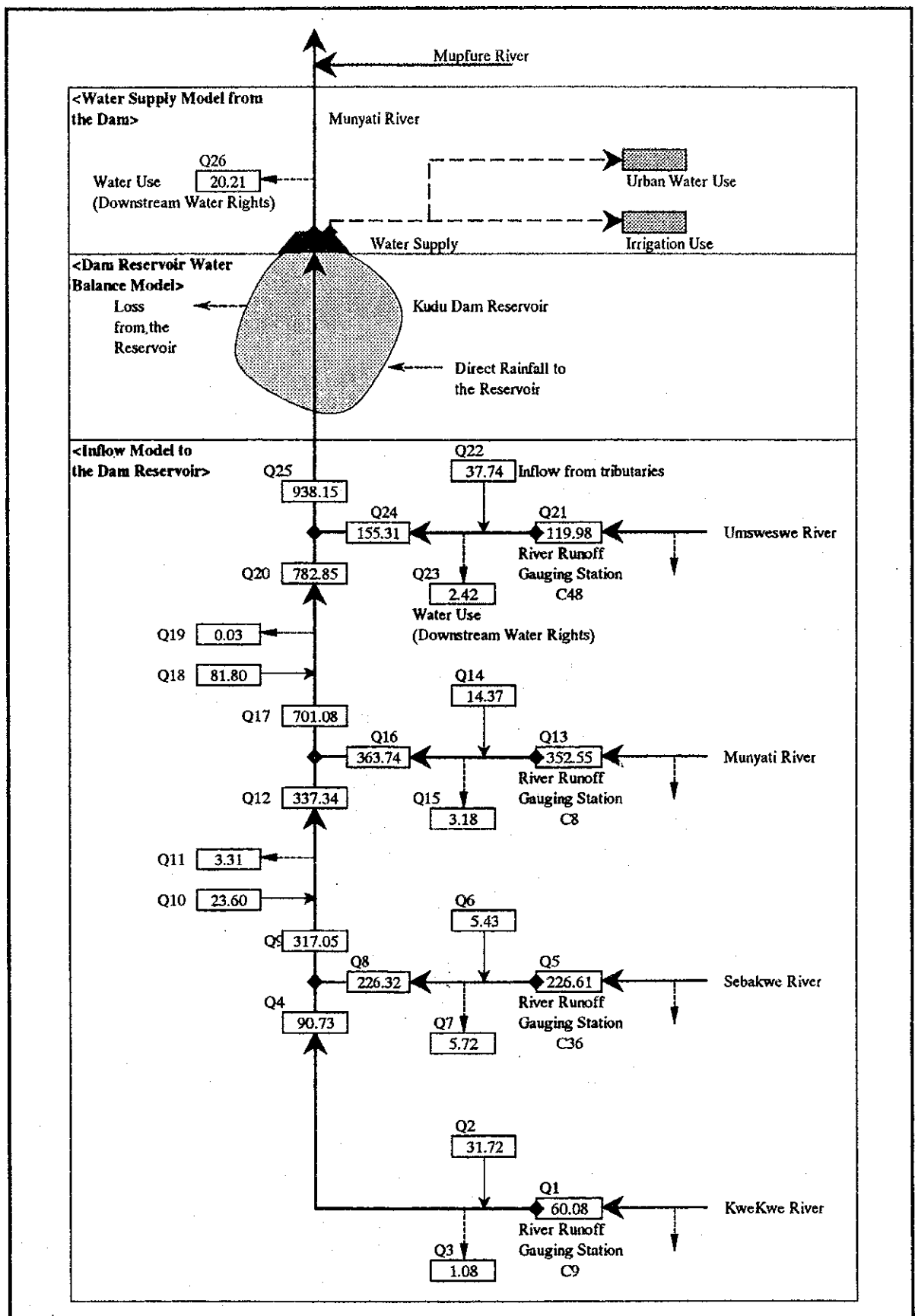
Japan International Cooperation Agency



The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Figure 3.2.3  
 Catchment Area of Kudu Dam in Km<sup>2</sup>

Japan International Cooperation Agency



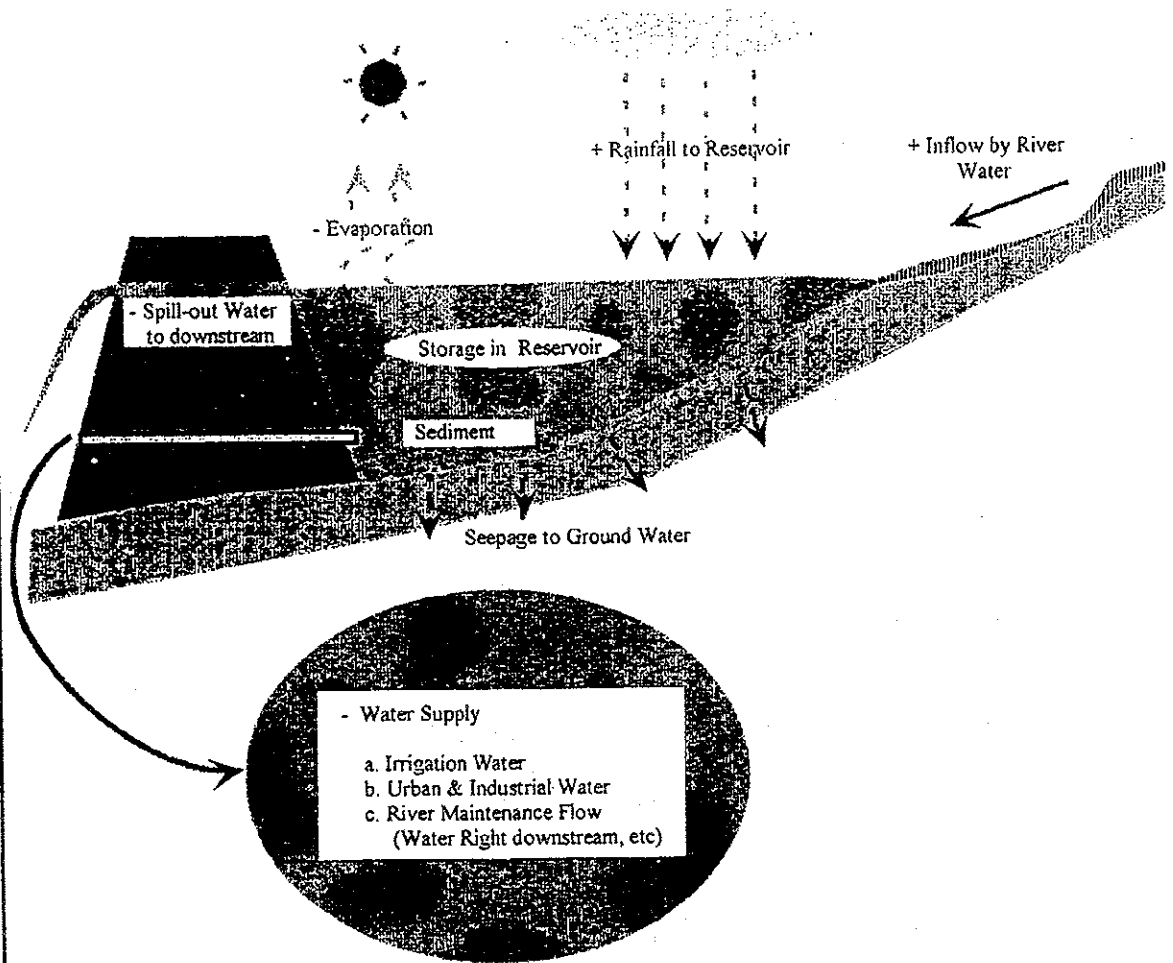
The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

---

Japan International Cooperation Agency

Figure 3.2.4  
 Average Annual Runoff to Kudu Dam in  
 MCM/year

*Image of Water Balance in a Reservoir*



Water Balance & Reservoir Operation Study for the proposed Kudu Dam has been carried out, applying the following equation, on the basis of the above factors in the schematic reservoir.

$$\text{Storage}^*\text{present} = \text{Storage}^*\text{previous} + \text{Inflow} + \text{Rainfall}$$

- Irrigation Water Release - Urban Water Release - River Maintenance Flow
- Evaporation Loss - Seepage Loss
- Spill-out Water when Water level is more than Full Storage Level

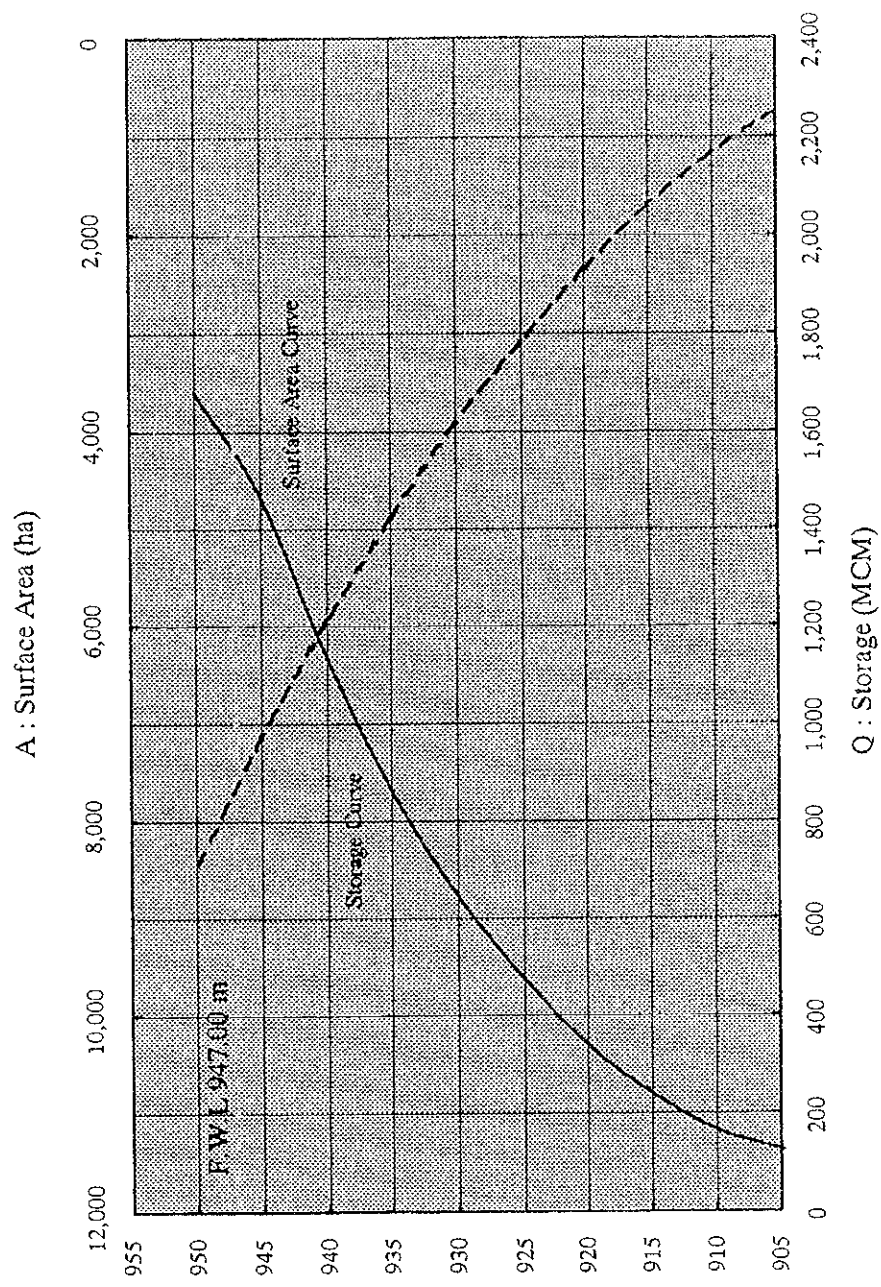
However, When calculated Storage\*present < 0, then Storage\*present = 0

The Feasibility Study on the Lower Munyati River Basin  
Agricultural Development Project  
in Republic of ZIMBABWE

Japan International Cooperation Agency

Figure 3.2.5  
Procedure of Water Balance & Reservoir  
Operation Study

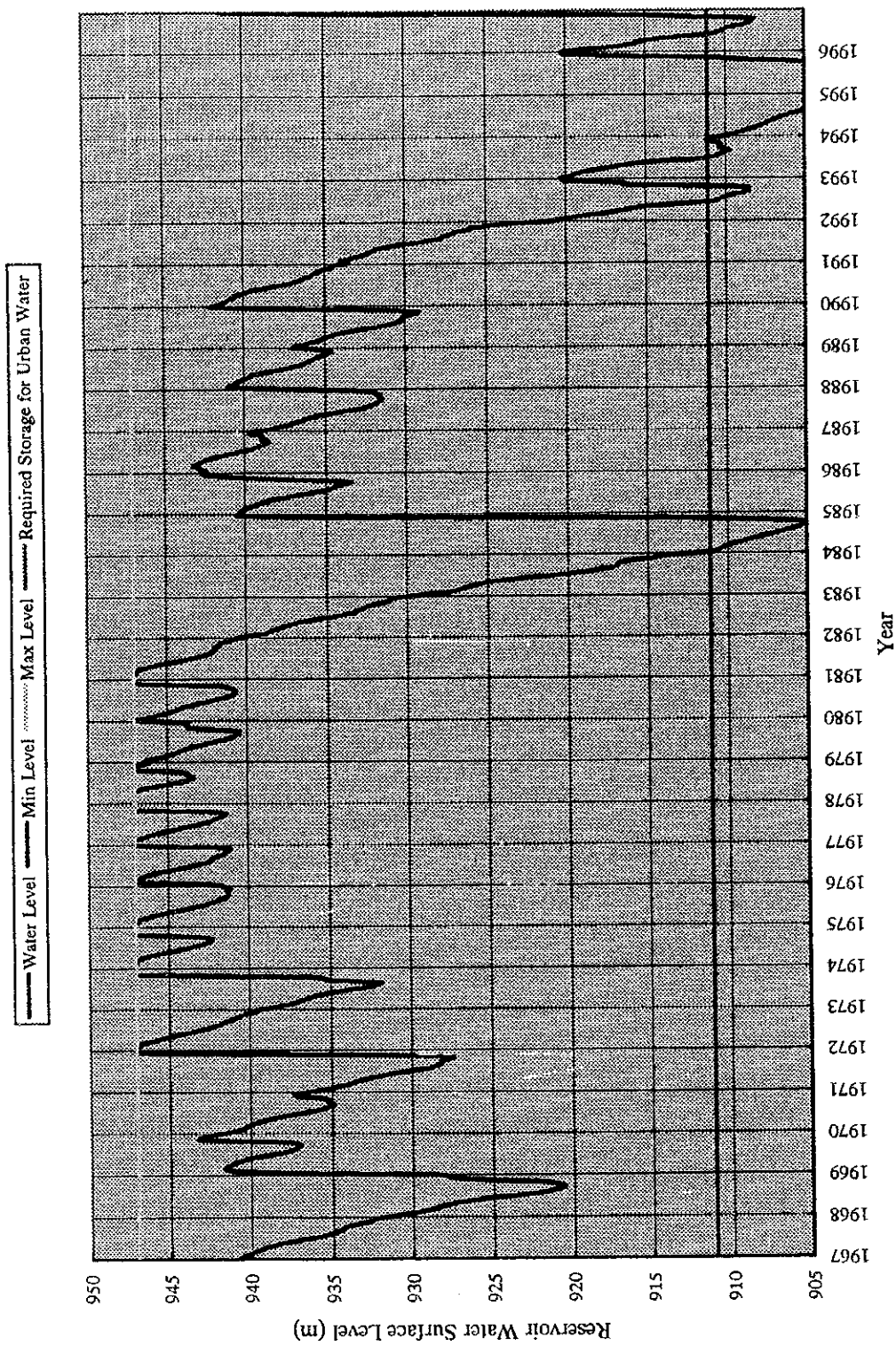




The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Figure 3.2.6  
 H - A and H - Q Curves of Kudu Dam Reservoir

Japan International Cooperation Agency



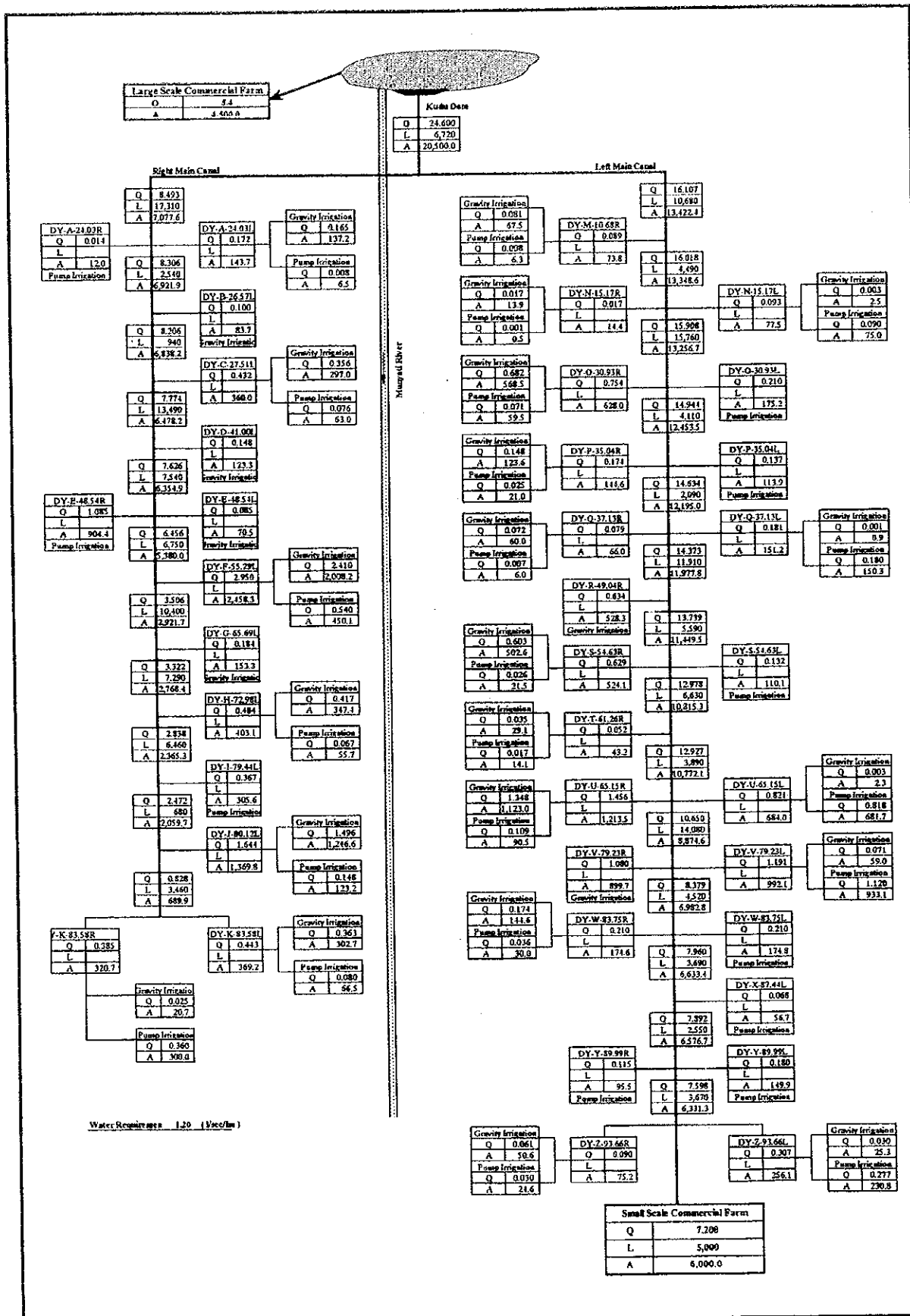
The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Japan International Cooperation Agency

