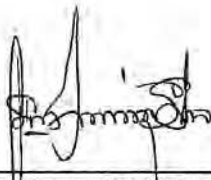


*Scope of Work
for
The Study on Groundwater Resources Development and Management
in the Internal Drainage Basin
in
the United Republic of Tanzania*

Agreed upon between
*Ministry of Water and Livestock Development
and
Japan International Cooperation Agency*

Dar es Salaam, November 29, 2004



Mr. Vincent F. Mrisho
Permanent Secretary,
Ministry of Water and Livestock Development

**PERMANENT SECRETARY
MINISTRY OF WATER AND
LIVESTOCK DEVELOPMENT**

Witnessed by



Mr. Audifax A. Choma
Deputy Commissioner,
External Finance Department,
Ministry of Finance

**For: PERMANENT SECRETARY
THE TREASURY**



Ms. YAMAMOTO Keiko
Leader,
Preparatory Study Team,
Japan International Cooperation Agency

I. INTRODUCTION

In response to the official request of the Government of the United Republic of Tanzania (hereinafter referred to as "the Government of Tanzania") for the technical cooperation on the Study on Groundwater Resources Development and Management in the Internal Drainage Basin (hereinafter referred to as "the Study"), the Government of Japan decided to conduct the Study in accordance with 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 the technical cooperation programs of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of the Government of Tanzania.

The present document sets forth the scope of work with regard to the Study and will be valid after the approval by the executive board of JICA.

II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. to formulate hydrogeological map with necessary information for development and management plan of water resources and water supply for Internal Drainage Basin areas,
2. to develop the capability of counterpart personnel of Ministry of Water and Livestock Development (hereinafter referred to as "MoWLD") and other authorities concerned in the course of the Study.

III. STUDY AREA

The Study will cover the Central Internal Drainage Basin area extending to Arusha, Shinyanga, Manyara, Dodoma, Singida and Tabora regions as shown in Annex I.

IV. SCOPE OF THE STUDY

- (1) Collection and Review of Existing Data
 - (a) Social and socio-economic condition
 - (b) Natural condition
 - (c) Existing database related to water supply such as;
 - a) Identification of the types of the existing water supply system and its working condition,
 - b) Methodology of water intake, purification, pumping and distribution
 - c) Water users condition,
 - d) Operation and maintenance condition,
 - e) Water tariff, tariff collection system, collection rate, management system of collected tariff and initial cost of the water resources development
 - (d) Existing report of the technology of defluoridation and other information concerning with fluoride problem
 - (e) Existing institutional alignment for water resource development, water supply, sanitation, and their operation, maintenance and management
 - (f) Socio-economic development plan, and other development policies and plans
 - (g) Existing water supply plan

- (h) Preparation of the inventory sheets of water supply facilities of the Regions based on the above results
- (2) Additional field survey for confirmation of the existing data
 - (a) Immediate water quality survey
 - (b) Other necessary survey
- (3) Detailed survey for the selected area
 - (a) Water quality survey
 - (b) Survey on health condition in the fluoride affected area
 - (c) Other necessary survey
- (4) Analysis of the above data
- (5) Technical assistance on Initial Environmental Examination (IEE) for environmental and social consideration (including public consultation with communities and stakeholders, if necessary)
- (6) Formulation of the hydrogeological map with groundwater potential, water quality, depth to the aquifer and other necessary information

V. SCHEDULE OF THE STUDY

The Study will be carried out in the period of 2 years in accordance with the tentative schedule as attached in Annex II.

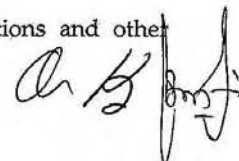
VI. REPORTS

JICA shall prepare and submit the following reports in English to the Government of Tanzania.

1. Inception Report:
Twenty five (25) copies will be submitted at the commencement of the Study in Tanzania.
2. Progress Report:
Twenty five (25) copies will be submitted immediately after the additional field survey for confirmation of the existing data. The report contains the outcome of the study, which will include the conceptual map with the result of immediate water quality survey.
3. Interim Report:
Twenty five (25) copies will be submitted immediately after the detailed survey for the selected area.
4. Draft Final Report:
Twenty five (25) copies will be submitted at the commencement of final survey in Tanzania. The report contains the outcome of the study, which will include the hydrogeological map. The Government of Tanzania shall submit its comments within one (1) month after the receipt of the Draft Final Report.
5. Final Report:
Fifty (50) copies will be submitted within one (1) month after the receipt of the comments on the Draft Final Report.

