資料１．　要請書

Nishi, U
O. Iwanaga
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(291)

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF FINANCE

Telegrams: "TREASURY", Dar es Salaam,
Tel:2111174/6, Fax 2110326. Telex:41329.
(All Official communications should be addressed to the Permanent Secretary to the Treasury and NOT to individuals).

In reply please quote:

P.O. Box 9111,
DAR ES SALAAM;
TANZANIA.

Ref. No: TYC/E/450/11/09

26th July, 2007

The Embassy of Japan,
P. O. Box 2577,
DAR ES SALAAM.

Dear Sir,

RE: APPLICATION FOR JAPAN'S TECHNICAL COOPERATION

Please refer to the above mentioned subject.

The Government of the United Republic of Tanzania sets the development of Rural Water Supply as a direct strategy for improvement of health and sanitary conditions, and makes it a social target for reduction of poverty.

You might be aware that the water supply service coverage in Tanzania remains at low level apparently averaging 54% in the rural area and 73% in the urban area.

We understand that the Japanese Government through Japan International Cooperation Agency (JICA) has shown interest in assisting Tabora region, by conducting a water development study in the said region. We believe that the outcome of the study will identify sources of water and come up with district water supply plans. This planning will be done within the framework of the ongoing Water Sector Development Programme.

In view of the above, the Government of the United Republic of Tanzania request the Government of Japan to provide assistance through conducting the study in order to evaluate water resources potential, especially for the ground water. To this end we are hereby attaching the project proposal document for more details and necessary action.

Thanking you for your continued cooperation.

M. N. Ngingite

M. N. Ngingite
For: PERMANENT SECRETARY – TREASURY

c.c. Resident Representative,
JICA – Tanzania Office,
DAR ES SALAAM.

MINISTRY OF WATER

THE STUDY ON RURAL WATER SUPPLY IN TABORA REGION IN THE UNITED REPUBLIC OF TANZANIA

AN APPLICATION FOR THE TECHNICAL COOPERATION
(DEVELOPMENT STUDY)

JULY 2007

DEPARTMENT OF COMMUNITY WATER SUPPLY
P.O.Box 9153
Dar es Salaam
Tanzania

E-mail: drws@ruralwater.go.tz

DAR ES SALAAM
TANZANIA

APPLICATION FOR JAPAN'S DEVELOPMENT STUDIES

Date of entry: May 2007

Applicant: The Government of United Republic of Tanzania

1. Project digest

(1) Project Title
The Study on Rural Water Supply in Tabora Region

(2) Location
Whole rural area of Tabora region consists of 6 districts of Nzega, Igunga, Uyui, Urambo, Sikonge and Tabora Rural. The Tabora Urban capital can be reached within one hour by Flight from Dar es Salaam. (Please refer to annex-1, location map.)

(3) Implementing Agency:

i) Name of Agency
The Department of *Community Water Supply*, Ministry of Water (MoW)

ii) Number of Staff of the Agency
There are *36* Engineers and *182* Technicians/Mechanics in the central organization, 4 Engineers in Tabora region Secretariat, 3 Engineers and 35 Technicians/mechanics in the 6 districts in the Region. Therefore, totaling 65 engineers and 169 technicians/mechanics in relation with rural water supply in the concerned area.
For details of agency such as organization, Number of staff and annual budget, please refer to annex-2, organization chart)

ii) Budget allocated for the Agency
The budget allocated to the Agency (Ministry of Water) for the development of water for fiscal year 2005/2006 is 95,594,207 USD. The Table 1 indicates the transition of the budget during the past three fiscal years (i.e. 2002/03, 03/04, 04/05 and 05/06), along with percentage in total amount of each internal and external budget.

Table 1 Development Budget for Water Sector during the Past Three Years (Unit: USD)

Items	2002/2003				2003/2004				2004/2005				2005/2006			
	Budget				Budget				Budget				Budget			
	Internal	%	External	%	Internal	%	External	%	Internal	%	External	%	Internal	%	External	%
Reseach, Planning and Training	955,041	31	2,888,573	10	752,000	12	4,469,307	13	697,968	2	3,845,100	6	934,048	2.0	2,479,365	6.0
Commecial Water Supply and Sewerage	1,075,902	35	17,904,342	63	4,286,714	66	12,368,571	36	27,033,333	93	42,000,901	62	50,477,778	93	18,356,032	44
Community Water Supply	1,038,825	34	7,861,447	27	1,425,501	22	17,888.19	51	1,271,429	5	21,963,773	32	2,630,159	5.0	20,716,825	50
Total	3,069,768	100	28,654,362	100	6,464,215	100	34,726,068	100	29,002,720	100	67,809,774	100	54,041,985	100	41,552,222	100
Grand Total	31,724,130				41,190,283				96,812,490				95,594,207			

As shown in Table 1, there is considerable steep rise in total amount of budget from the FY 2003/04 to 2004/05. It is because of sharp increase of budget in its sub-sector of Urban Water Supply and Sewerage. However, the internal budget allocated for other sub-sectors including the Rural Water Supply, are rather stable. It is therefore, the implementation of the Plan requires additional grants from External Supporting Agencies (ESAs).

(4) Justification of the Project

i) Present conditions of the sector:

The Government of the United Republic of Tanzania, sets the development of rural water supply as direct strategy for the improvement of health and sanitary conditions, and makes a political target by revised National Water Policy (2002) and National Strategy for Growth and Reduction of Poverty (2003).