Figure 3.2.7

Result of Kudu Dam Water Supply Study  
 (Irrigation Area : 25,000ha, Full Supply Level :  
 947.0m)

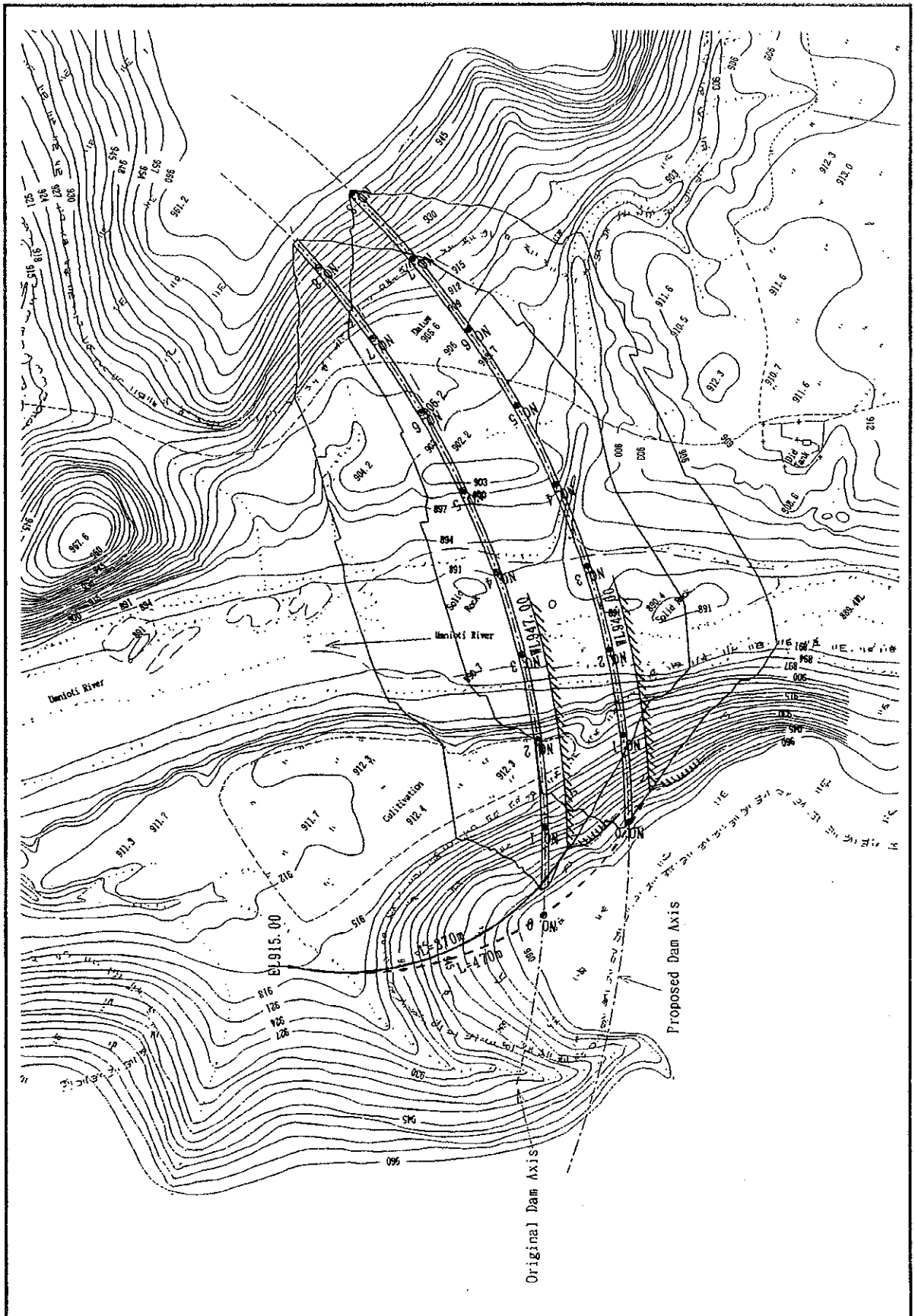




The Feasibility Study on the Lower Muniyati River Basin  
Agricultural Development Project  
in Republic of ZIMBABWE

Japan International Cooperation Agency

Figure 3.2.9  
Irrigation Diagram

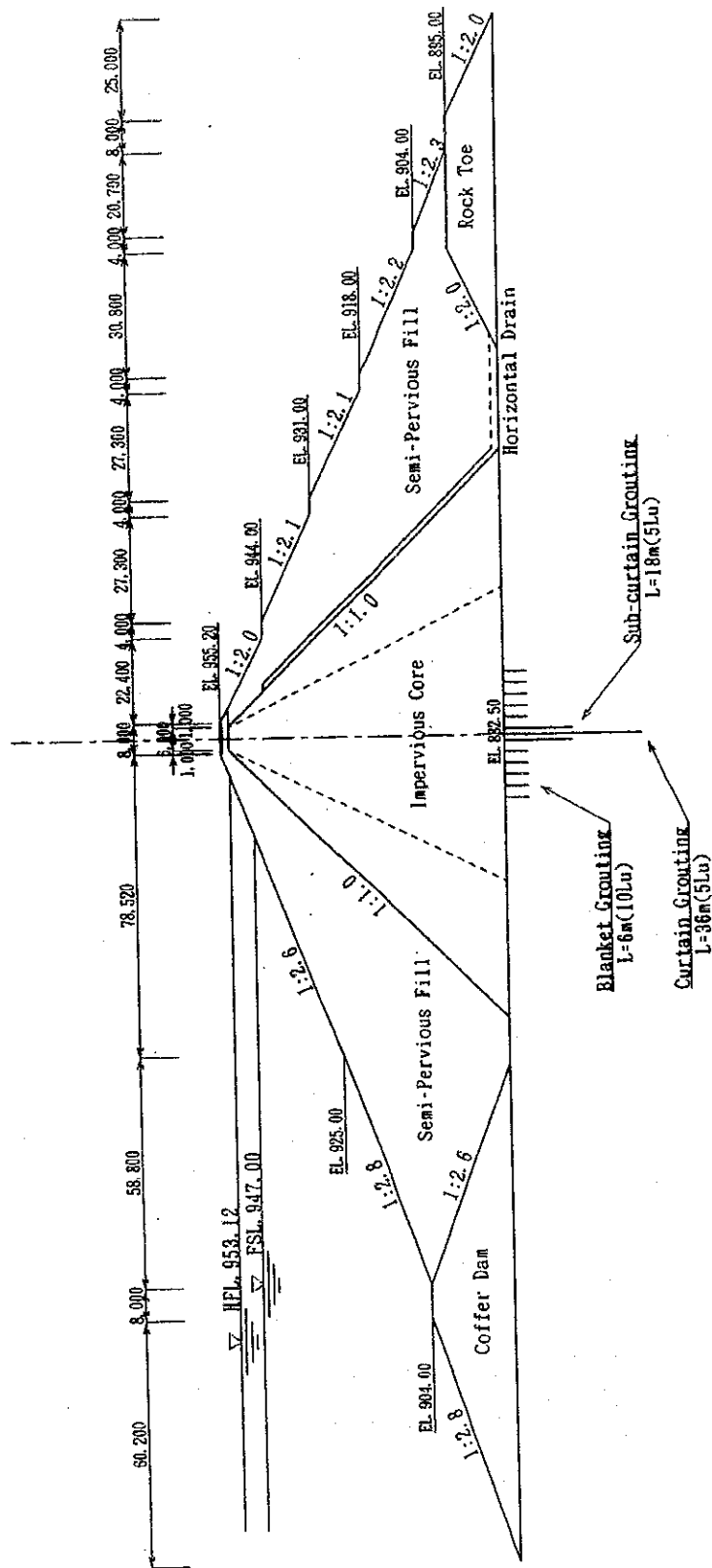


The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Japan International Cooperation Agency

Figure 3.2.10

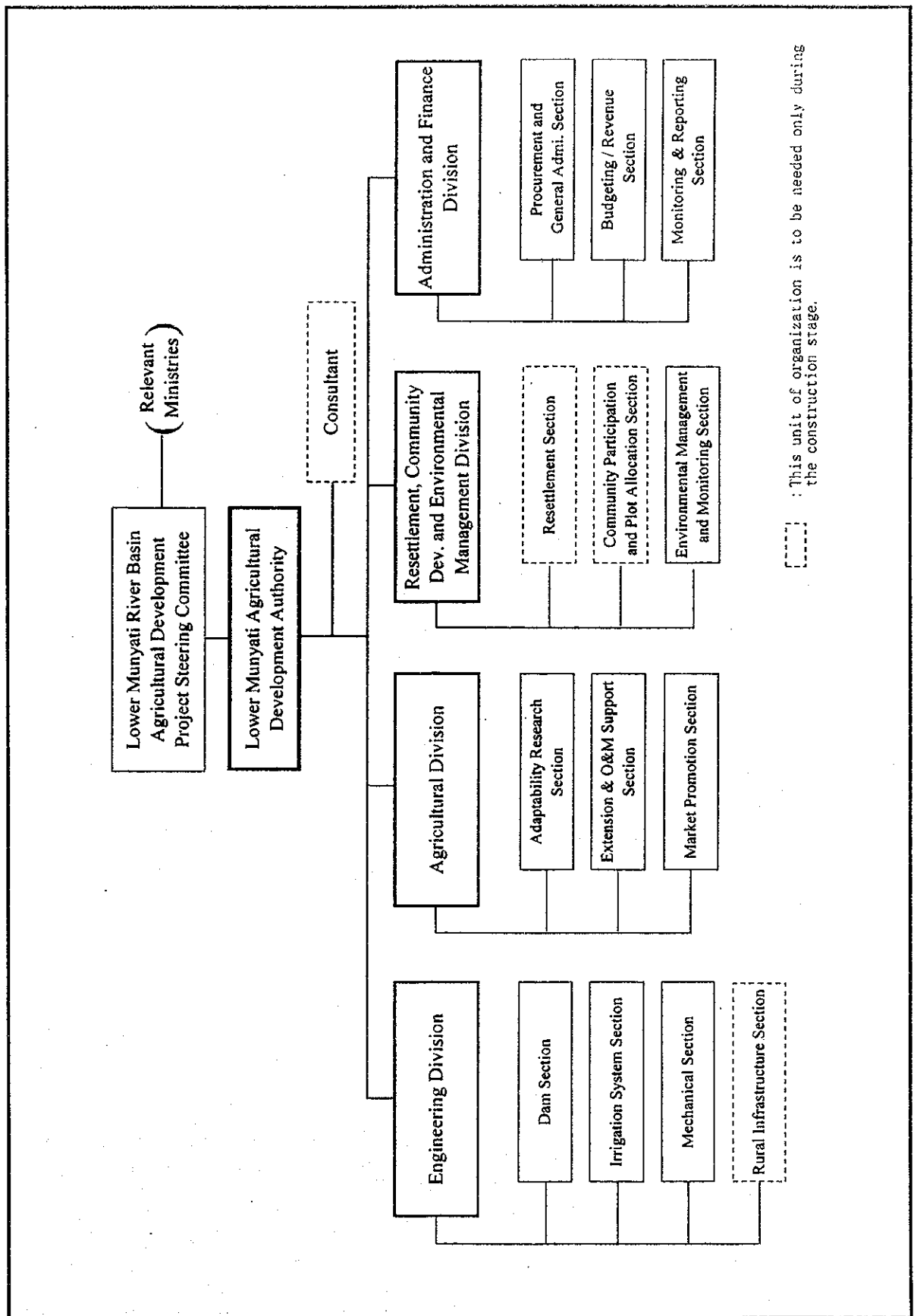
Comparison of Creep Ratio between Original  
 Dam Axis and Proposed Dam Axis



The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Figure 3.2.11  
 Standard Cross Section of Kudu Dam

Japan International Cooperation Agency

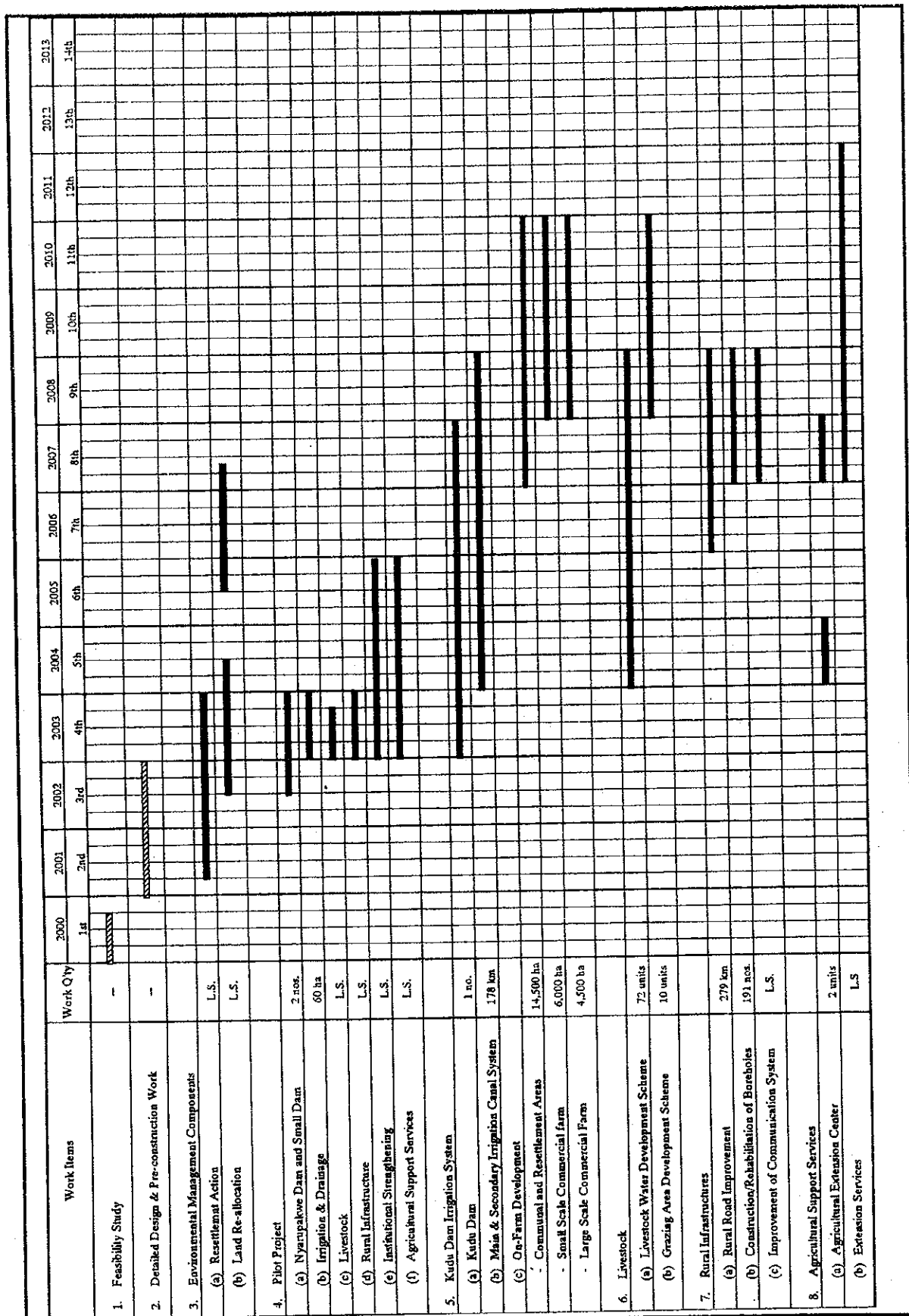


--- : This unit of organization is to be needed only during the construction stage.