VII. UNDERTAKINGS OF THE GOVERNMENT OF TANZANIA

1. The Government of Tanzania shall accord privileges, exemptions and other

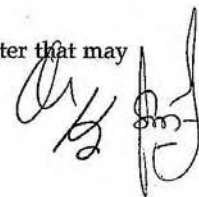


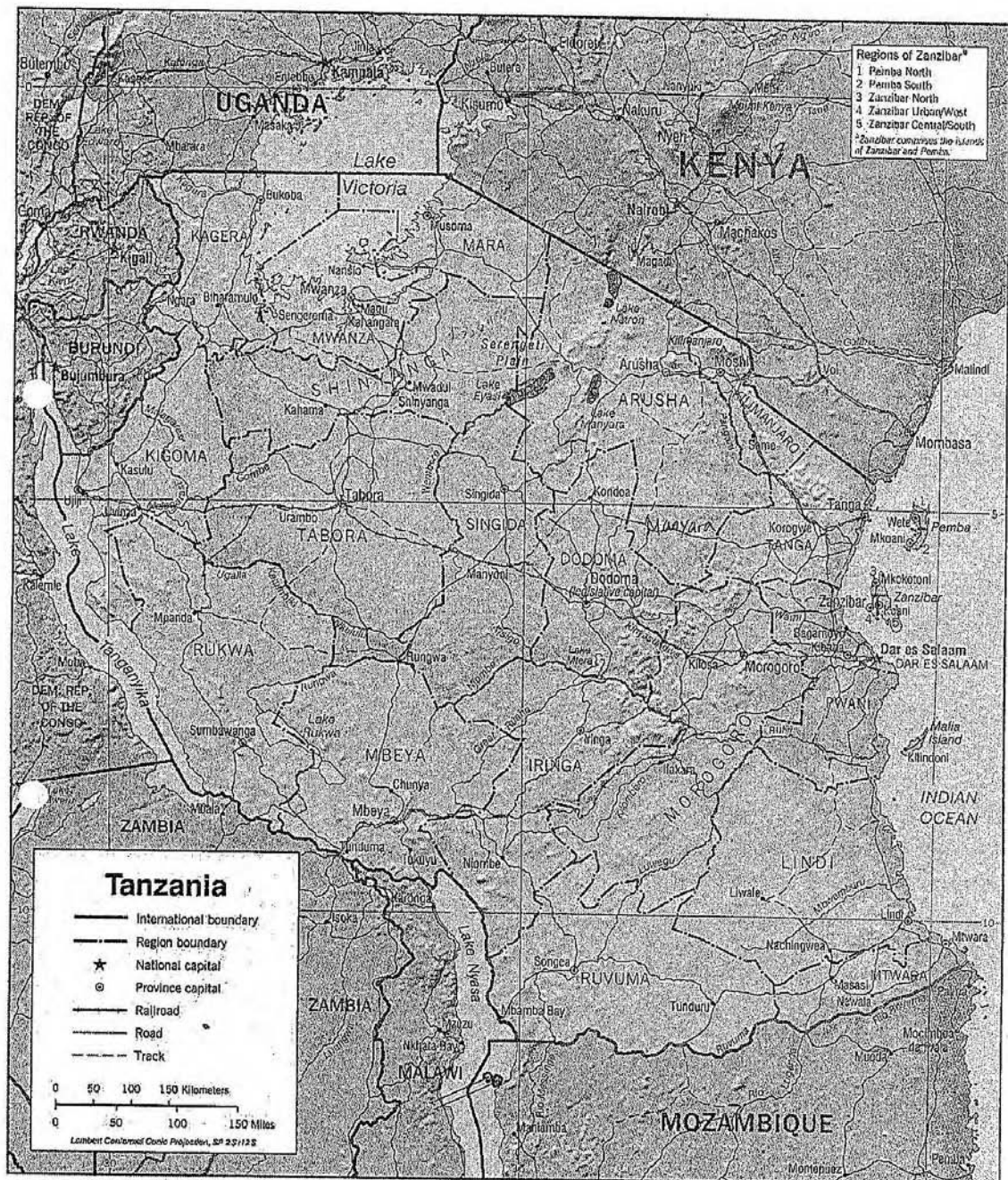
benefits to the Japanese study team (hereinafter referred to as "the Team") in accordance with the Agreement on Technical Cooperation between the Government of Japan and the Government of the United Republic of Tanzania, signed on November 2, 2004.