According to the Policy, the government target is for "every person should get water within 400 meters distance by 2025". Furthermore, as a reform of the operation system of the water supply projects, the measures consisting 1) community-owned management of the scheme, 2) participation of private sector organizations for the operation and maintenance of the scheme, 3) integrate water supply into the strategy for national hygiene promotion, 4) strengthening decentralized planning, project implementation and management through local government are promoting.

Based on the Policy, the Ministry of Water has finalized preparation of the National Water Sector Development Strategy (NWSDS), for implementing National Water Policy and National Strategy for Growth and Reduction of Poverty (2003). Following preparation of the Strategy, the Ministry has prepared a Water Sector Development Programme (WSDP), as the definite programme of the Policy and the Strategy.

The water supply service coverage in Tanzania remains at low level apparently averaging 54% in the rural area and 73% in the urban area. Tabora region, situated in mid-western part of Mainland Tanzania, is the most undeveloped region in the country in terms of rural water supply. As shown in Fig. 1, the water supply coverage ratio in Tabora region is the worst among the country, it is only 32.5 %.

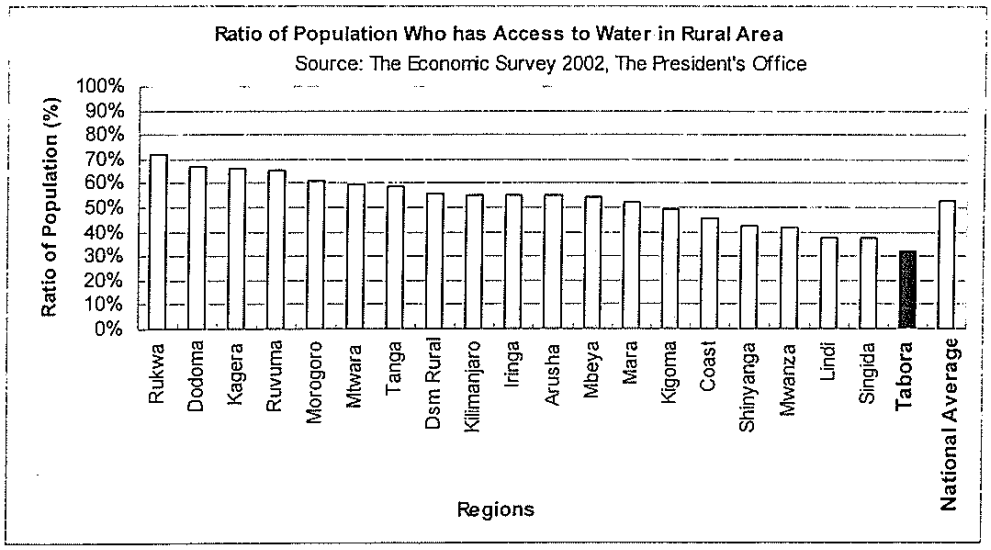


Fig.1 Ratio of Population who has Access to Water in Rural Area

One of the main reasons of this situation is difficulty of development water source. The annual rainfall in Tabora is recorded as 960 mm (2002), which is lower than the country average of 1100 mm. Such rainfall scarcity and unreliability place a constraint on water availability for domestic needs especially in rural area. Accordingly, there is limitation of the surface water availability in the area. Among 743 existing rural water supply schemes in Tabora, 709 schemes are wells of that source are from groundwater, 18 from rainwater, 11 from dams, 4 from springs, and only 1 from river. This allocation suggests that the water source depends heavily on groundwater. However, the comprehensive groundwater resources potential study has not been conducted. Furthermore, groundwater exploration is not easy, due to the discontinuous hydrogeological conditions in the area. Accordingly, water use in the area is not efficient at present.

The other problem is due mainly to existence of numbers of aged supply facilities constructed 20 to 30 years ago. Decrepit facilities require immeasurable costs for the maintenance. However, due to lack of budget for maintenance work, many of the facilities are not satisfactorily functioning. Under such situation, many of inhabitants in rural area still depend heavily on the unprotected water sources having the risk of contamination. Fig.2 shows the percentage of households using protected water sources. The protected water sources include wells or springs that have been protected by enclosing the source to prevent contamination. As shown in Fig.2, in Tabora region, the percentage of households using protected water source is modest 25%, which is far lower than that of national average of 54%.