The Feasibility Study on the Lower Munyati River Basin  
Agricultural Development Project  
in Republic of ZIMBABWE

Japan International Cooperation Agency

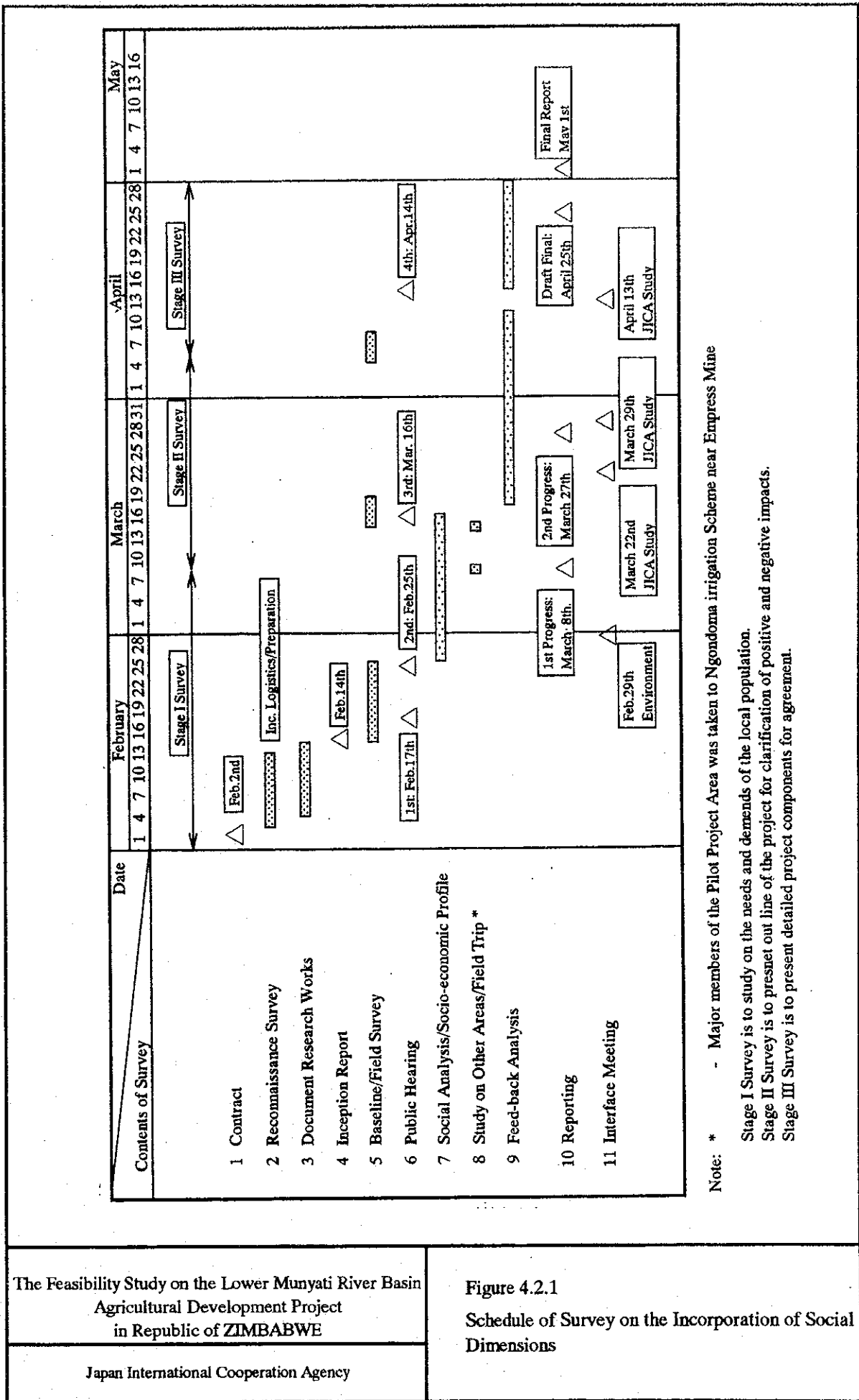
Figure 3.2.12  
Proposed Organizational Structure of Lower  
Munyati Agricultural Development Authority



The Feasibility Study on the Lower Munyati River Basin  
Agricultural Development Project  
in Republic of ZIMBABWE

Figure 3.3.1  
Project Implementation Schedule



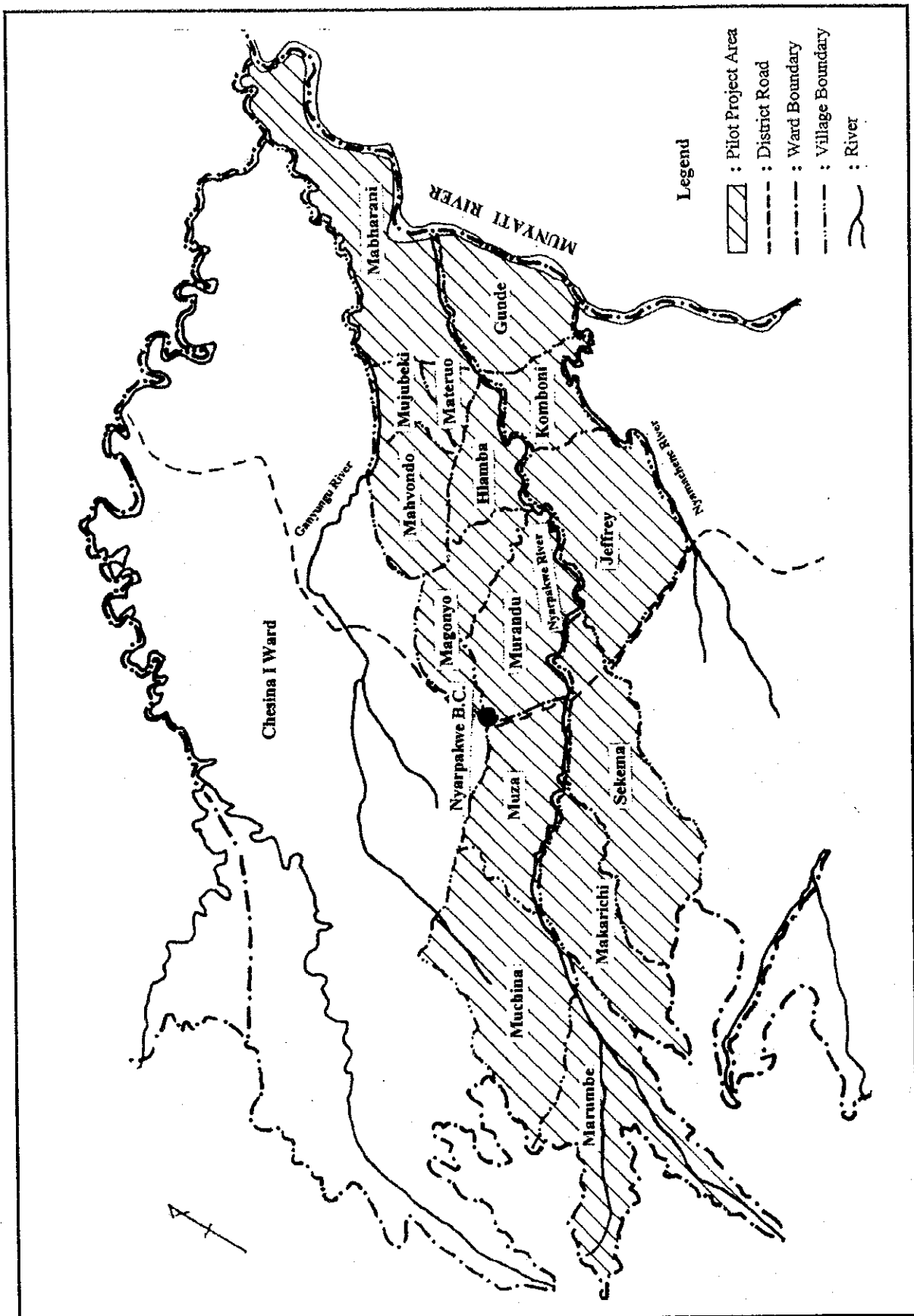


The Feasibility Study on the Lower Muniyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Japan International Cooperation Agency

Figure 4.2.1

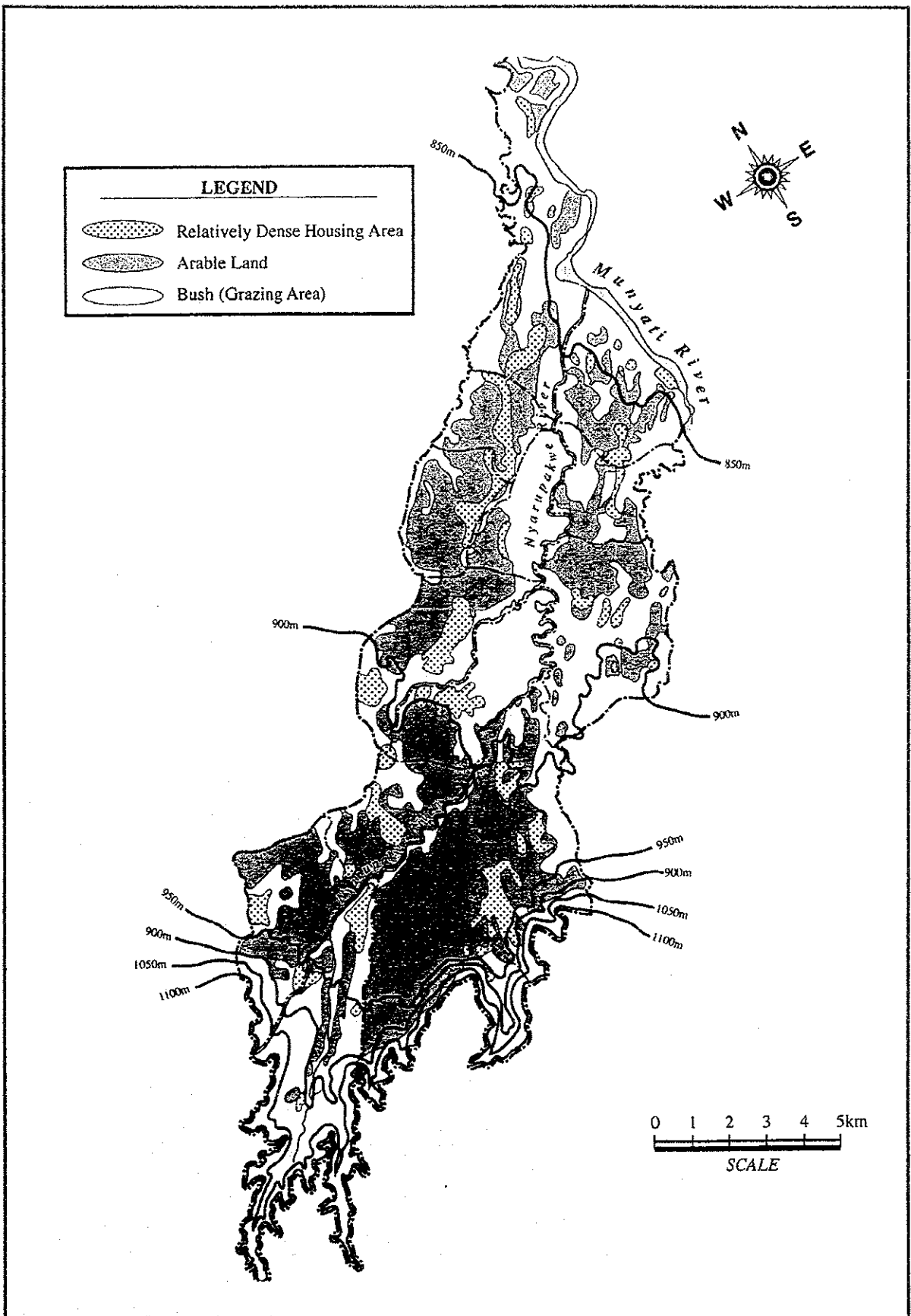
Schedule of Survey on the Incorporation of Social Dimensions



The Feasibility Study on the Lower Munyati River Basin  
Agricultural Development Project  
in Republic of ZIMBABWE

Figure 4.3.1  
Nyarupakwe Pilot Project Area

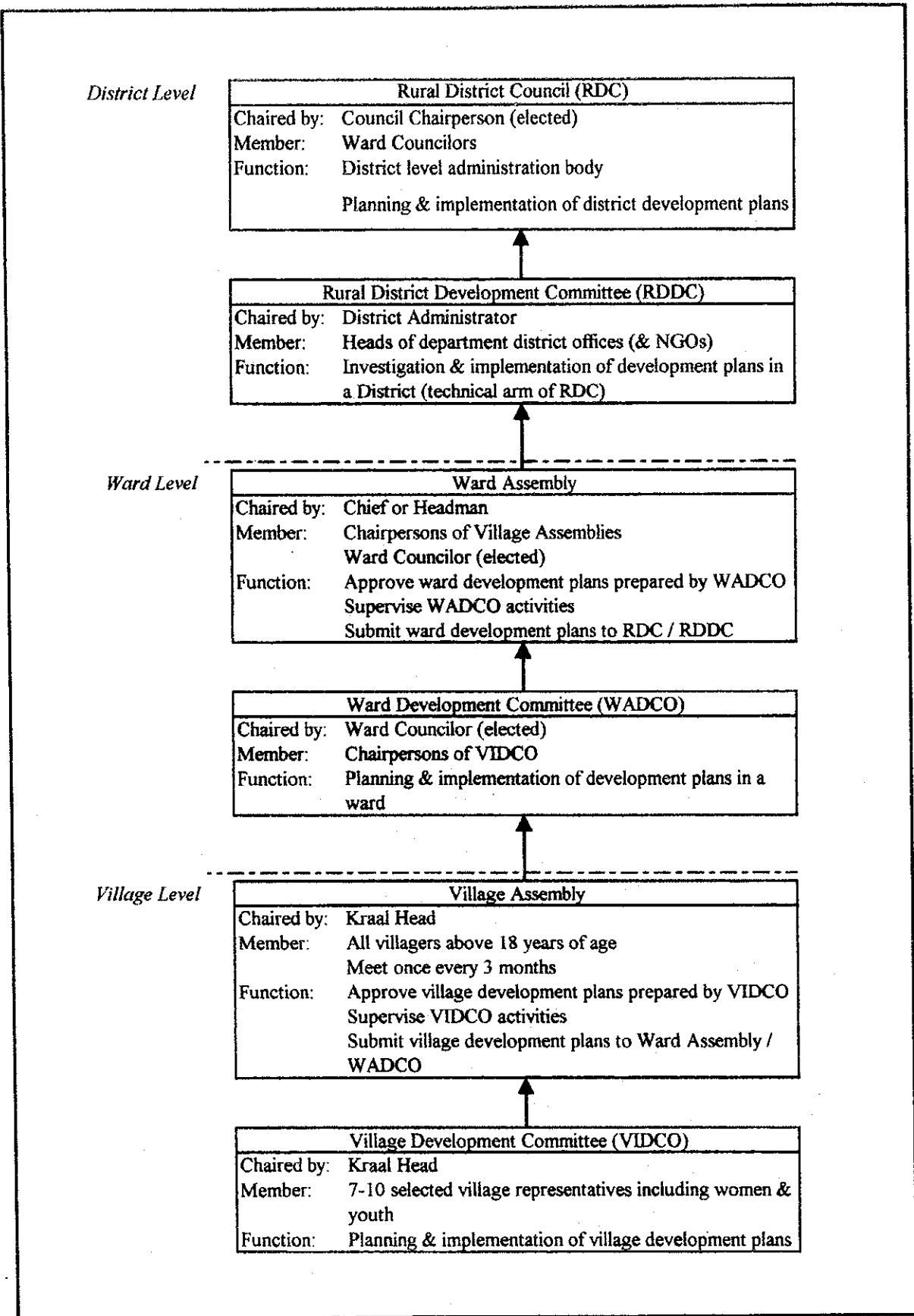
Japan International Cooperation Agency



The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Figure 4.3.2  
 Present Land Use

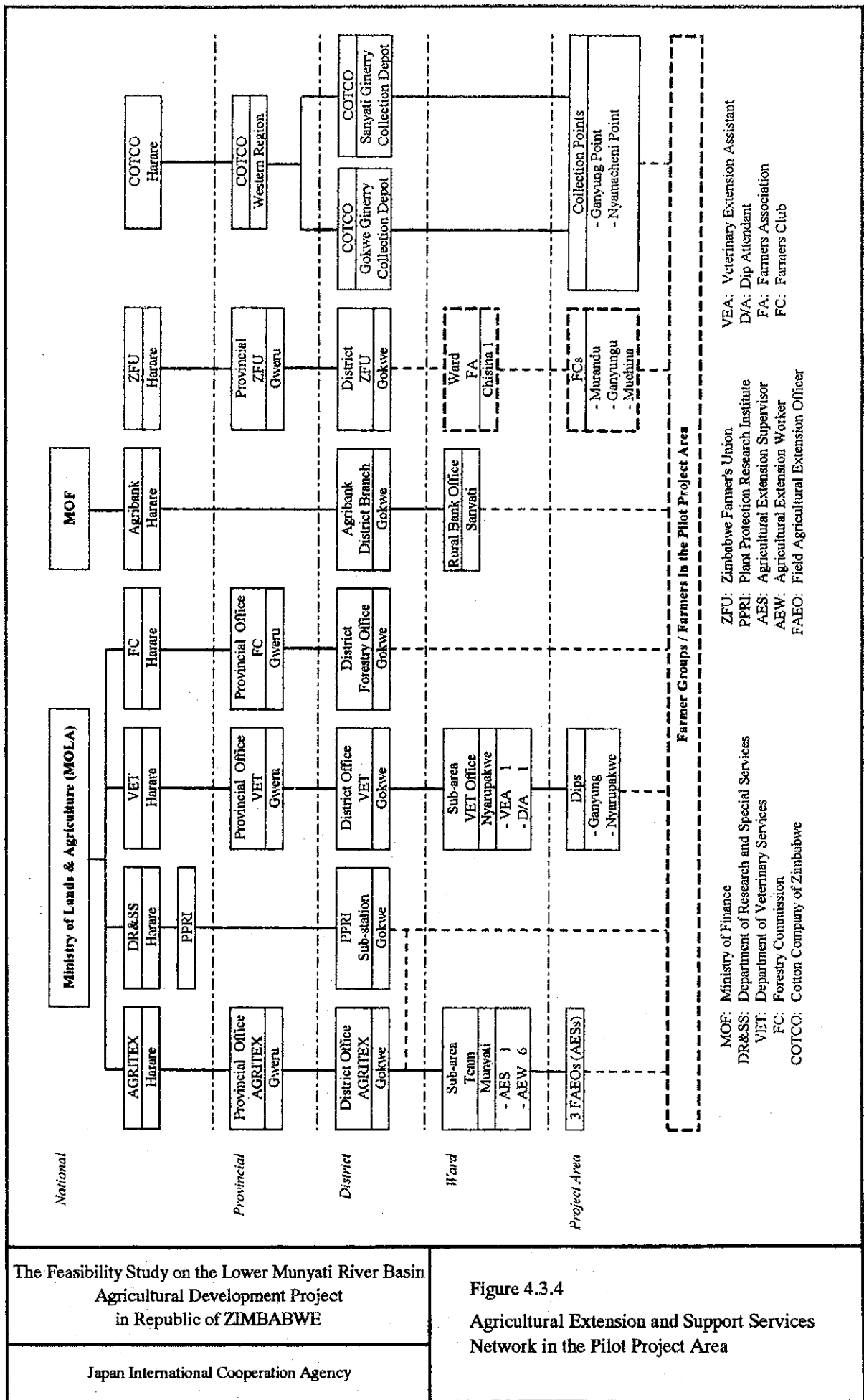
Japan International Cooperation Agency



The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Figure 4.3.3  
 Organizational Set-up for Rural Development