2. The Government of Tanzania shall bear claims, if any arises, against the members of the 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 Team.
3. MoWLD shall act as counterpart agency to the Team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.
4. MoWLD shall, at its own expense, provide the Team with the following, in cooperation with other organizations concerned:
 - (1) security-related information on as well as measures to ensure the safety of the Team,
 - (2) information on as well as support in obtaining medical service,
 - (3) available data, information and studies related to the Study,
 - (4) counterpart personnel,
 - (5) suitable office space with necessary office equipment and furniture,
 - (6) credentials or identification cards, and
 - (7) appropriate numbers of vehicles with drivers.

VIII. CONSULTATION

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





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Study on Groundwater Resources Development and Management in the Internal Drainage Basin
TENTATIVE SCHEDULE

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Work Schedule	(1)	(2)					(3)										(4), (6)							
Report	▲ IC/ R						▲ P/R										▲ IT/R					▲ DF/ R		▲ F/R

<NOTE>

IC/R: Inception Report

P/R: Progress Report

IT/R: Interim Report

DF/R: Draft Final Report

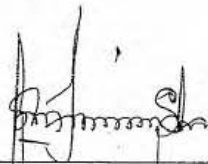
F/R: Final Report

*Minutes of Meetings
on
the Scope of Work
for
The Study on Groundwater Resources Development and Management
in the Internal Drainage Basin
in
the United Republic of Tanzania*

Agreed upon between

*Ministry of Water and Livestock Development
and
Japan International Cooperation Agency*

Dar es Salaam, November 29, 2004



Mr. Vincent F. Mrisho
Permanent Secretary,
Ministry of Water and Livestock Development



Ms. YAMAMOTO Keiko
Leader,
Preparatory Study Team,
Japan International Cooperation Agency

PERMANENT SECRETARY
MINISTRY OF WATER
LIVESTOCK DEVELOPMENT

Witnessed by



Mr. Audifax A. Choma
Deputy Commissioner,
External Finance Division,
Ministry of Finance

PERMANENT SECRETARY
THE TREASURY

In response to the official request of the Government of the United Republic of Tanzania (hereinafter referred to as "the Government of Tanzania"), the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Study Team (hereinafter referred to as "the Team"), headed by Ms. YAMAMOTO Keiko, to Tanzania from November 15 to December 21, 2004 to discuss the Scope of Work (hereinafter referred to as "the S/W") for the Study on Groundwater Resources Development and Management in the Internal Drainage Basin (hereinafter referred to as "the Study").

During the Study period, the Team held a series of meetings with Ministry of Water and Livestock Development (hereinafter referred to as "MoWLD") and other authorities concerned and conducted site survey on the Study. The list of those who attended these meetings is shown in the Annex.

As a result of the discussions, both sides came to an agreement on the S/W, which was signed on November 29, 2004.

The Minutes of Meetings have been prepared for the better understanding of the S/W. Both sides agreed and confirmed the following points for the smooth implementation of the Study.

1. Contents of the Study

- (1) Both sides agreed that the Study consists of collection and review of the existing data, and additional and detailed survey in order to formulate hydrogeological map of the Internal Drainage Basin.
- (2) Both sides agreed that the contents of the Study do not include the cooperation for the development of irrigation facilities which were requested by the Government of Tanzania.

2. Survey on health condition in the fluoride affected area

- (1) Both sides agreed that the survey on health condition in the fluoride affected area will be done in the Study in order to grasp the actual adverse health effects on the inhabitants by fluoride.
- (2) MoWLD requested the Team that the Study include a recommendation for mass production of bone-char for removing the fluoride from water at household level.

3. Counterpart personnel

Both sides agreed that MoWLD would allocate the necessary number of counterpart personnel based upon the composition of the Study Team. JICA Tanzania Office will notify when the Study Team member is determined, and based on the number of personnel and field in charge, the Tanzanian side will submit the counterpart member list to JICA Tanzania Office by the end of February 2005.