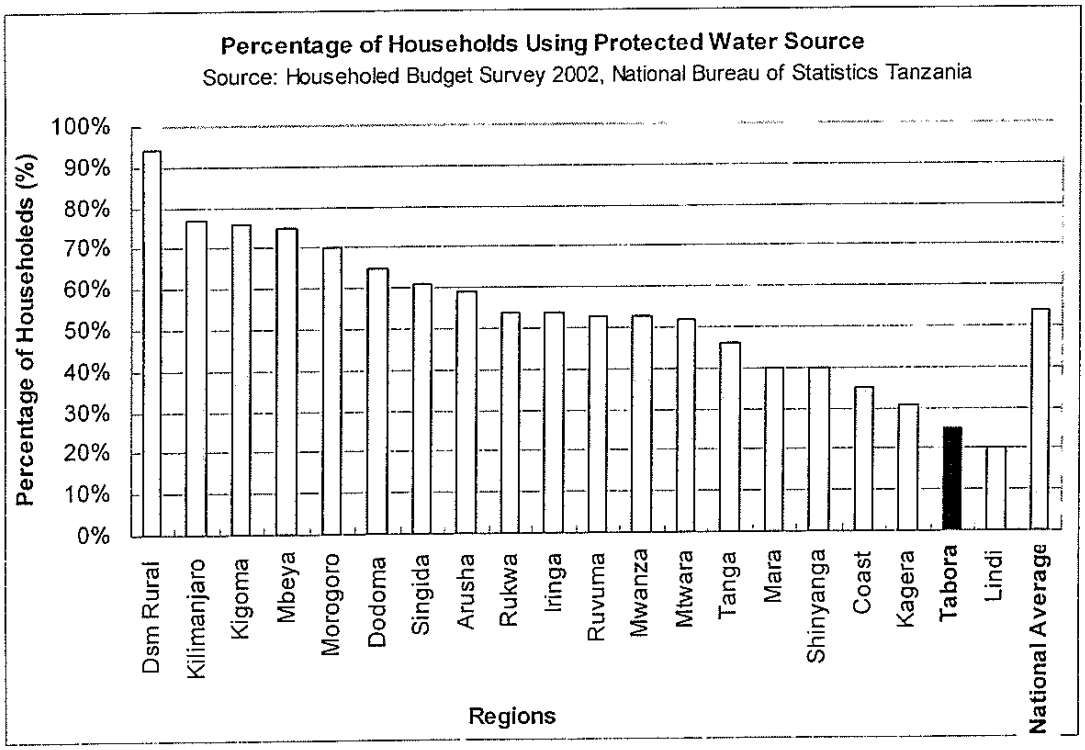


Fig.2 Percentage of Households Using Protected Water Source

As the results, the area has substantive problems in the health sector. According to the Regional Commissioner's Office Tabora (2002), the share of water-borne disease namely diarrhea, dysentery and intestinal worms is 32.6% among the big five causes of morbidity in Tabora region.

ii) Sectorial development policy of the national government:
The Water Sector Development Programme (WSDP) was designed under the SWAP (Sector Wide Approach to Planning) to address shortfalls in water supply, to improve water resources management, and to strengthen the sector institution and their capacities. The Department of *Community Water Supply* is responsible for the water supply for the rural area in the countries. The rural water *sub-sector* towards improving access to potable water supply in compliance with MKUKUTA, MDG and Tanzania's Development Vision 2025 targets, the Programme aims to increase coverage in water supply in rural areas and small towns (below 50,000 inhabitants) from 54% in 2005 to 65% by 2010, 79% by 2015 and to 90% by 2025. Improvements to quality and quantity of drinking water will be sustained through district level capacity, effective local water user entities, private sector participation and good health, hygiene, and sanitation practices.

Therefore, the government highly prioritizes increasing access to safe drinking water for the rural population by full development of available water resources. However, especially in Tabora region, due to lack of available surface water resources and difficulty of the groundwater exploration, it is necessary to formulate an appropriate water supply plan in accordance with water resources and the demand.

iii) Problems to be solved:

- Low coverage rate of rural water supply in Tabora.
- Insufficient water resources development due to inadequacy of the information especially related to groundwater resources.
- Inadequacy and aged water supply facilities.

iv) Outline of the Project:
The project would mainly comprise of; 1) Investigation and evaluation of water source potential for entire region and 2) Build-up the database and GIS system related to the water resources development and establishment of the water resources evaluation map.

The Study consists of 3 phases; 1) Basic study and investigations, 2) Formulation of District Water Supply and Sanitation Plans (DWSSPs) as per WSDP and 3) Feasibility study, in order to improve the rural water supply conditions of the Tabora region.

v) Purpose (short - term objectives) of the Project:
The purpose of the project is;

- to evaluate water resources potential, especially for the groundwater,
- to establish the District Water Supply and Sanitation Plans (DWSSPs) of six districts of Tabora region as per WSDP and

- to conduct a feasibility study for the priority projects identified by the rural water supply plan.

vi) Goal (long-term objective) of the Project:
The long term objectives are to improve the hygienic standard of the people with an end result of reducing poverty through reducing occurrence of water borne diseases among the people and increasing their working time resulting from time saved on fetching water. The goal of the Project is also summarized as follows;

- The water supply service coverage in the area will be significantly improved by the implementation of the project that is by increase of number of well-maintained and sustainable water supply schemes.
- Health and living standards of the people will be significantly improved by the water supply.
- The residents can contribute towards economical development of the area by more lively productive activities without worrying about problems of water.

v) Prospective beneficiaries:
Inhabitants who have not been supplied with safe water in Tabora regions, which is approximately 1,325,000 (CENSUS, 2002) will benefit directly. The women and children who are walking long distance to fetch water are to be released from hard labor and can use saved time effectively for well-kept parenting or their own productive and/or cultural activities.

(5) Desirable time of the commencement of the Project:
Desirable time of the commencement of the Project is fiscal year of 2007, and be completed within a period of 2 years.

(6) Expected funding source and/or assistance for the Project:
Japan International Cooperation Agency (JICA) is the most expected funding source for the development study, with further expectation of Japan's Grant Aid for the project implementation.

(7) Other relevant Project:
In Tabora region, no full-fledged study related to water supply has been conducted in the rural area, except very small scale programs on water particular scheme.