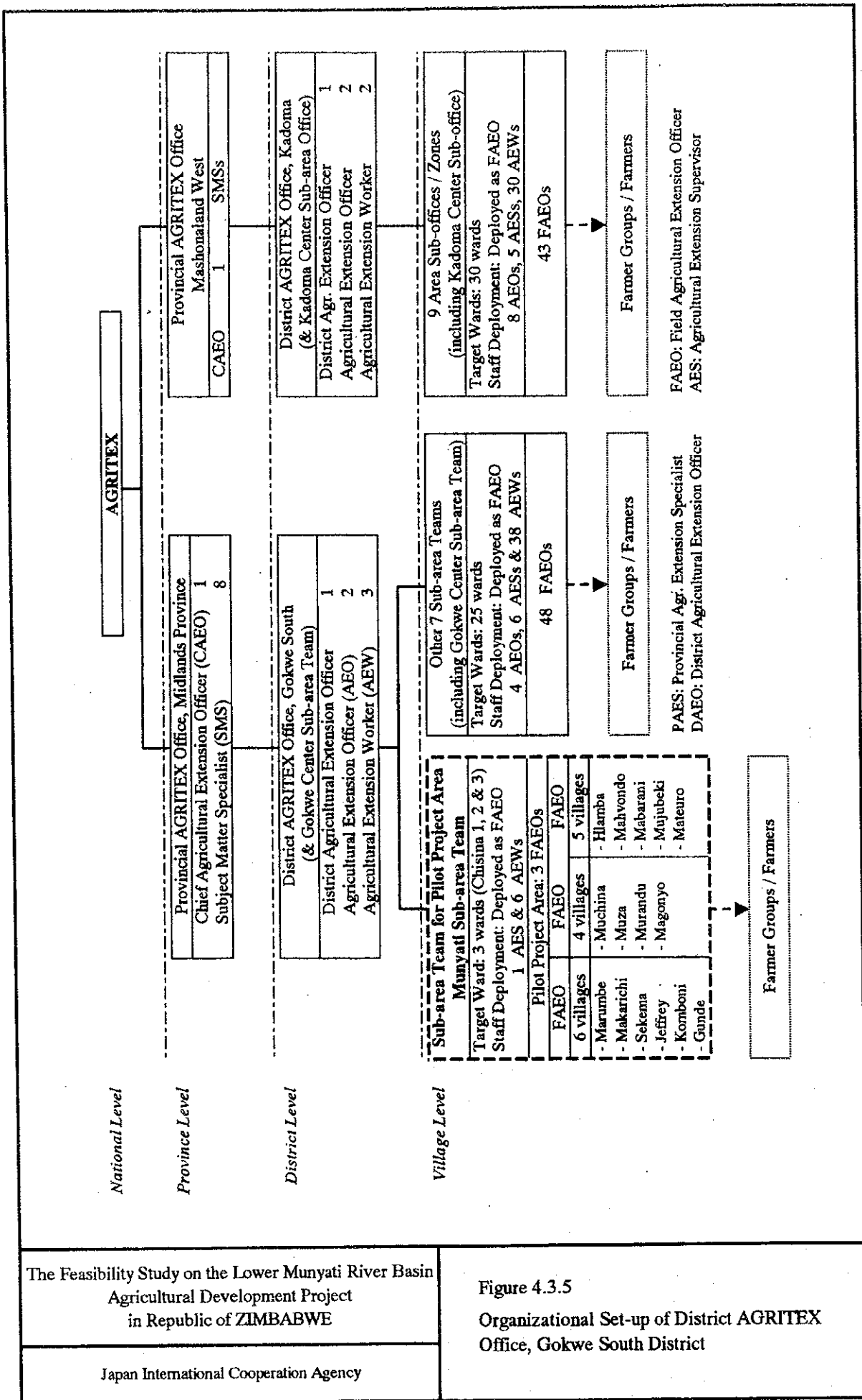
Japan International Cooperation Agency

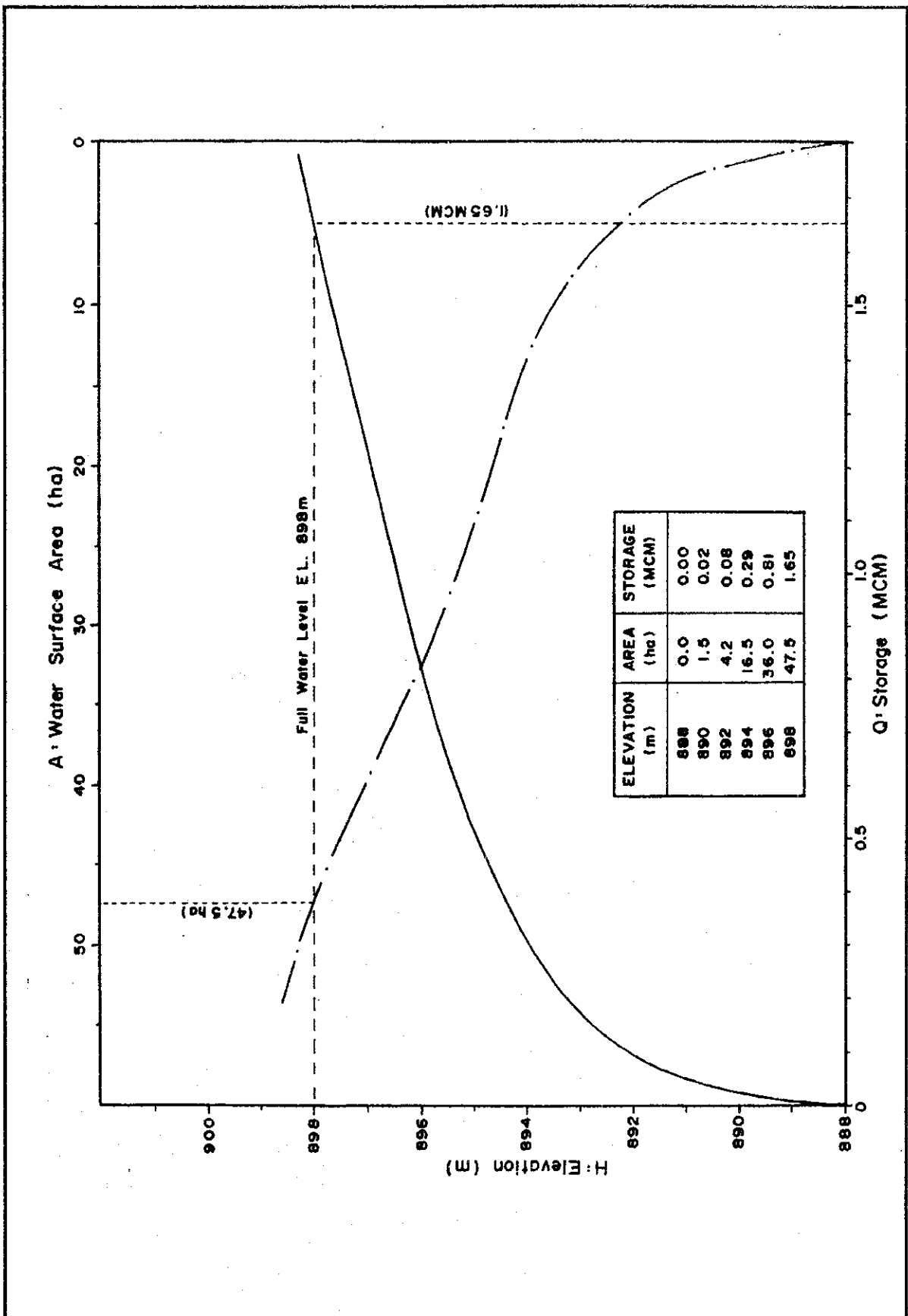


The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Japan International Cooperation Agency

Figure 4.3.4  
 Agricultural Extension and Support Services  
 Network in the Pilot Project Area





The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Japan International Cooperation Agency

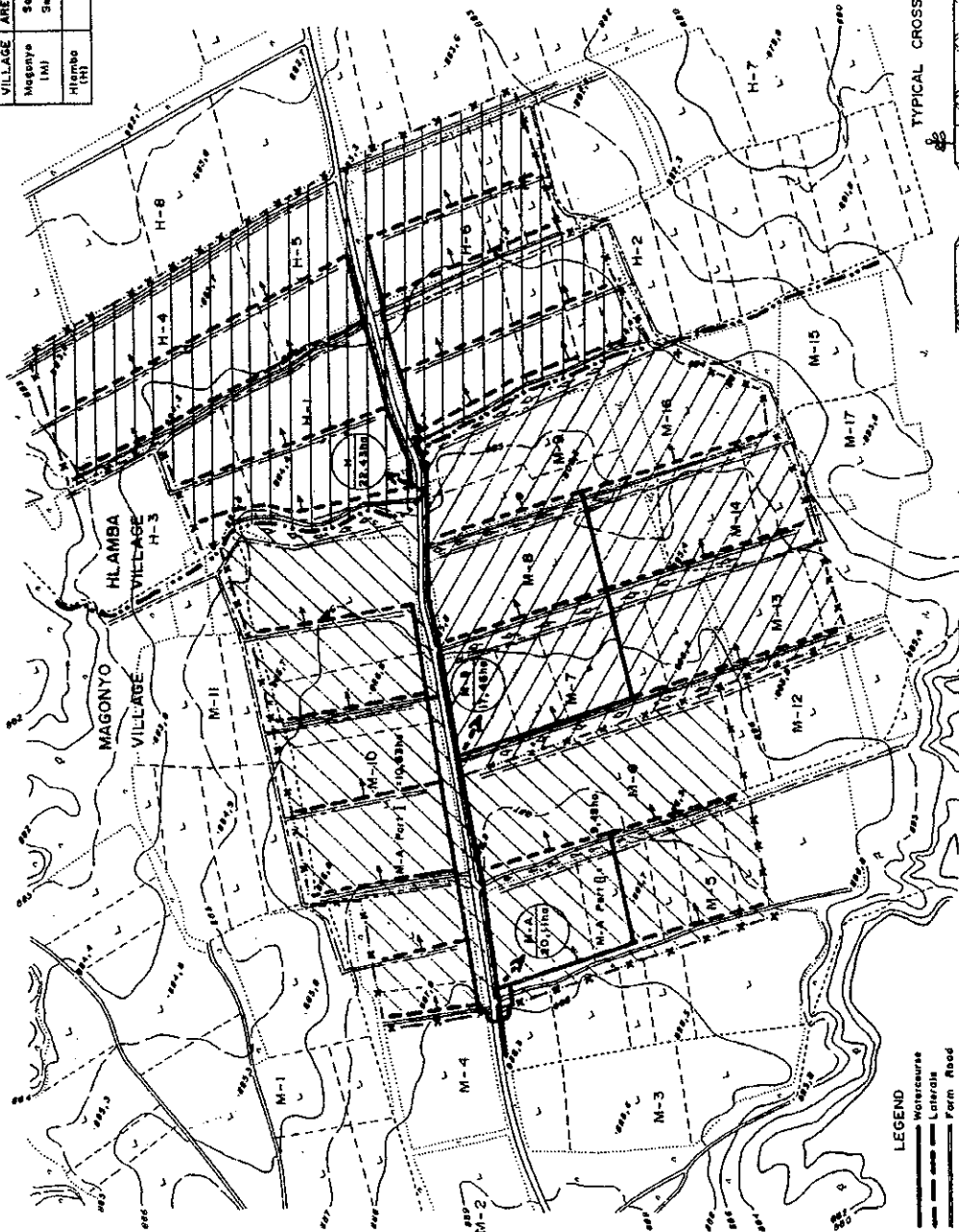
Figure 4.4.1  
 H - A and H - Q Curves of Nyarupakwe Dam  
 Reservoir

NET IRRIGATION AREA

VILLAGE	AREA IN HECTARES	DISCHARGE IN L/S
Magonya (M)	Section A = 20,11	21,7
	Section B = 17,46	18,9
Hlambo (H)	22,13	24,2

IDENTIFIED AREA

MAGONYO VILLAGE	
Hectares	
M-1	6,38
M-2	2,10
M-3	9,40
M-4	4,29
M-5	6,70
M-6	4,83
M-7	4,08
M-8	3,58
M-9	2,80
M-10	9,13
M-11	6,83
M-12	2,10
M-13	2,90
M-14	2,60
M-15	2,00
M-16	2,35
M-17	2,60
Total	73,78
HLAMBA VILLAGE	
Hectares	
H-1	5,35
H-2	10,50
H-3	3,08
H-4	7,75
H-5	2,30
H-6	6,35
H-7	5,16
H-8	5,43
Total	46,31



TYPICAL CROSS-SECTION



LEGEND

- Watercourse
- Lateral
- Form Road
- Drain
- Village Boundary
- Irrigation Area

Scale 1:5 000

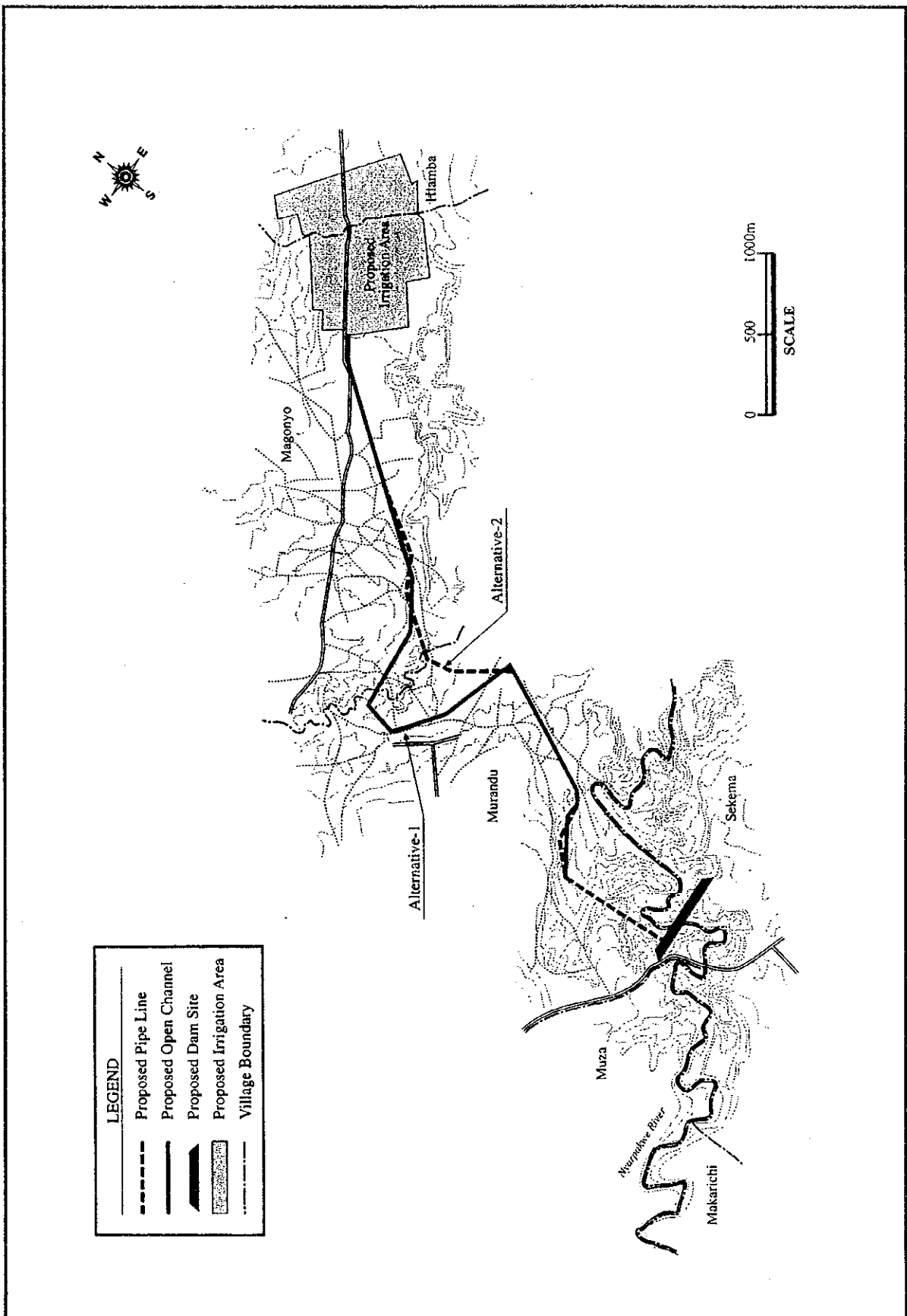


The Feasibility Study on the Lower Munyati River Basin  
Agricultural Development Project  
in Republic of ZIMBABWE