4. Steering Committee

Both sides agreed that the Tanzanian side would establish a Steering Committee, chaired by the Director of the Division of Water Resources Assessment and Exploration, MoWLD.

The committee will be comprised of the related organizations such as MoWLD (Director of Water Resources Assessment and Exploration, Director of Rural Water Supply, Director of Policy and Planning, Director of Water Laboratory), Ministry of Health, Internal Drainage Basin Water Officer in Singida, each Water Engineer of 6 Regional Secretariats, each District Water Engineer, Ngurdoto Defluoridation Research Station and so on. The committee meetings will be held at least twice a year.

5. Reports

Both sides agreed that Final Report should be open to the general public in order to share the Study results with relevant organizations as many as possible.

6. Environmental and Social Consideration

The Team explained the background and the present situation related to the revision of JICA's environmental and social consideration guidelines, and that the new guidelines for environmental and social consideration will be applied to the Study.

The government of Tanzania understood the policy of JICA's guidelines, and agreed in principle to the following responsibilities and requirements.

- (1) Based on the guidelines, the Government of Tanzania shall be responsible for conducting Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) in collaboration with JICA. The necessary activities required for IEE and EIA shall be carried out by MoWLD.
- (2) JICA shall provide MoWLD with technical support in order to conduct IEE and EIA.
- (3) In the course of conducting IEE and EIA, public consultation with communities and stakeholders shall be included if necessary.
- (4) The disclosure of information such as Study Reports is necessary to ensure the participation and dialogues with various stakeholders, in order to achieve appropriate environmental and social considerations.

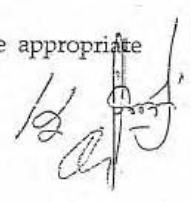
7. Office Space

MoWLD agreed to provide adequate office space, necessary office equipment and furniture at the base site of the Study such as Internal Drainage Basin Water Office in Singida.

8. Vehicles

MoWLD requested the Team that the Japanese side arranges the appropriate numbers of vehicles with drivers.

The Team would convey this request to JICA Headquarters.



ATTENDANCE LIST

TANZANIAN SIDE**Ministry of Water and Livestock Development (MoWLD)**

Mr. Vincent Mrisho	Permanent Secretary
Dr. Charles W. Nyamrunda	Deputy Permanent Secretary
Mr. Butingo Luhumbika	Director, Division of Water Resource Assessment and Exploitation (DWRAE)
Mr. Lister R.E. Kongola	Assistant Director, DWRAE
Mr. Julius Mihayo	Assistant Director, DWRAE
Mr. Kenny Meshack Mpanda	Senior Hydrogeologist, DWRAE
Dr. Samson Mpanda	Senior Hydrogeologist, DWRAE
Mr. Gerard M. P. Mushi	Principal Hydrologist, DWRAE
Mr. Nicholas Senge	Technician, Topography
Mr. A. I. Kiwindu	Technician, Division of Water Laboratory
Mr. Godfrey B. Mkongo	Ngurdoto Defluoridation Research Station
Mr. Erick Njau	Water Lab. Technician, Hanang DWE Office

Ministry of Finance

Mr. Audifax A. Choma	Deputy Commissioner, External Finance Division
Ms. Ngingite	Japan Desk

Ministry of Agriculture and Food Security

Mr. M. Futakamba	Assistant Director, Department of Irrigation and Technical Services
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Ministry of Health

Dr. H. J. Mosha	Chief Dental Surgeon, Dental Department
Dr. Rafael A. Senkoro	Deputy Chief Dental Surgeon, Dental Department

Internal Drainage Basin

Mr. Joseph Nasari	Internal Drainage Basin Water Officer
Mr. Jacob J. Sapali	Dodoma Urban Water Supply, Technical Manager
Mr. Hamza Bwanguzo	Dodoma Urban Water Supply, Water Production Engineer

JAPANESE SIDE**JICA Preparatory Study Team**

Ms. Yamamoto Keiko	Leader
Mr. Haley H. Minakami	Member (Rural Water Supply Planning / Environmental and Social Consideration)
Mr. Takuya Yabuta	Member (Groundwater Development)
Mr. Yosuke Sasaki	Member (Water Quality Survey)
Mr. Hidetake Aoki	Member (Study Planning / Preparatory Evaluation)

JICA Tanzania Office

Ms. Kaori Matsushita	Assistant Resident Representative
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