Following grand aid implementation projects are undergoing under Japan's assistance, no Development Study is currently on going;

a) Water Supply and Sanitation in Lindi and Mtwara Regions (Grant Aid Implementation)
b) Rural Water Supply Project in Coast Region and Dar Es Salaam Peri-Urban (Grant Aid, Design stage)

The following projects under Japan's assistance were completed recently and others are ongoing.

a) Rural Water Supply Project in Hanang,Singida Rural,Manyoni and Igunga Disrticts (Grant Aid)
b) Water Supply and Sanitation in Lindi and Mtwara Regions (Development Study and Grant Aid)
c) The Study on Water Supply Improvement in Coast Region and Dar es Salaam Peri-Urban (Development Study).
d) The study on Rural Water Supply in Mwanza and Mara Regions (Development Study-ongoing).

2. Terms of Reference of the proposed Study

(1) Necessity/Justification of the Study:

The rainfall scarcity and unreliability place a constraint on surface water source availability for Tabora region. The water source depends heavily on groundwater. However, the comprehensive groundwater resources potential study has not been conducted. Accordingly, water use in the area is not efficient at present. The actual water supply services coverage in rural area of the region is, therefore, estimated as 32.5 %, which is lowest level in Tanzania. The drastic and systematic measure is urgently required to supply water to catch up with the increasing water demand.

(2) Justification of Japanese Technical Cooperation:

Exploitation of the groundwater is absolutely essential to improve the rural water supply situation in Tabora region. In the recently supported development study project of "The Study on Water Supply Improvement in Coast Region and Dar Es Salaam Peri-Urban", Japan made great contribution for the both technology of the groundwater investigation and planning of the rural water supply. Through the projects, the MoW was aware that Japanese technology in the rural water supply is essential for the Tanzanian nature, and it is considered to be very important and effective for further developing rural water sector in Tanzania, especially like Tabora where the hydrogeological characteristics are completely different.

Therefore, it is naturally conducted that Japan's Technical Cooperation is most appropriate in order to conform the service level of the rural water supply in the different regions.

(3) Objectives of the Study:

The study will comprise of 2 phases of 1) basic study and investigations, and 2) feasibility study, in order to improve the rural water supply conditions of the Tabora region. The objectives of the study include;

- To evaluate the water resources potential and extractable amount for the water supply
- To formulate the planning methodology to provide an appropriate District Water Supply and Sanitation Plans.
- To formulate the training programs to facilitate the community based operation and maintenance methodology takes root in the region.
- To develop capacity of the technology on water resources development, planning and

designing of water supply scheme, including the services on O/M, to the counterpart personnel and the DWST (District Water and Sanitation Team), during the course of the study.

(4) Area to be covered by the Study:
The study must be executed in the whole rural area of Tabora region, consists of 6 districts of Nzega, Lgunga, Uyui, Urambo, Sikonge and Tabora Rural.

(5) Scope of the Study:
The study aims to establish the rural water supply plan, consisting of 6 district water supply plans, for Tabora region in conformity with the Water Sector Development Programme (2006), by taking general water supply situation of the area into consideration. The scope of the study consisting of following items;

Phase I Basic Study and Investigations:

- Data collection and field reconnaissance for the both socio-economic and natural condition will be carried out. After the assessment of the existing condition, based on the hydrogeological and related data collected by the field study, the practical detail study plan for the next phase will be formulated.
- Village inventory survey will be carried out, in order to identify the villages to be covered by the project.
- The groundwater investigation and the hydrogeological analysis will be carried out, and then the water sources potential and extractable yield will be estimated.
- Investigation on existing water supply facilities will be carried out, in order to identity the actual situation of the water supply in the area.
- Socio-economic survey and survey on actual water supply situation will be carried out.
- Initial environmental examination (IEE)

Phase II Formulation of Rural Water Supply Plan:

- Build-up the database and GIS system related to the water resources development
- In accordance with groundwater potential evaluated, water resources development plan will be formulated in consideration for future water demands.
- Establishment of the 6 district water supply and sanitation plans for Tabora region in conformity with the Water Sector Development Programme (2006),

Phase III Feasibility Study:

- Planning and designing of water supply facilities.
- Selection of the highly prioritized villages.
- Feasibility study on prioritized villages.
- Cost estimation for the construction and O/M for the planned supply facilities.

(6) Study schedule:
The study period is 24 months consisting of 10 months for the basic study and investigations, 8 months for the formulation of District Water and Sanitation Plans as per WSDP and 6 months for the feasibility study. It is desirable to commence 2007, and to complete by 2009.

(7) Expected major outputs of the Study:
Expected major out-put of the study is the rural water supply plan for Tabora region in conformity with the Water Sector Development Programme (2006). The plan based on the following out-puts;

- Evaluation of water resources, especially groundwater resources potentials
- Buildup of the database system for the water resources
- Formulation of District Water Supply and Sanitation Plans as per WSDP
- Feasibility study for the priority projects
- Formulation of implementation plans as per WSDP

The study reports describing methodology taken and findings/countermeasure, including properly tabulated water supply inventory, basic design drawing of planned supply facility, project implementation plan, etc.

(8) Possibility to be implemented /expected funding resources:
The regional secretariat and the district water departments concerned in Tabora region are ready to implement the study program by securing study offices in the building of the regional secretariat, and by appropriating budget for study activities of the counterpart study team. Budgets to the districts countrywide will be allocated as per Operational Guidelines of the WSDP.