Japan International Cooperation Agency

Figure 4.4.2  
Layout Plan of Pilot Irrigation Area

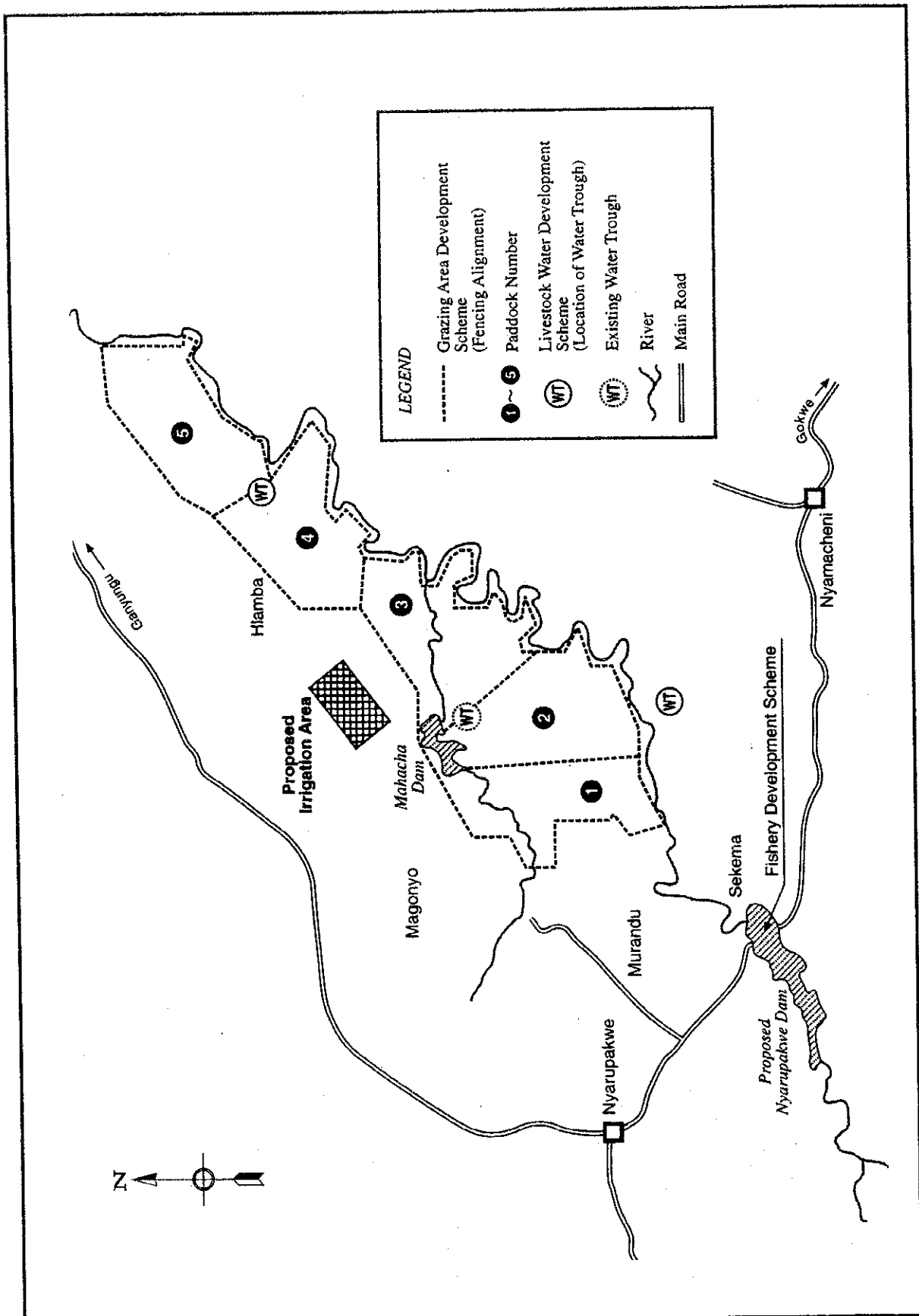




The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Figure 4.4.3  
 Alignment of Conveyance System

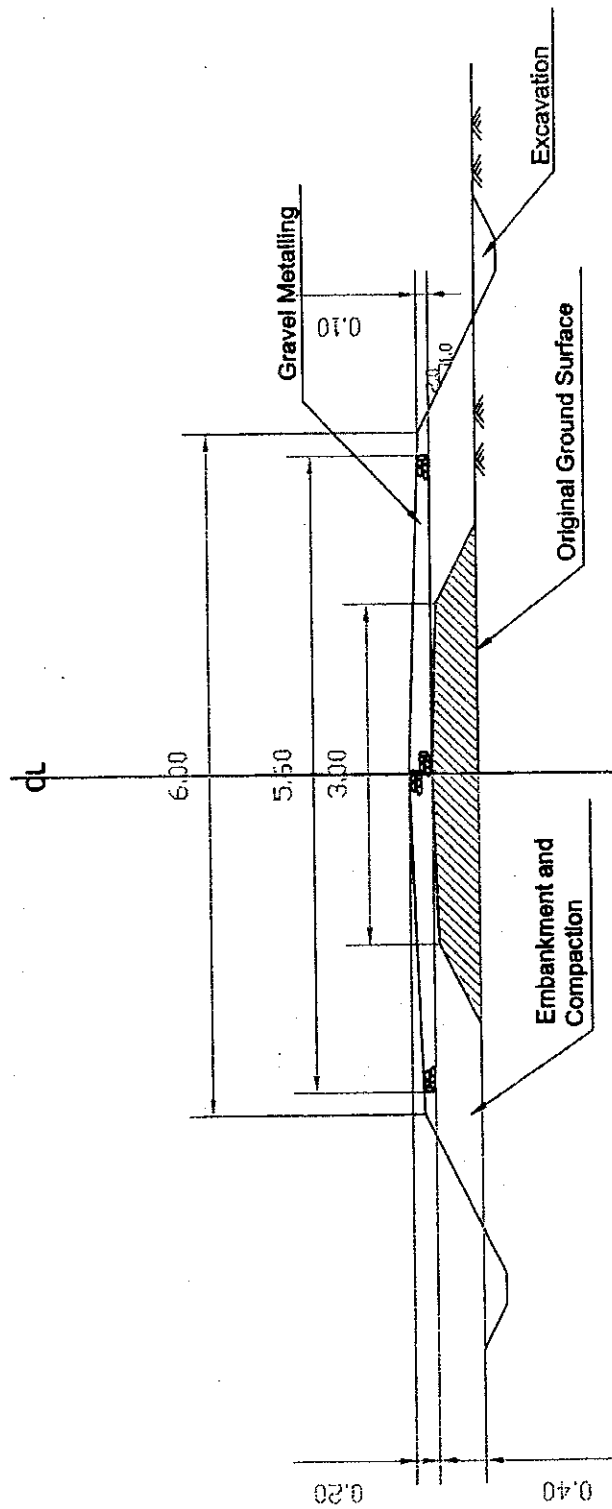
Japan International Cooperation Agency



The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Japan International Cooperation Agency

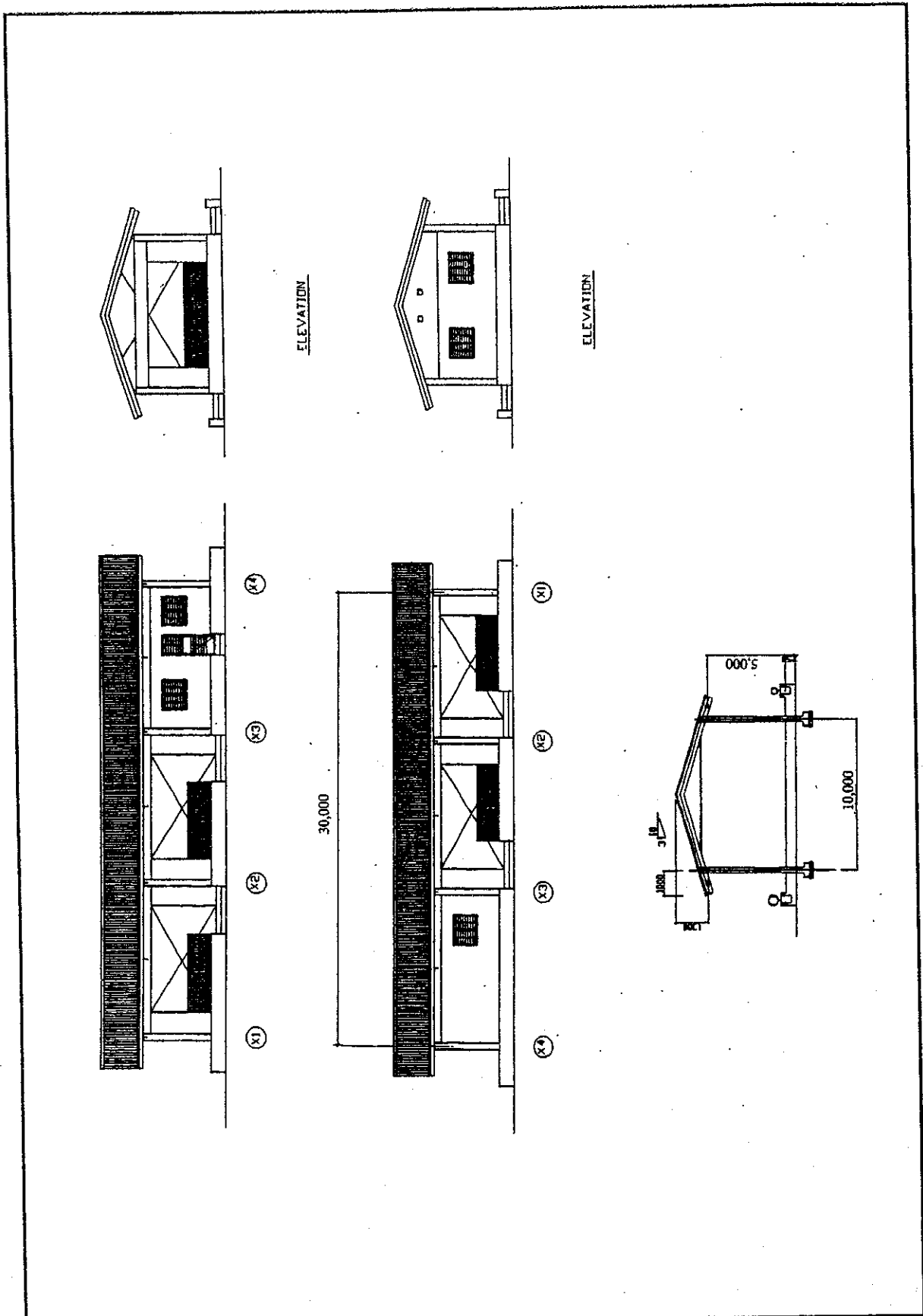
Figure 4.4.4  
 Layout and Location of Livestock Development  
 Plan



The Feasibility Study on the Lower Mnyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

Figure 4.4.5  
 Improvement Plan of Nyarupakwe - Gokwe Road

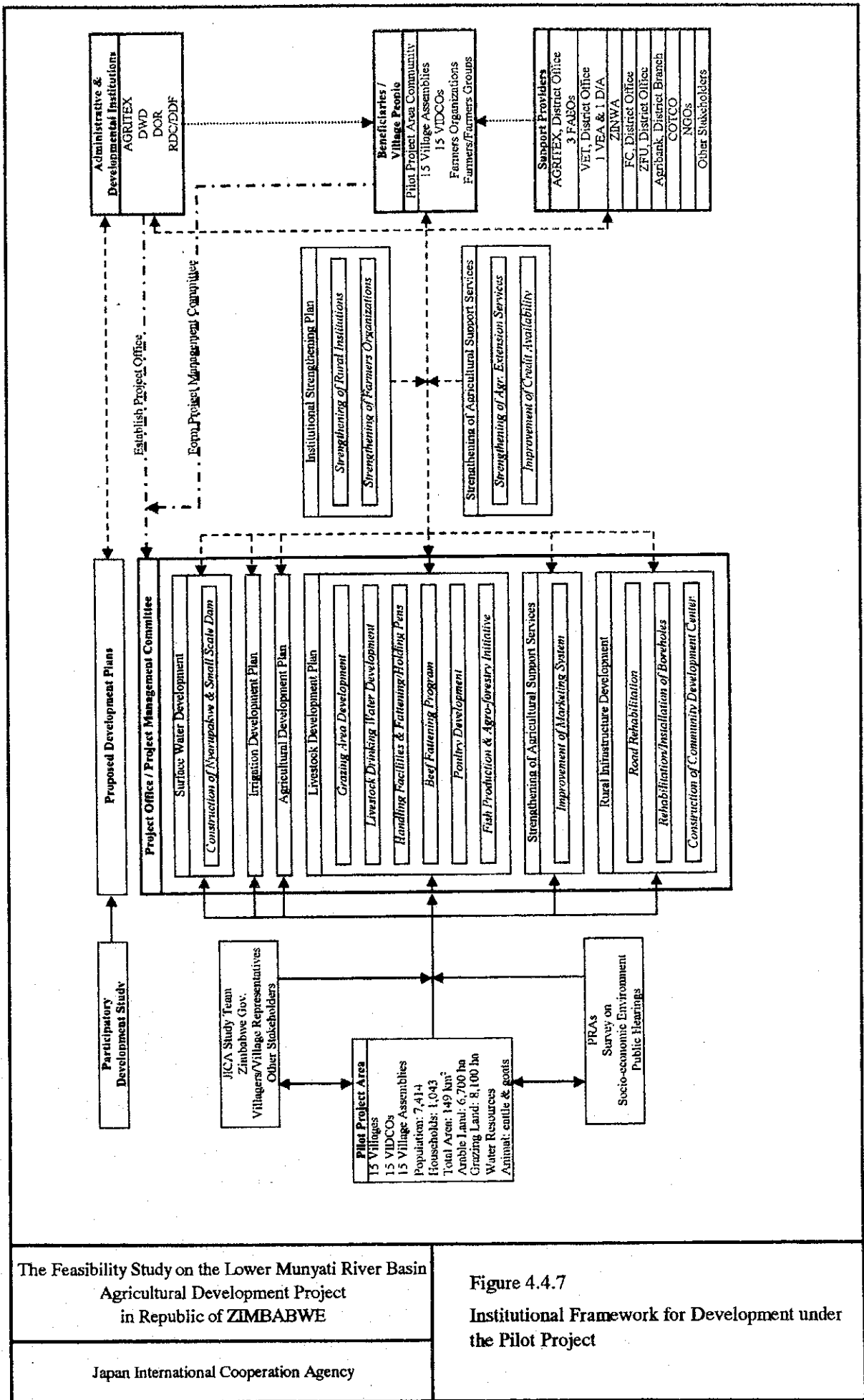
Japan International Cooperation Agency



The Feasibility Study on the Lower Munyati River Basin  
 Agricultural Development Project  
 in Republic of ZIMBABWE

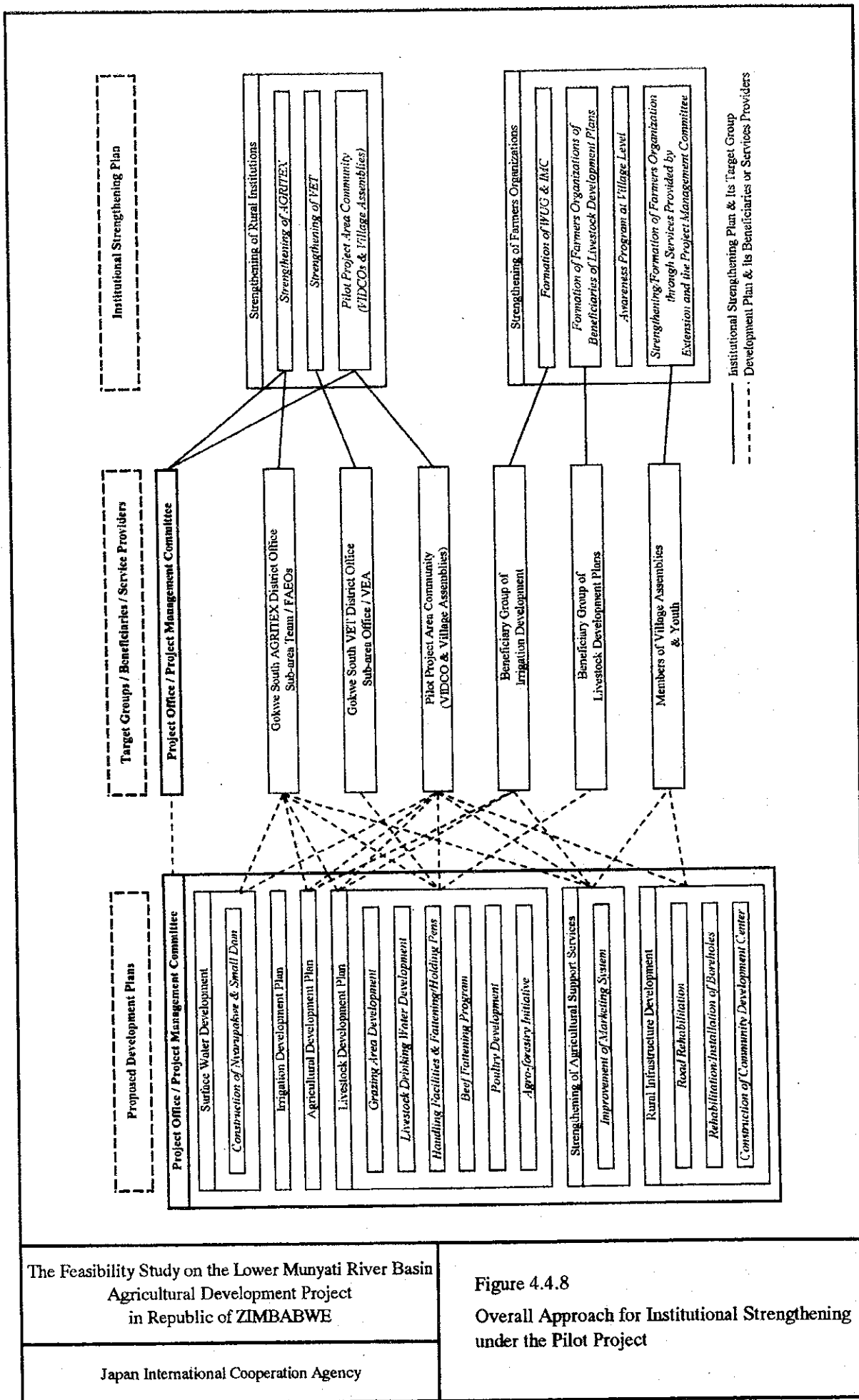
Japan International Cooperation Agency

Figure 4.4.6  
 Layout of Proposed Community Center



The Feasibility Study on the Lower Munyati River Basin  
Agricultural Development Project  
in Republic of ZIMBABWE