(9) Request of the Study to Other donor agencies, if any:
No specific bilateral request has been made except for support through the WSDP.

(10) Other relevant information:
Sanitation funds will be obtained through the WSDP funds.

3. Facilities and information for the Study

(1) Assignment of counterpart personnel of the implementing agency for the Study:
MoW will assign the counterpart personnel mobilizing from the regional consultancy unit of the Tabora region such specialist as water engineer, hydrogeologist, hydrologist, sociologist, etc., and also mobilizing staff from the district water departments concerned to formulate the counterpart study teams. The water engineer in the secretariat will head the team of local counterpart personnel.

(2) Available of data, information, documents maps, etc. related to the Study:

- The updated village lists accompanied by the detailed information on existing condition of water supply which is under preparation. They will be submitted to the Government of Japan, upon completion.
- Geological maps (1:125,000) covering entire area of the region are available at the Geology Department of the Ministry of Energy and Minerals in Dodoma.
- The topographic maps (1:50,000) and other published maps will be given.
- A previous study pertaining to water source development and water supply in the area.

(3) Information on the security conditions in the study area
Security conditions are satisfactory.

4. Global issues (Environment, Women in Development, Poverty, etc.)

(a) Environmental components: This study is purely for water supply. No significant environmental impact, therefore, is expected.
(b)Anticipated environmental impacts by the Project, if any: Project is expected to improve social and environmental conditions in particular.
(c) Women as main beneficiaries or not: Women and children are main direct beneficiaries from the Project.
(d) Project components which require special consideration for women, if any: All project components are fair both for men and women.
(e) Anticipated impact on women caused by the Project, if any: Successful implementation of the Project will reduce women's hard work (conveying big volume of water for long distance) less than 1/3-1/4 from present condition.
(f) Poverty alleviation component of the Project, if any: As time for conveying water will be reduced to less than 1/3 from present condition, people can use these hours for economic activity.
(g) Any constraints against low income people caused by the Project: The Project will contribute to raising living condition of low income people, as they have been engaged in water carrying for a long period and distance until now, and those component will be reduced by completion of the Project.

5. Undertaking of the Government of Tanzania

In order to facilitate the smooth and efficient conduct of the Study, the Government of Tanzania shall take necessary measures:

1) to secure the safety of the Study Team
2) to permit the members of the Study Team to enter, leave and sojourn in Tanzania in connection with their assignment therein and exempt them from foreign registration requirements and consular fees.
3) to exempt the Study Team taxes, duties and any other charges on equipment, machinery and other materials brought into and out of Tanzania for the conduct of the Study,
4) to exempt the Study Team from income tax and charges of any kind imposed on or in connection with the implementation of the Study.
5) to provide necessary facilities to the Study Team for remittances as well as utilization of the funds introduced in Tanzania from Japan in connection with the implementation of the Study,
6) to secure permission for entry into private properties or restricted areas for conduct of the Study.
7) to secure permission for the Study Team to take all data, documents and necessary materials related to the Study out of Tanzania to Japan, and,
8) to provide medical services as needed. Its expenses will be chargeable to the members of the Study Team.

6. The Government of Tanzania shall bear claims, if any arises against member(s) 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 member of the Study Team.

7. The Community Water Supply Division of the Ministry of Water 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 conduct of the Study.

The Government of Tanzania assures that the matters referred to in this from will be ensured for the smooth conduct of the Development Study by the Japanese Study Team.

Signed:
Title. Ag. DCWS

On behalf of the Government of United Republic of Tanzania
Date:...23/7/2007

ANNEX 1:

MAP OF TANZANIA

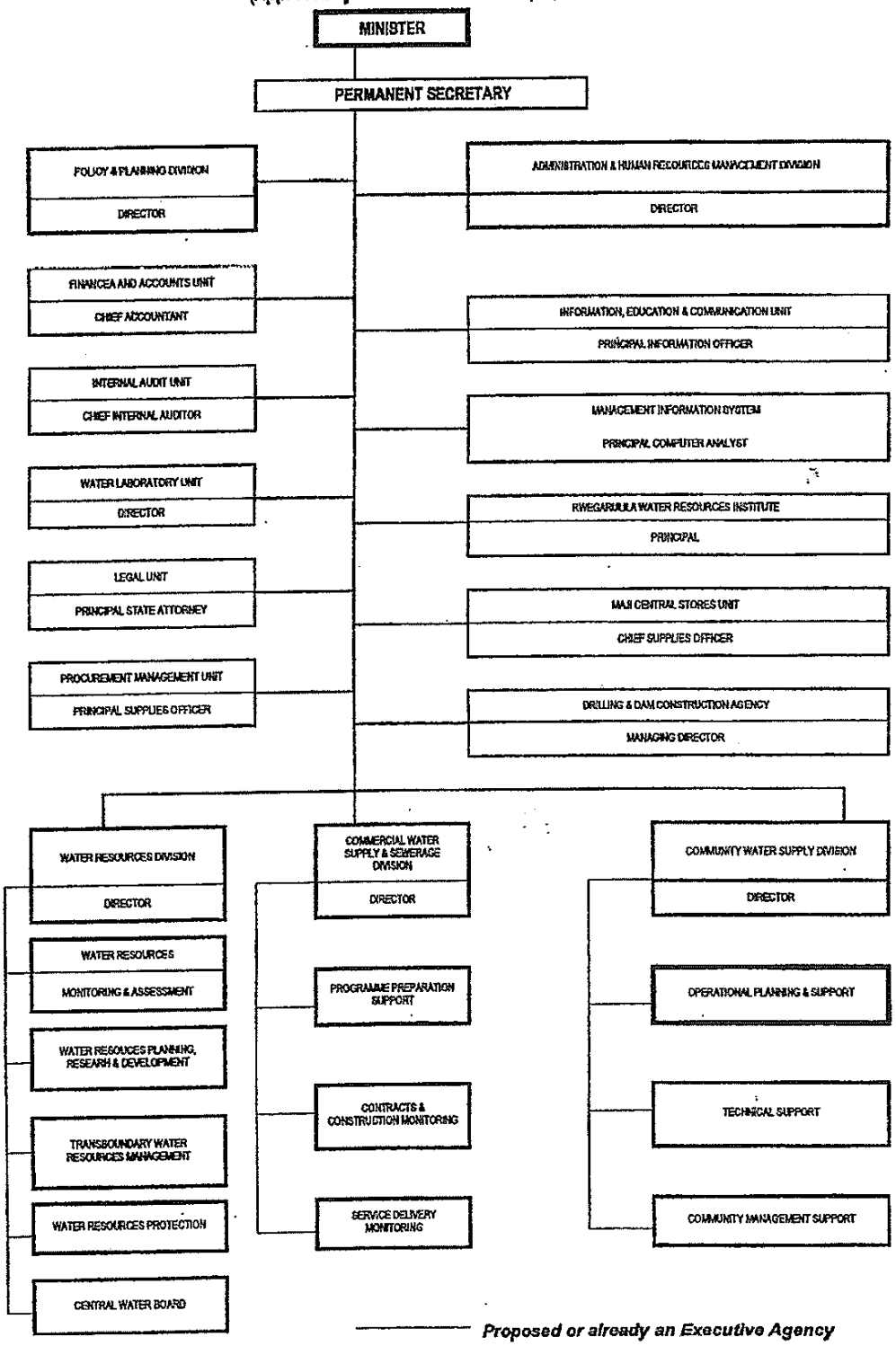
key

Intended Region (Tabora)

ANNEX 2: ORGANISATION CHART

THE ORGANISATION STRUCTURE OF THE MINISTRY OF WATER

(Approved by the President on 18th April, 2006)



資料２．　S/W 及び M/M

SCOPE OF WORK
FOR
THE STUDY
ON
RURAL WATER SUPPLY IN TABORA REGION
IN
THE UNITED REPUBLIC OF TANZANIA

AGREED UPON BETWEEN

MINISTRY OF WATER AND IRRIGATION
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Dar es Salaam, February 20, 2009

Mr. R. N. T. Kwigizile
For Permanent Secretary
Ministry of Water and Irrigation
The United Republic of Tanzania

Mr. Itsu Adachi
Leader of the Preparatory Study Team
Japan International Cooperation Agency

Witnessed by

Mr. Ngosha S. Magonya
Commissioner for External Finance
Ministry of Finance and Economic Affairs
The United Republic of Tanzania

I. INTRODUCTION

In response to the official request of the Government of the United Republic of Tanzania (hereinafter referred to as "Tanzania"), the Government of Japan decided to conduct the Study on Rural Water Supply in Tabora Region in Tanzania (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 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 notification of approval by JICA Headquarters through JICA Tanzanian office to the Tanzanian side.

II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. to formulate a Rural Water Supply Plan (hereinafter referred to as "RWSP") in Tabora Region,
2. to conduct an outline design on the priority projects,
3. to develop the capacity of counterpart personnel of Ministry of Water and Irrigation (hereinafter referred to as "MoWI"), Regional, Districts and other authorities concerned in Tabora Region in the course of the Study.

III. STUDY AREA

The Study will cover the 6 councils in Tabora Region (Nzega, Igunga, Urambo, Sikonge, Tabora Rural and Tabora Urban). The Study Area is shown in the attached sheet of Appendix-1.

IV. SCOPE OF THE STUDY

PHASE I : Formulation of RWSP

1. Collection and review of existing data
   (1) Socio-economic condition
   (2) Natural condition (meteorological, hydrological, topographical, geological, geophysical and hydro-geological data)
   (3) Situation of sanitation and incidence of water-born disease
   (4) Socio-economic development plan, and other development policies and plans
   (5) On-going and planning project concerning water resources development and management, water supply and sanitation
   (6) Existing legal framework for water resources development and management, water supply and sanitation
   (7) Existing national standards such as Water Sector Development Program (hereinafter referred to as "WSDP") for operation, maintenance and management
   (8) Existing database related to water supply and water resources
   (9) Satellite imagery and aerial photography