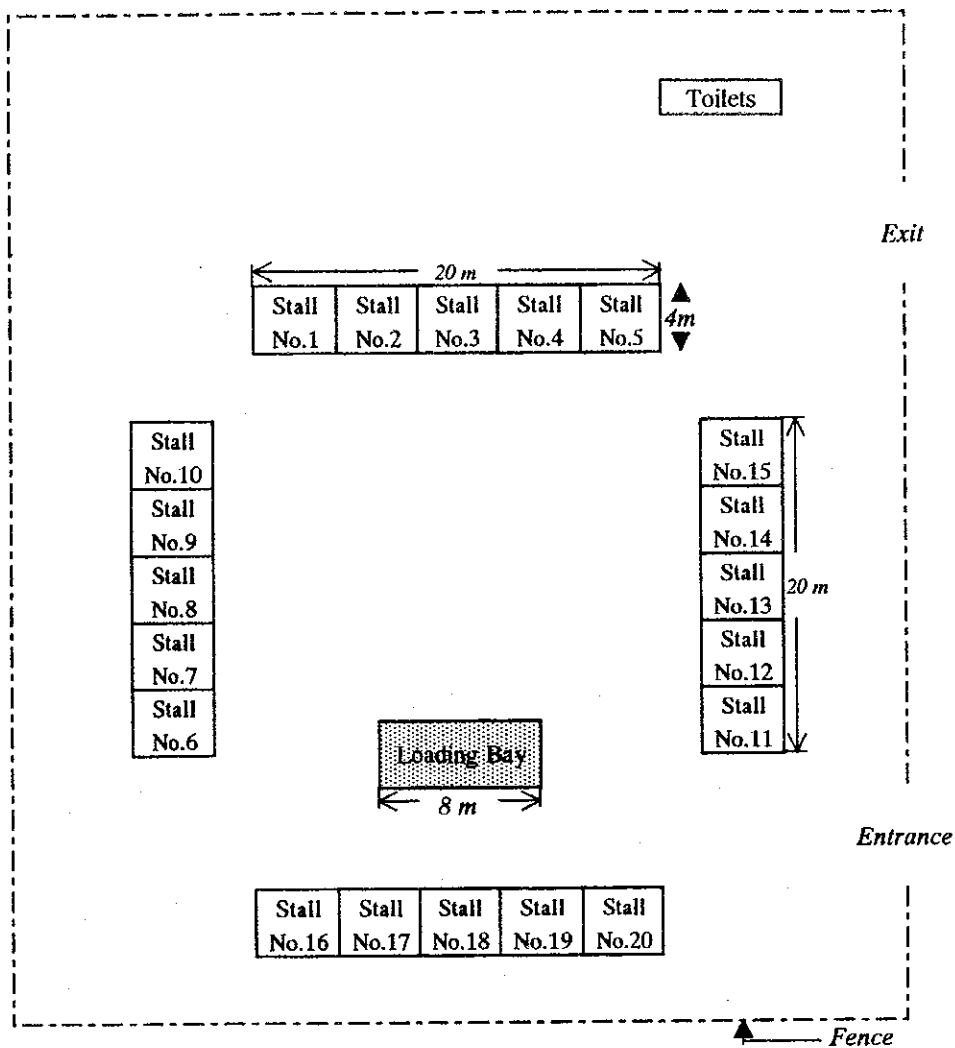
Figure 4.4.7  
Institutional Framework for Development under  
the Pilot Project



The Feasibility Study on the Lower Munyati River Basin  
Agricultural Development Project  
in Republic of ZIMBABWE

Japan International Cooperation Agency

Figure 4.4.8  
Overall Approach for Institutional Strengthening  
under the Pilot Project



**Features of Proposed Open Market**

Location:	Nyarupakwe Business Center
Size of Market Yard:	3,000 m <sup>2</sup> (50 m x 60 m)
Facilities:	Market Stalls 20 stalls (4 x 4m) Loading Bay 1 unit
Structure:	Stall - roof & concrete floor; 3 sides open
Loading Bay:	Concrete platform

The Feasibility Study on the Lower Munyati River Basin  
Agricultural Development Project  
in Republic of ZIMBABWE

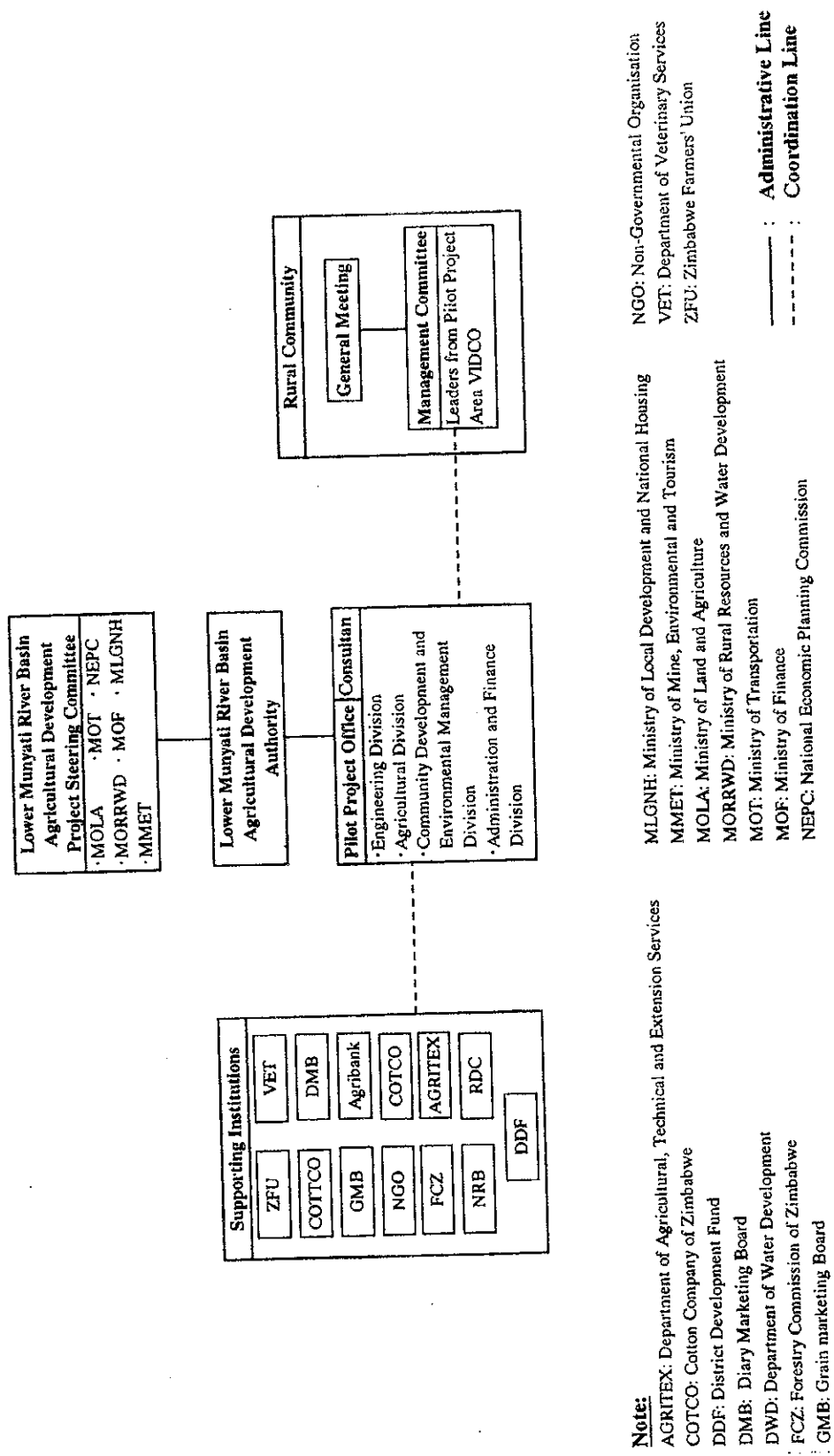
Figure 4.4.9  
Layout of Proposed Open Market

Japan International Cooperation Agency

The Feasibility Study on the Lower Munyati River Basin  
Agricultural Development Project  
in Republic of ZIMBABWE

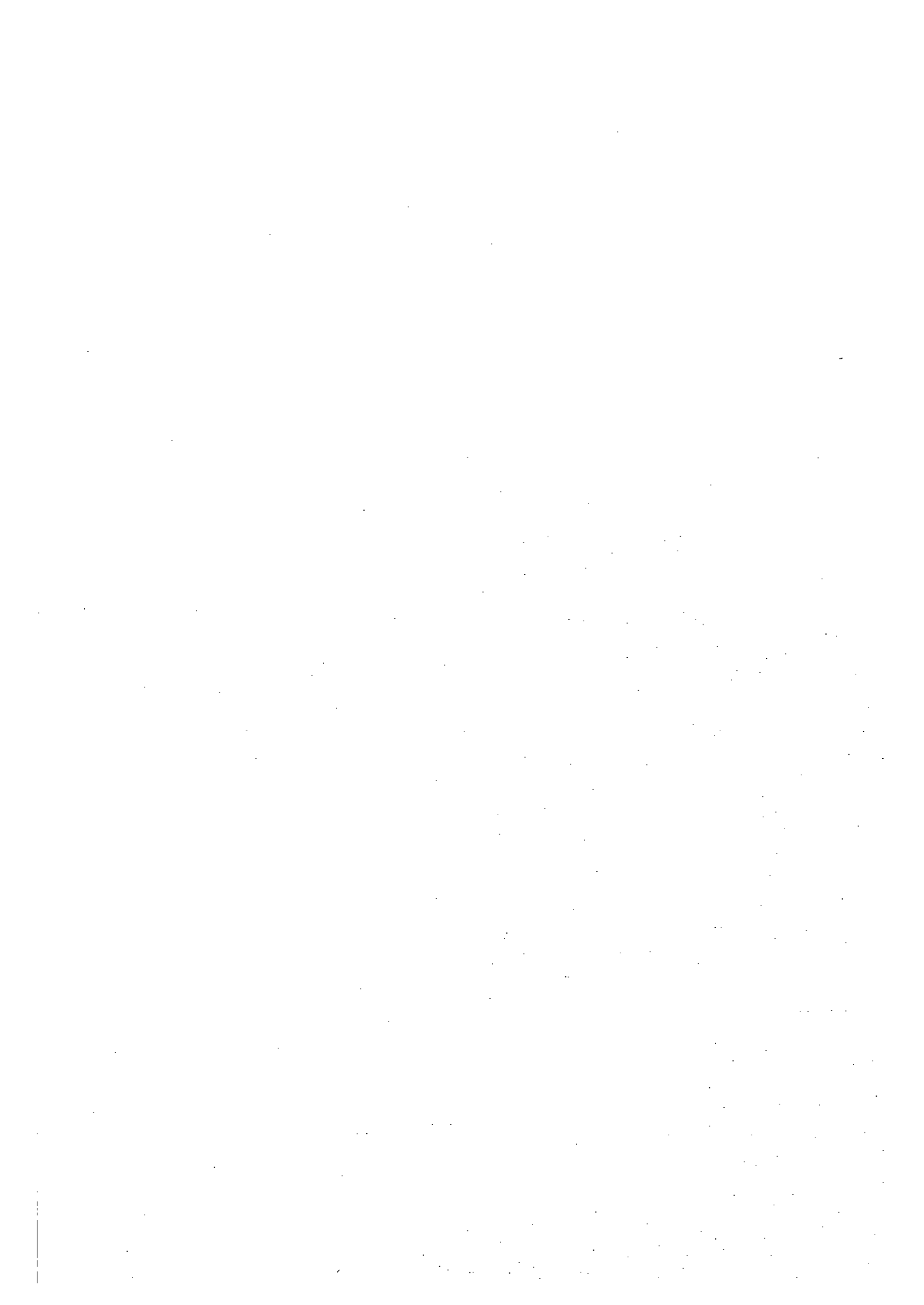
Japan International Cooperation Agency

Figure 4.4.10  
Relationship between Pilot Project Office,  
Supporting Institutions and Rural Community





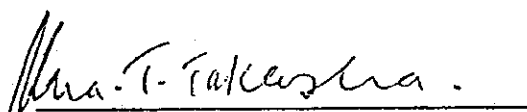
## ***ATTACHMENTS***



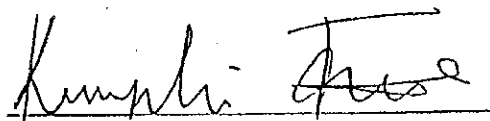
**THE SCOPE OF WORK  
FOR  
THE FEASIBILITY STUDY  
ON THE LOWER MUNYATI RIVER BASIN  
AGRICULTURAL DEVELOPMENT PROJECT  
IN  
THE REPUBLIC OF ZIMBABWE**

**AGREED UPON  
BETWEEN  
MINISTRY OF LANDS AND AGRICULTURE  
AND  
JAPAN INTERNATIONAL COOPERATION  
AGENCY**

HARARE, 15 APRIL 1998



Dr. T. Takavarasha  
Permanent Secretary  
Ministry of Lands and Agriculture,  
The Republic of Zimbabwe



Mr. Kazuyuki TSURUMI  
Leader,  
Preparatory Study Team,  
Japan International Cooperation Agency

## I. INTRODUCTION

In response to the request of the Government of the Republic of Zimbabwe ( hereinafter referred to as "GOZ"), the Government of Japan (hereinafter referred to as "GOJ") has decided to conduct the Feasibility Study on the Lower Munyati River Basin Agricultural Development Project (hereinafter referred to as "the Study"), in accordance with the relevant laws and regulations in force in Japan.

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

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

## II. OBJECTIVES OF THE STUDY

The objectives of the Study are;

1. to conduct the Feasibility Study on the Lower Munyati River Basin Agricultural Development Project, in order to formulate the irrigation and drainage plan and the agricultural development plan for the Communal Area and the Resettlement Area in the Lower Munyati River Basin,
2. to select priority project area(s) and to formulate the irrigation canal construction plan and the agricultural development plan for the priority project area(s), and
3. to carry out, in the course of the Study, technology transfer to counterpart personnel of Zimbabwe.

## III. STUDY AREA

The Study area shall cover

1. Kudu Dam and two main irrigation canals, and
  2. approximately 14,700 ha of proposed irrigation land in the Communal Area and Resettlement Area
- in the lower Munyati River Basin. (See location map attached as ANNEX I)

#### IV. SCOPE OF THE STUDY

In order to achieve the above objectives, the Study will consist of two (2) phases and will cover the following items;

##### 1. Phase I

###### 1-1. to collect and review;

- Master Plan on "The Lower Mulyati Basin Agricultural Development"
- relevant data and information
- relevant plan(s) and project(s)

###### 1-2. to collect and analyze the following additional data and information through the field survey and interviews;

###### (1) natural condition including,

- location, acreage and topography
- meteorology and hydrology
- geology
- soils
- water quality
- vegetation
- others

###### (2) socio-economic conditions including,

- economic indices (population, birthrate, food situation, etc.)
- educational system
- social infrastructure
- gender
- others

###### (3) agricultural and agro-economic conditions including,

- present land use
- land tenure
- farming practices (cultivation technique, cropping pattern, yield, agricultural machinery, etc.)
- research activities
- agricultural economy
- post-harvest and processing system
- marketing system and analysis
- others

###### (4) water resources

- existing water resources
- hydrology of the Lower Mulyati River Basin

(5) agricultural and rural infrastructure

- existing dam
- irrigation and drainage facilities
- farm road networks
- post-harvest and marketing system
- rural water supply system
- construction materials
- others

(6) agricultural supporting service

- farmer's organizations
- extension service (extension worker, farmers' recognition levels of irrigation)
- supply of seed, fertilizer and chemicals, agricultural machinery including spare parts
- credit services
- others

(7) operation and maintenance, and

- water management organizations
- customs of water use, water right, water charge, etc.
- others

(8) environmental aspects

- natural environmental aspects
- social environmental aspects

1-3. to formulate the Agricultural Development Plan in the Study area which includes the followings;

- (1) irrigation and drainage plan
- (2) land use plan
- (3) agricultural technology improvement plan
- (4) cultivation and extension plan
- (5) farmers supporting service plan
- (6) farmer's organization plan
- (7) marketing plan
- (8) water resource development plan
- (9) environment conservation plan
- (10) project implementation plan

1-4. to select the priority area(s) for the detailed study

1-5. to prepare a topographic map(s) at scale 1/5,000 for designing of main irrigation canal(s)

1-6. to prepare a topographic map(s) at scale 1/5,000 for the priority area(s)

*K.T*

## 2. Phase II

- 2-1. to review and design Kudu Dam and main irrigation canal(s)
- 2-2. to estimate the Agricultural Development Plan in the Study area cost and benefits
- 2-3. to evaluate the Agricultural Development Plan in the Study area
- 2-4. to prepare the recommendations for the Agricultural Development Plan in the Study area
- 2-5. to conduct the field survey to collect supplementary data and information on the priority area(s)
- 2-6. to formulate of the optimum Agricultural development plan for the priority area(s), which includes the followings;
  - (1) farmers support plan
  - (2) agricultural and rural infrastructure development plan
  - (3) farmers organization plan
  - (4) agriculture and extension plan
  - (5) farming and planting program
  - (6) irrigation and drainage plan
- 2-7. to estimate the priority project(s)-cost and benefit, and
- 2-8. to prepare the recommendations for the priority project(s)

## V. STUDY SCHEDULE

The Study will be carried out in accordance with the attached tentative schedule.(See ANNEX II)

## VI. REPORTS

JICA shall prepare and submit to the GOZ the following reports in English

### 1. Inception Report

Twenty (20) copies in English at the commencement of the Phase I field work.

### 2. Progress Report I

Twenty (20) copies in English at the end of the Phase I field work.

### 3. Interim Report

Twenty (20) copies in English at the commencement of Phase II field work.

4. Progress Report II

Twenty (20) copies in English at the end of the first part of Phase II field work .

5. Draft Final Report

Thirty (30) copies in English after the home office work in Japan. The GOZ will provide JICA with its comments on the Draft Final Report within one (1) month after receipt of the Draft Final Report.

6. Final Report

Fifty (50) copies in English within two (2) months after receipt of the GOZ's comments on the Draft Final Report.

## VII. UNDERTAKING OF THE GOVERNMENT OF ZIMBABWE

1. To facilitate smooth conduct of the Study, the GOZ shall take necessary measures ;

1-1. to secure the safety of the Japanese study team,

1-2. to permit the members of the Japanese study team to enter, leave and sojourn in Zimbabwe for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees,

1-3. 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 Zimbabwe for the conduct of the Study,

1-4. 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,

1-5. to provide necessary facilities to the Japanese study team for the remittance as well as utilization of the funds introduced into Zimbabwe from Japan in connection with the implementation of the Study,

1-6. to secure permission for entry into private properties or restricted areas for the implementation of the Study,

1-7. to secure permission for the Japanese study team to take all data and documents



(including photographs and maps) related to the Study out of Zimbabwe to Japan  
and

1-8. to provide medical services as needed. Its expense will be chargeable on the members of the Japanese study team.