2. Selection of the villages for the formulation of RWSP
3. Field survey on existing water supply system in the selected villages
   (1) Structure of water intake, purification, pumping and distribution
   (2) Water quality and water quantity
   (3) Operation and maintenance condition
   (4) Water tariff, collection system, management condition of water supply facilities
   (5) Social survey (condition of water use, access to water, willing to pay, sanitation, disease, people's awareness and so on)
4. Water Demand Projection
5. Study on Groundwater Development Potential
   (1) Topographical and geological survey
   (2) Surface water survey (flow regime, usage condition)
   (3) Water quality analysis
   (4) Analysis of meteorological, hydrological, topographical, geological, geophysical and hydro-geological data
   (5) Compilation of hydro-geological map
   (6) Interpretation of satellite imageries and aerial photographs
   (7) Water balance analysis
   (8) Evaluation of groundwater potential
   (9) Compilation of the database of ground water potential
6. Formulation of RWSP for the Selected Site (Target year 2020)
   (1) Water resources development plan
   (2) Conceptual design of water supply
   (3) Operation, maintenance and management plan
   (4) Improvement plans for institutional framework
   (5) Community education plan
   (6) Capacity development plan for the organization concerned
   (7) Estimation of project implementation cost
   (8) Technical assistance on Initial Environmental Examination (IEE) for environmental and social consideration (including public consultation with communities and stakeholders, if necessary)
   (9) Project evaluation (economic, financial, institutional, social, and environmental)
7. Selection of Candidate Priority Project(s)

PHASE II : Outline Design on Priority Project(s)

1. Interpretation of satellite imageries and aerial photographs covering selected sites for the candidate priority project(s)
2. Geophysical exploration, test boring, well logging, pumping test, water quality test and groundwater level observation in selected sites for the candidate priority project(s)
3. Collection of supplemental data
4. Supplemental surveys
5. Selection of the priority project(s)
6. Outline facility design
7. Formulation of construction plan
8. Formulation of operation, maintenance and management plan
9. Formulation of community education plan
10. Cost estimation
11. Technical assistance on Environmental Impact Assessment (EIA), if necessary
12. Project evaluation (economic, financial, institutional, technical, social and environmental)
13. Formulation of project implementation plan

V. SCHEDULE OF THE STUDY

The Study will be carried out in the period of 20 months in accordance with the tentative schedule as attached in the Appendix-2. The schedule is tentative and subject to modification if such necessity should arise during the course of the Study and mutually agreed by both parties.

VI. REPORTS

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

1. Inception Report
   Forty (40) copies will be submitted at the commencement of the first phase in Tanzania. This report contains the schedule and methodology of the Study as well as outline of the field survey.
2. Progress Report
   Forty (40) copies will be submitted during the first phase in Tanzania. This report contains the progress of the Study, which will include the result of field survey and data analysis.
3. Interim Report
   Forty (40) copies will be submitted at the end of the first phase in Tanzania. This report contains the interim progress of the Study, which will include the selection of priority project(s).
4. Draft Final Report
   Forty (40) copies will be submitted at the commencement of final survey in Tanzania. This report contains the outcome of the study, which will include the outline design on the priority project(s). The Government of Tanzania shall submit its comments within one (1) month after the receipt of the Draft Final Report.
5. Final Report
   Sixty five (65) 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. To facilitate the smooth conduct of the Study, the Government of Tanzania shall undertake the following measures:
   (1) to permit the members of the Japanese Study team (hereinafter referred to as "the Team") to enter, leave and sojourn in Tanzania for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees according to laws and regulations of Tanzania,
   (2) to exempt the members of the Team from taxes, duties, fees and any other charges on equipment, machinery and other materials brought into Tanzania for the implementation of the Study according to laws and regulations of Tanzania.
   (3) to exempt the members of the 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 Team for their services in connection with the implementation of the Study according to laws and regulations of Tanzania,
   (4) to provide necessary facilities to the Team for remittance as well as utilization of the

funds introduced into Tanzania from Japan in connection with the implementation of the Study,

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 member of the Team.
3. MoWI shall act as a counterpart agency to the Team and also as a coordinating body in relation with other governmental and non-governmental organizations for the smooth implementation of the Study.
4. MoWI 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 and information (including photographs and maps) related to the Study,
   (4) counterpart personnel,
   (5) suitable office space with necessary equipment and furniture at the base site of the Study in Tabora Regional Office and branch in each district office,
   (6) credentials or identification cards, and
   (7) appropriate number of vehicles with drivers.