2. The GOZ 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 Ministry of Lands and Agriculture (hereinafter referred as "MOLA") shall act as the coordinating body in relation with other governmental organizations and non-governmental organizations concerned for smooth implementation of the Study. MOLA shall appoint the Department of Agricultural, Technical and Extension Services and also the Ministry of Rural Resources and Water Development shall appoint the Department of Water Development as counterpart agencies to the Japanese study team.

4. The GOZ shall, at it's own expenses, provide the Japanese study team with the following, in cooperation with other organizations concerned ;

4-1. available data and information related to the Study,

4-2. counterpart personnel,

4-3. suitable office spaces with necessary equipment and furniture in Harare and Kadoma, and

4-4. credentials or identification cards

#### VIII. UNDERTAKING OF JICA

For the implementation of the Study, JICA shall take the following measures ;

1. to dispatch, at its own expense, the Japanese study team to Zimbabwe, and

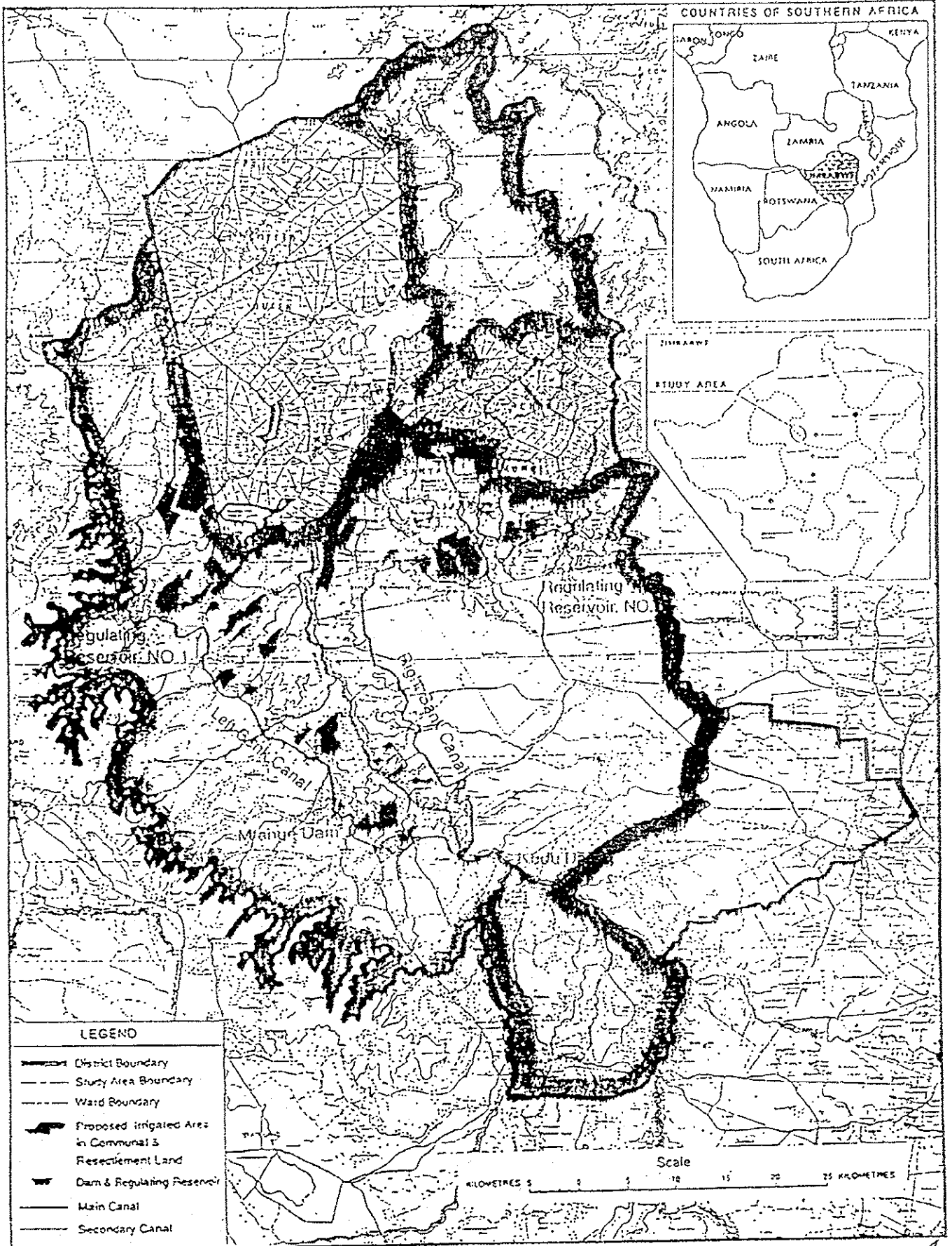
2. to pursue technology transfer to the Zimbabwe counterpart personnel in the course of

the Study.

#### IX. CONSULTATION

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

Location Map of Study Area



*K.T*

# TENTATIVE SCHEDULE

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Item																			
Works in Zimbabwe		■	■	■	■	■	■	■	■	■	■	■	■	■	■				
Works in Japan	■				■	■						■	■	■					
Phase	Phase 1						Phase 2												
Reports	▲Ic/R			▲P/R(1)			▲It/R			▲P/R(2)			Df/R▲		◎			▲F/R	

(Remarks)

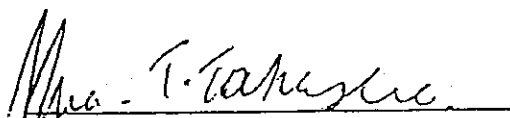
- Ic/R : Inception Report
- P/R (1) : Progress Report (I)
- It/R : Interim Report
- P/R (2) : Progress Report (II)
- Df/R : Draft Final Report
- F/R : Final Report
- ◎ : Comments on Df/R by Zimbabwe side

*[Signature]*  
K.T

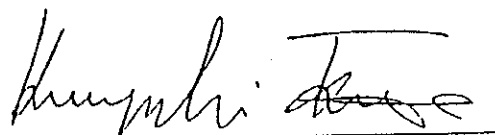
MINUTES OF MEETING  
ON  
THE SCOPE OF WORK  
FOR  
THE FEASIBILITY STUDY  
ON THE LOWER MUNYATI RIVER BASIN  
AGRICULTURAL DEVELOPMENT PROJECT  
IN  
THE REPUBLIC OF ZIMBABWE

AGREED UPON  
BETWEEN  
MINISTRY OF LANDS AND AGRICULTURE  
AND  
JAPAN INTERNATIONAL COOPERATION  
AGENCY

HARARE, 15 APRIL 1998



Dr. T. Takavarasha  
Permanent Secretary  
Ministry of Lands and Agriculture,  
The Republic of Zimbabwe



Mr. Kazuyuki TSURUMI  
Leader,  
Preparatory Study Team,  
Japan International Cooperation Agency

The preparatory study team (hereinafter referred to as "the Team") organized by Japan International Cooperation Agency (hereinafter referred to as "JICA"), and headed by Mr. Kazuyuki Tsurumi, visited the Republic of Zimbabwe from 4 April to 26 April, 1998 for the purpose of discussing and exchanging views in relation to the Scope of Work for the Feasibility Study on the Lower Munyati River Basin Agricultural Development Project in the Republic of Zimbabwe (hereinafter referred to as "the Study") with the officials concerned of the Government of the Republic of Zimbabwe (hereinafter referred to as "GOZ").

As a result of the discussions, the GOZ and the Team mutually agreed to the Scope of Work for the Study.

The following Minutes have been prepared to confirm the main issues discussed and matters agreed upon by both sides. The list of participants in a series of meetings is attached as ANNEX.

1. Both sides confirmed that the Ministry of Lands and Agriculture (hereinafter referred as "MOLA") would act as the coordinating body in relation with other governmental organizations and non-governmental organizations concerned for smooth implementation of the Study, and that MOLA would appoint the Department of Agricultural Technical and Extension Services (hereinafter referred as "AGRITEX") and also the Ministry of Rural Resources and Water Development would appoint the Department of Water Development (hereinafter referred as "DWD") as counterpart agencies to the Japanese team to be dispatched for the Study (hereinafter referred to as "the Study Team").
2. The Team requested that AGRITEX and DWD should collaborate closely for the implementation of the study. AGRITEX and DWD accepted the request.
3. The GOZ requested that Small Scale Commercial Areas should be included in the Study area.

The Team explained that if the Small Scale Commercial Areas were included in the Study area, the Study area would be too large for a feasibility study.

Both sides confirmed that the study would be carried out mainly aiming at agricultural development in the Communal and Resettlement Areas through the introduction of an irrigation system by Kudu Dam.

As a result, the GOZ agreed that the Study area should comprise three main components, that is Kudu Dam, two(2) main canals and the proposed irrigated land in Communal and Resettlement Areas of the Scope of Work.

4. Both sides recognized the importance of taking environmental aspects into consideration, and therefore confirmed that an Environmental Impact Assessment (EIA) would be carried out at an early stage of the Study and that its results would be reflected in the Study, i.e. the project would be modified to mitigate any adverse impacts on the environment.
5. Both sides confirmed that the GOZ would be responsible for the planning and implementation of displacement of the inhabitants and allocation of farm-lands.
6. Both sides confirmed that the medium-size dams proposed as one of the options in the Master Plan would not be considered in the Study. However, if it is concluded that any of those dams would play an important role as a part of the irrigation system by Kudu Dam, such medium-size dam(s) would be included in the Study.
7. For the smooth and effective implementation of the Study, both sides agreed upon the need for establishment of an Inter-Ministerial Committee consisting of representatives of the following ministries and organizations before the commencement of the Study.
  - (1) Ministry of Lands and Agriculture (Chairman)
  - (2) Ministry of Rural Resources and Water Development
  - (3) Ministry of Finance
  - (4) Ministry of Mines, Environment and Tourism
  - (5) Ministry of Local Government and National Housing

- (6) National Economic Planning Commission
- (7) Ministry of National Affairs, Employment Creation and Cooperatives
- (8) JICA Zimbabwe Office, and
- (9) The Study Team

Basically, it is expected that this Committee will meet when the Study Team comes to explain the reports.

8. It was confirmed that a map at the scale of 1/5,000 did not exist to cover the Study area. As a result, both sides agreed that the work for topographic mapping would be conducted as a part of the Study to cover the main canals and the priority project area(s).
9. The GOZ promised to assign the necessary number of counterpart personnel for each field to the Study Team from the ministries concerned.
10. The GOZ expressed difficulties in providing necessary vehicle(s), photocopy machine, personal computer and facsimile to the Study Team and requested JICA to make the arrangements. The Team promised to convey the request to the Government of Japan.
11. The GOZ agreed that the Final Report would be made available to any interested party .



## LIST OF PARTICIPANTS

## 【The Ministry of Lands and Agriculture】

Mr. T. Takavarasha	Permanent Secretary
Mr. G. Sithole	Deputy Secretary
Ms. N. Zitsanza	Chief Agricultural Economist
Mr. D. Mfote	Principal Agricultural Economist
Mr. P. Goko	Senior Agricultural Economist

## 【Department of Agricultural, Technical and Extension Services, MOLA】

Mr. J. Makadho	Director
Mr. R. Chitsiko	Deputy Director
Mrs. N. Chasi	Chief Planning Officer

## 【Department of Water Development, the Ministry of Rural Resource and Water Development】

Mr. J. H. Choga	Director
Mr. D. S. Durham	Deputy Director
Mr. P. Mashoko	Engineer

## 【Department of Natural Resources, the Ministry of Mines, Environment and Tourism】

Mrs. Chimbete	Ecologist (EIA)
---------------	-----------------

## 【The Ministry of Finance】

Mr. R. P. Kavhuru	Economist
-------------------	-----------

## 【The National Economic Planning Commission】

Mrs. T. Madziva	Economist
-----------------	-----------

## 【Preparatory Study Team】

Mr. Kazuyuki Tsurumi	Leader
Mr. Nobuhiro Moriyama	Member
Mr. Masakiyo Kohara	Member

Dr. Koji Yamanaka Member

Mr. Toshio Ogawa Member

Mr. Yoshihisa Masanaga Member

**【JICA Expert】**

Mr. S. Mitoma Irrigation Specialist, AGRITEX

**【JICA Zimbabwe Office】**

Ms. Fumiko Nakai

Mr. M. Mandiveyi

*Ms.*

*K.T*

**MINUTES OF MEETING  
ON  
THE INCEPTION REPORT  
FOR  
THE FEASIBILITY STUDY  
ON THE LOWER MUNYATI RIVER BASIN  
AGRICULTURAL DEVELOPMENT PROJECT  
IN  
THE REPUBLIC OF ZIMBABWE**

**AGREED UPON  
BETWEEN  
MINISTRY OF LANDS AND AGRICULTURE  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY**

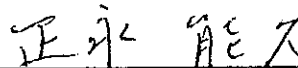
HARARE, 23 OCTOBER 1998



Dr. T. Takavarasha  
Permanent Secretary  
Ministry of Lands and Agriculture,  
The Republic of Zimbabwe



Mr. Takeshi KAWAGUCHI  
Leader,  
Study Team,  
Japan International Cooperation Agency



Mr. Y. MASANAGA  
Coordinator,  
Advisory Team,  
Japan International Cooperation Agency

An Inter-Ministerial Committee was held on 20th October 1998 in the conference room of the Ministry of Lands and Agriculture (MOLA) to discuss the contents of the Inception Report for the Feasibility Study on the Lower Munyati River Basin Agricultural Development Project in the Republic of Zimbabwe. The list of participants in the meeting is attached as an ANNEX. After discussion, the contents of the Inception Report were agreed by the Committee with confirmation of the following items :

1. That the Environmental Impact Assessment (hereinafter referred to as "EIA") will be done by the Project Executing Agency (in this case, AGRITEX/DWD), and the EIA Report will be prepared and submitted to the Ministry of Mines, Environment and Tourism for evaluation of the project implementation. The JICA Study Team will carry out the environmental impact survey as part of EIA during Phase I of the First Field Work and this survey results will be used as supporting data for the EIA Report to be prepared by AGRITEX/DWD.
2. AGRITEX/DWD will check whether the prospectus was already prepared and submitted to the Ministry of Mines, Environment and Tourism or not. If not, AGRITEX/DWD will take action immediately.
3. Since the Munyati River flows into Lake Kariba which is an international lake, the JICA Study Team asked the Zimbabwean side to confirm the necessity of notice to and consultation with related neighbouring countries. The Zimbabwean side will immediately check the necessity and inform the result to the JICA Study Team.
4. It was recognized that the previous studies including the Master Plan will be reviewed based on the basic approach to the study presented in the Inception Report in order to optimize the agricultural development plan including the irrigation plan. The project features proposed in previous studies such as irrigation area, scale of Kudu Dam, size and type of main irrigation canals, optimization of cropping patterns, etc. will be examined based on the results of the field surveys.
5. The Zimbabwean side will provide the counterpart personnel for each expert of the JICA Study Team in accordance with the assignment schedule and prepare the list of counterpart personnel by the end of October 1998.
6. The Zimbabwean side will provide the JICA Study Team with suitable office space with desks, chairs and a telephone in Kadoma by the end of October 1998.

ANNEX  
LIST OF PARTICIPANTS

**【The Ministry of Lands and Agriculture】**

Mr. T. Takavarasha	Permanent Secretary
Mr. G. Sithole	Deputy Secretary
Ms. N. Zitsanza	Chief Agricultural Economist
Mr. P. Goko	Senior Agricultural Economist
Mr. A. Mayoyo	Agricultural Economist

**【Department of Agricultural, Technical and Extension Services, MOLA】**

Mr. J. Makadho	Director
Mr. R. Chitsiko	Deputy Director
Mrs. M. Chasi	Chief Planning Officer
Mr. E. Chidenga	Chief Irrigation Officer
Mr. P. Murwisi	Irrigation Specialist

**【Department of Water Development, the Ministry of Rural Resources and Water Development】**

Mr. V. Choga	Director
--------------	----------

**【Department of Natural Resources, the Ministry of Mines, Environment and Tourism】**

Mr. J. Jamare	Ecologist
---------------	-----------

**【The Ministry of Finance】**

Mr. R. P. Kavhuru	Economist
-------------------	-----------

**【The JICA Study Team】**

Mr. T. Kawaguchi	Leader
Mr. T. Hirano	Aerial Photo Mapping
Mr. J. Tsurui	Coordinator

**【The JICA Advisory Team】**

Mr. Yoshihisa Masanaga	Staff, JICA headquarters
------------------------	--------------------------

**【JICA Expert】**

Mr. S. Mitoma	Irrigation Specialist, AGRITEX
---------------	--------------------------------


**【JICA Zimbabwe Office】**

Ms. M. Nakamura	Resident Representative
Mr. M. Mandiveyi	Staff

**MINUTES OF MEETING  
ON  
THE PROGRESS REPORT (I)  
FOR  
THE FEASIBILITY STUDY  
ON THE LOWER MUNYATI RIVER BASIN  
AGRICULTURAL DEVELOPMENT PROJECT  
IN  
THE REPUBLIC OF ZIMBABWE**

**AGREED UPON  
BETWEEN  
MINISTRY OF LANDS AND AGRICULTURE  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY**

HARARE, 12 MARCH 1999



---

Mr. G. Sithole  
Acting Secretary  
Ministry of Lands and Agriculture,  
Republic of Zimbabwe



---

Mr. Takeshi KAWAGUCHI  
Leader,  
Study Team,  
Japan International Cooperation Agency

An Inter-Ministerial Committee was held on 11th March 1999 in the Main Conference Room of the Ministry of Lands and Agriculture (MOLA) to discuss the contents of the Progress Report (I) (hereinafter referred to as "the Report") for the Feasibility Study on the Lower Munyati River Basin Agricultural Development Project in the Republic of Zimbabwe. The list of participants in the meeting is attached as an ANNEX. The meeting started at 11:00 am and ended at 13:00 with the following comments and outcomes.

1. The Agricultural Sector Investment Program and Smallholder Irrigation Support Program shall be reflected as the important background of the Project in Section 2.4, Chapter 2.
2. The Government's Agricultural Policy Framework in Section 2.4, Chapter 2 shall be read as the Zimbabwe Agricultural Policy Framework :1995-2020.
3. Provincial Governor is appointed by the President, not by the Government as is mentioned in Section 3.1, Chapter 3.
4. In addition to VIDCO, explanation on WADCO is needed in Section 3.1, Chapter 3.
5. Some river names used in Chapter 4 are old and shall be replaced with new names.
6. Water Rights in the upstream of the runoff gauging stations shall be reviewed considering the inclination to increase in recent years for the water balance study of Chapter 4.
7. AGRITEX suggested that the present organization should be used to the maximum extent for the project operation and maintenance instead of a new organization proposed tentatively in Section 5.6, Chapter 5, until it is clear what the new organization is going to do.
8. Generally Zimbabwe is located out of the earthquake area and seismic force is not considered for the design of dam as mentioned in Section 5.8, Chapter 5. However, data on the earthquakes shall be examined and be clarified whether the seismic force be considered or not for dam design, because damages caused by the catastrophic failure of the dam will be serious.
9. The environmental specialist outlined four resettlement scenarios including a possible buffer zone. Siltation risks were agreed to be minimum and the meeting agreed that the team might proceed on the basis of the Resettlement II scenario for the FSL at 950 metre contour and possibly the minimalist scenario for FSL at 940 metres. However, the Department of National Parks and Wildlife Management should be consulted again on the actual size of the buffer zone
10. The irrigation development plan will be made following the water allocation as in the Master Plan Study. Re-allocation of irrigation water shall be considered when the economic analysis is made available.

## ANNEX

### List of Participants

#### The Ministry of Lands and Agriculture

Mr. G. Sithole	Deputy Secretary
Mr. D. Mfote	A/ Chief Agricultural Economist
Mr. P. Goko	Senior Agricultural Economist
Mr. A. Mayoyo	Agricultural Economist

#### Department of Agricultural, Technical and Extension Services, MOLA

Mr. E. Chidenga	Chief Irrigation Specialist
Mr. F. Mashayamombe	District Agricultural Extension Officer
Mr. A. Dube	Irrigation Specialist
Mr. P. Murwisi	Irrigation Specialist

#### Department of Water Development, the Ministry of Rural Resources and Water Development

Mr. M. Mutede	Chief Engineer
---------------	----------------

#### Department of Natural Resources, the Ministry of Mines, Environmental and Tourism

Mr. J. Jamare	Ecologist
---------------	-----------

#### The Ministry of Finance

Mr. R. P. Kavhuru	Economist
-------------------	-----------

#### National Economic Planning Commission

Mr. G. Mamhare	Principal Economist
----------------	---------------------

#### The Ministry of Local Government and National Housing

Mr. C. Madziwa	
----------------	--

#### JICA Study Team

Mr. T. Kawaguchi	Leader
Mr. J. Bertlin	Environment
Mr. M. Ishizuka	Rural Society / Extension
Mr. T. Tanabe	Rural Infrastructure
Mr. Y. Niiikawa	Structural Design / Cost Estimation
Mr. B. N. Adhikary	Project Cost Estimation / Evaluation

#### JICA Expert

Mr. S. Mitoma	Irrigation Specialist, AGRITEX
---------------	--------------------------------

#### JICA Zimbabwe Office


Mr. T. Seki	Assistant Resident Representative
-------------	-----------------------------------




**MINUTES OF MEETING  
ON  
INTERIM REPORT  
FOR  
THE FEASIBILITY STUDY  
ON THE LOWER MUNYATI RIVER BASIN  
AGRICULTURAL DEVELOPMENT PROJECT  
IN  
THE REPUBLIC OF ZIMBABWE**

**AGREED UPON  
BETWEEN  
MINISTRY OF LANDS AND AGRICULTURE  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY**

HARARE, 16 SEPTEMBER, 1999

  
\_\_\_\_\_  
Dr. T. TAKAVARASHA  
Permanent Secretary  
Ministry of Lands and Agriculture,  
Republic of Zimbabwe

  
\_\_\_\_\_  
Mr. Takeshi KAWAGUCHI  
Leader,  
Study Team,  
Japan International Cooperation Agency

  
\_\_\_\_\_  
Mr. Hideo OSAWA  
Leader,  
Advisory Team,  
Japan International Cooperation Agency

1. Date and Time: September 9, 1999  
9:00 a.m. - 11:00 a.m.
2. Place: Main Conference Room of the Ministry of Lands and Agriculture  
(MOLA), Harare
3. Attendants: See ANNEX
4. Summary of Discussions:

The JICA Study Team submitted 20 copies of the Interim Report to MOLA in accordance with the "Scope of Work (S/W) for the Feasibility Study on the Lower Munyati River Basin Agricultural Development Project in the Republic of Zimbabwe" agreed upon between MOLA and JICA on April 15, 1998.

The meeting on the Interim Report was held between Inter-Ministerial Committee for the Project (hereinafter referred to as "the Committee") and the JICA Study Team. The meeting was chaired by Mr. D. Mfote, Acting Chief Agricultural Economist, MOLA. Mr. T. Kawaguchi, Leader of the JICA Study Team, explained contents of the Interim Report to the attendants at the meeting. After the presentation of Mr. T. Kawaguchi, various discussions were made between the Committee and the JICA Study Team, and the Interim Report was accepted by the Committee with the mutual confirmation on the following points:

- (1) The Committee accepted the proposed project scale which has been decided as Case-1 with the dam height of 72.7 m and the irrigation area of 25,000 ha covering communal/resettlement areas and small/large scale commercial farms.
- (2) The Committee accepted the establishment of pilot project in each area of Nyarupakwe and Seke. However, the Committee requested that AGRITEX, together with the JICA Study Team, should make further confirmation on the availability of the Seke area for the establishment of pilot project.
- (3) The Committee accepted the establishment of the proposed new organisation for project operation and maintenance. The JICA Study Team agreed to change the name of the proposed organisation to "the Lower Munyati Agricultural Development Authority" instead of "the Lower Munyati River Basin Authority".
- (4) The Committee pointed out that the confirmation of actual needs of irrigation water in the small scale and the large scale commercial farms would be required, and it would be carried out by the Zimbabwean side.

- (5) In relation to the issue of environmental impact on Lake Kariba due to the construction of Kudu Dam, the JICA Study Team asked the Committee the progress of necessary notice which had to be made to the related neighbouring countries. The Committee answered that necessary actions would be taken immediately and its result would be communicated to the JICA Study Team before the commencement of the Phase II study.
- (6) In the light of the importance of further survey on water quality, the JICA Study Team asked the Committee to check the existing data on water quality analysis in and around the study area conducted by the Government agencies so far. The Committee agreed to check the data immediately. In addition, the Committee promised to confirm the availability of laboratories equipped with facilities for the analysis of heavy metals, e.g. mercury and lead.
- (7) The Committee requested that the organisational structure of AGRITEX presented in Fig. 3.10.1 of the Interim Report should be updated to reflect recent changes. The JICA Study Team agreed on it.
- (8) In the context of reform and change in Government policy and organisational structure, the JICA Study Team requested early provision of this information which might affect project institutional arrangements and design. The Committee agreed to keep the JICA Study Team informed of these developments.
- (9) The JICA Study Team drew attention to the commitment (Inception Meeting Minutes, October 23, 1998) of the project executing agencies, DWD and AGRITEX, to undertake EIA with assistance from the JICA Study Team. Procedures and mechanisms for resettlement of households in the submerged area and re-allotment of irrigable land will be set out by DWD, AGRITEX and the Ministry of Local Government and National Housing (MLGNH) with assistance from the JICA Study Team. The Committee agreed that DWD, AGRITEX and MLGNH will prepare outline plans and cost estimates during the Phase II study period.



OS  
lu

## ANNEX

### List of Attendants

#### Ministry of Lands and Agriculture (MOLA)

Dr. T. Takavarasha	Permanent Secretary
Mr. D. Mfote	Acting Chief Agricultural Economist
Mr. P. Goko	Senior Agricultural Economist
Mr. C.T. Bwewe	Agricultural Economist
Mr. A. Mayoyo	Agricultural Economist

#### Department of Agricultural, Technical and Extension Services, MOLA

Mr. R. Chitsiko	Deputy Director
Mr. E. Chidenga	Chief Irrigation Specialist
Mr. A. Dube	Senior Irrigation Specialist, Midlands Province
Mr. P. Murwisi	Senior Irrigation Specialist, Mashonaland West Province
Ms. E. Berejena	Irrigation Specialist
Mr. L. Tirivanwe	Irrigation Specialist
Mr. T. Katsumi	Irrigation Specialist, JICA Expert

#### Department of Water Development, Ministry of Rural Resources and Water Development

Mr. M. Mutede	Chief Engineer
Mr. H. Makurira	Planning Engineer

#### Department of Natural Resources, Ministry of Mines, Environmental and Tourism

Mr. J. Jamare	Ecologist
---------------	-----------

#### JICA Advisory Team

Mr. H. Osawa	Leader
--------------	--------

#### JICA Study Team

Mr. T. Kawaguchi	Leader
Mr. M. Ishizuka	Rural Society / Extension
Mr. J. Bertlin	Environment

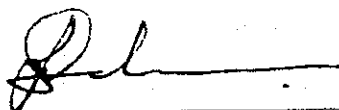
#### JICA Zimbabwe Office

Mr. T. Sato	Resident Representative
-------------	-------------------------

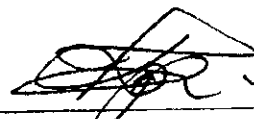
**MINUTES OF MEETING  
ON  
PROGRESS REPORT (II)  
FOR  
THE FEASIBILITY STUDY  
ON THE LOWER MUNYATI RIVER BASIN  
AGRICULTURAL DEVELOPMENT PROJECT  
IN  
THE REPUBLIC OF ZIMBABWE**

**AGREED UPON  
BETWEEN  
MINISTRY OF LANDS AND AGRICULTURE  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY**

HARARE, 12 JUNE, 2000



Mr. Basilio SANDAMU  
Deputy Secretary,  
Policy and Planning Division,  
Ministry of Lands and Agriculture



Mr. Takeshi KAWAGUCHI  
Leader,  
Study Team,  
Japan International Cooperation Agency

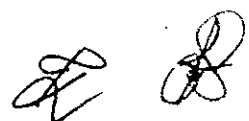
1. Date and Time: June 8, 2000  
14:30-16.00
2. Place: Main Conference Room of the Ministry of Lands and Agriculture  
(MOLA), Harare
3. Attendants: See ANNEX
4. Summary of Discussions:

The JICA Study Team submitted 20 copies of the Progress Report (II) to MOLA in accordance with the "Scope of Work (S/W) for the Feasibility Study on the Lower Munyati River Basin Agricultural Development Project in the Republic of Zimbabwe" agreed upon between MOLA and JICA on April 15, 1998.

The meeting on the Progress Report (II) was held between Inter-Ministerial Committee for the Project (hereinafter referred to as "the committee") and the JICA Study Team. The meeting was chaired by Mr. D. Mfote, Acting Chief Agricultural Economist, MOLA. Mr. T. Kawaguchi, Leader of the JICA Study Team, explained the contents of the Progress Report (II) to the attendants at the meeting. The Report was accepted by the committee with the following comments and amendments.

- (1) The height of the proposed upstream dam should be raised to 4.5 m from 3m to recover the loss from evaporation and sedimentation.
- (2) Sentences in page S-5 (b) Irrigation Development Plan, that explains the selection criteria as location, topography, soil and desirability should be omitted.
- (3) Possibility of 24 hours irrigation will be further studied in homework in Japan.
- (4) Third (3) paragraph in page 4-18 should be omitted because there will be irrigation losses if the farmers do not come to irrigate during inconvenient time.
- (5) A crises management plan should be considered at 20 percent risk level.
- (6) Brass-made pipe (P 3-18) should be replaced with galvanized pipe.
- (7) Ministry of Mine, Environment and Tourism (MMET) and National Economic Planning Commission (NEPC) should be included in Inter-Ministerial Steering Committee.
- (8) It is desirable to include RDC and NRB in the Technical Coordination Committee.
- (9) It should be clearly specified which departments should be included in the Project Implementation Unit.

- (10) Implementation agency and tender arrangements should be specified.
- (11) Traditional leaders should be included in the Project Management Committee.
- (12) Full O&M of dam and main canal to field edge will be done by DWD (ZINWA), if farmers pay the full cost of water.
- (13) Cultural and archaeological assessment should be included in the report.
- (14) Legends for T 4.10.1 should be included.
- (15) Last paragraph in 4.10.2 should be omitted because conservation measures are always needed.
- (16) Land exchange program should be done in consultation with the District Administrator (DA) who is the chairperson of the Resettlement Committee at District level, and the Rural District Council.
- (17) Compensation for the affected households should be mentioned.



## List of Attendants

### Ministry of Lands and Agriculture (MOLA)

Mr. D. Mfote Acting Chief Agricultural Economist

Mr. A. Mayoyo Agricultural Economist

### Department of Agricultural, Technical and Extension Services, MOLA

Mr. E. Chidenga Chief Irrigation Specialist

Mr. A. Dube Principal Irrigation Specialist, Midlands Province

Mr. L. Tirivamwe Irrigation Specialist

Mr. T. Katsumi Irrigation Specialist, JICA Expert

### Department of Water Development, Ministry of Rural Resources and Water Development

Mr. D. S. Durham Deputy Director

### Department of Natural Resources, Ministry of Mines, Environmental and Tourism

Mr. J. Jamare Senior Ecologist of Department of Natural Resources

### National Economic Planning Commission

Ms. J. Madziva Principal Economist

### Ministry of Local Government and National Housing

Mr. J. Mugabe Principal Administrative Officer

### JICA Study Team

Mr. T. Kawaguchi Leader

Mr. T. Shiraki Rural Society / Extension

Mr. A. R. Maclaurin Livestock

Mr. Y. Niikawa Structural Design / Cost Estimation

Mr. B. N. Adhikary Project Cost Estimation / Evaluation

### JICA Zimbabwe Office

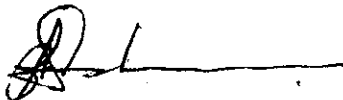
Mr. S. Kadowaki Assistant Resident Representative



**MINUTES OF MEETING  
ON  
DRAFT FINAL REPORT  
FOR  
THE FEASIBILITY STUDY  
ON THE LOWER MUNYATI RIVER BASIN  
AGRICULTURAL DEVELOPMENT PROJECT  
IN  
THE REPUBLIC OF ZIMBABWE**

**AGREED UPON  
BETWEEN  
MINISTRY OF LANDS, AGRICULTURE AND RURAL RESETTLEMENT  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY**

HARARE, 13 OCTOBER, 2000



---

Mr. B. SANDAMU  
Deputy Secretary,  
Ministry of Lands, Agriculture and Rural  
Resettlement,  
Republic of Zimbabwe



---

Mr. Takeshi KAWAGUCHI  
Leader,  
Study Team,  
Japan International Cooperation Agency

1. Date and Time: October 10, 2000  
8:50 a.m. - 10:50 a.m.
2. Place: Main Conference Room of the Ministry of Lands, Agriculture and Rural Resettlement (MLARR)
3. Attendants: See ANNEX
4. Summary of Discussions:

The JICA Study Team submitted 30 copies of the Draft Final Report to MLARR in accordance with the "Scope of Work (S/W) for the Feasibility Study on the Lower Munyati River Basin Agricultural Development Project in the Republic of Zimbabwe" agreed upon between MLARR and JICA on April 15, 1998.

The meeting on the Draft Final Report was held between Inter-Ministerial Committee for the Project (hereinafter referred to as "the Committee") and the JICA Study Team. The meeting was chaired by Mr. B. Sandamu, Deputy Secretary, MLARR. Mr. T. Kawaguchi, Leader of the JICA Study Team, explained contents of the Draft Final Report to the attendants at the meeting, focussing on some recommended changes from the previous reports that the JICA Study Team prepared and submitted to the Zimbabwean side.

After the presentation of Mr. T. Kawaguchi, various discussions were made between the Committee and the JICA Study Team, and the Draft Final Report was accepted by the Committee with the mutual confirmation on the following points:

- (1) Only one result of the water quality analysis should be presented in Table 3.1.7 in page T-8.
- (2) Instead of the terminology of "irrigating", "water charge" should be used in Table 3.2.4 in pages from T-21 to T-29.
- (3) The operation and maintenance (O&M) cost have to be itemised for making clear the differences between the gravity and pump irrigation.
- (4) Labour for irrigation should be considered for all the proposed crops in Table 3.2.2 in page T-17.
- (5) The target crop yields in page 3-69 were accepted, but more justification should be made using available statistical data.
- (6) Establishment of LMADA is accepted, but sustainability of organisation has to be evaluated.

- (7) The cost of water including water levy could increase to Z\$ 561 per 1,000m<sup>3</sup> within four years from the current Z\$ 310 per 1,000m<sup>3</sup>. This condition should be considered in the financial analysis made on farmers' economy.

After the discussions, Mr. T. Kawaguchi proposed to the committee that the Zimbabwean side would provide JICA with its further comments on the Draft Final Report by the end of October 2000. The committee agreed to the proposal.



## ANNEX

### List of Attendants

#### Ministry of Lands, Agriculture and Rural Resettlement (MLARR)

Mr. B. Sandamu Deputy Secretary  
Mr. A. Mayoyo Agricultural Economist

#### Department of Agricultural, Technical and Extension Services, MLARR

Mr. R. Chitsiko Deputy Director  
Mr. E. Chidenga Chief Irrigation Specialist  
Mr. A. Dube Senior Irrigation Specialist, Midlands Province  
Mr. T. Katsumi Irrigation Specialist, JICA Expert

#### Department of Land, Agriculture and Rural Resettlement, MLARR

Mrs. S. C. Tsvakwi Chief Land Officer

#### Department of Water Development, Ministry of Rural Resources and Water Development


Mr. M. Mugumo Planning Engineer

#### JICA Study Team

Mr. T. Kawaguchi Leader  
Mr. M. Ishizuka Rural Society / Extension

#### JICA Zimbabwe Office

Mr. M. Mandiveyi Program Officer









JICA