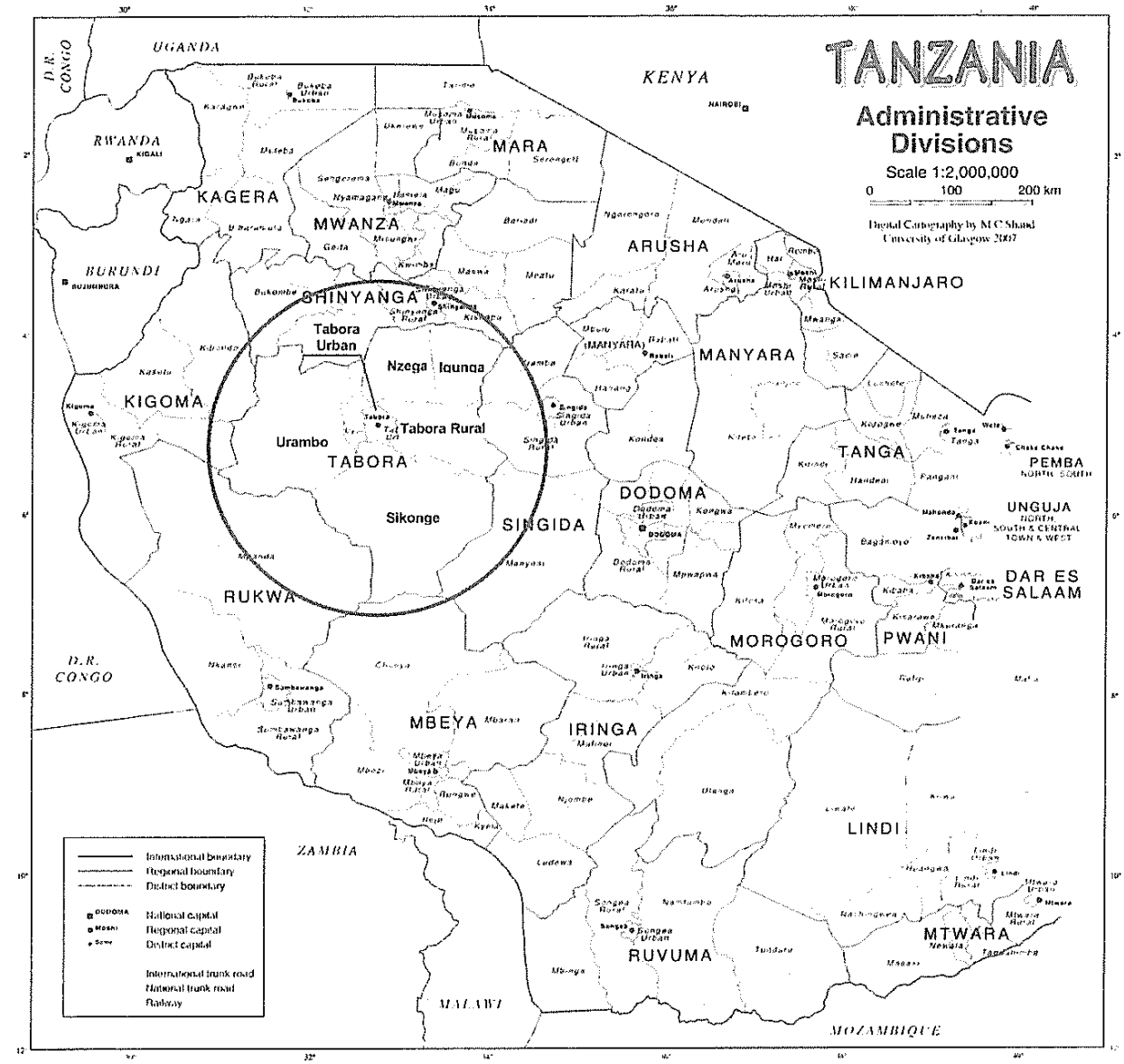
Ⅷ. UNDERTAKINGS OF JICA

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

1. to dispatch, at its own expense, study teams to Tanzania, and
2. to pursue technology transfer to counterpart personnel in the course of the Study

IX. CONSULTATION

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



Location Map of the Project Area

Study on Rural Water Supply in Tabora Region

TENTATIVE SCHEDULE

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Work Schedule				Phase I →											Phase II →					
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 STUDY
ON
RURAL WATER SUPPLY IN TABORA REGION
IN
THE UNITED REPUBLIC OF TANZANIA

AGREED UPON BETWEEN

MINISTRY OF WATER AND IRRIGATION
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Dar es Salaam, February 20, 2009

Mr. R. N. T. Kwigizile
For Permanent Secretary
Ministry of Water and Irrigation
The United Republic of Tanzania

Mr. Itsu Adachi
Leader of the Preparatory Study Team
Japan International Cooperation Agency

Witnessed by

Mr. Ngosha S. Magonya
Commissioner for External Finance
Ministry of Finance and Economic Affairs
The United Republic of Tanzania

In response to the official request of the Government of the United Republic of Tanzania (hereinafter referred to as "Tanzania"), the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Survey Team (hereinafter referred to as "the Team"), headed by Mr. Itsu ADACHI, to Tanzania from February 9 to March 6, 2009 to discuss the Scope of Work (hereinafter referred to as "S/W") for the Study on Rural Water Supply in Tabora Region in Tanzania (hereinafter referred to as "the Study").

During the Study period, the Team held a series of meetings with Ministry of Water and Irrigation (hereinafter referred to as "MoWI") 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 agreement on the S/W, which was signed on February 20, 2009 on the matters referred to in the present document.

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. Selection of the Villages for the Formulation of the Rural Water Supply Plan

Both sides agreed that the Japan side would conduct the survey for the formulation of the Rural Water Supply Plan (hereinafter referred to as "RWSP") in the villages in Tabora Region selected with the criteria such as;

(1) High demand for adequate safe drinking water,
(2) High risk of water-borne diseases,
(3) No service from urban water supplies,
(4) No plans for development of water resources and supply, and improvement of sanitation by the Tanzanian side, other donors or NGOs,
(5) No functioning water supply systems and sanitation systems,
(6) Adequate potential of groundwater resources, and
(7) Capability for operation and maintenance of water supply system.

2. Water Supply Coverage

The Tanzanian side requested that full water coverage be planed for each village of intervention. The Team replied that attempt will be made towards achievement for full coverage if homesteads are not sparsely scattered.

3. Township Water Supply

The Tanzanian side requested that township water supply in each district also be included in the scope of the Study. Both sides agreed that the Study Team evaluate the present situation of the township water supply and make recommendation on improvement of township water supply systems as a part of RWSP. However, township water supply project will not be selected in the priority project.

4. Target Year for the Outline Design

Both sides agreed that the design period would be 2020.

5. Counterpart Personnel

Both sides agreed that the Director of Community Water Supply Division, MoWI would be a main counterpart and focal point of the Study, and Tanzanian side would assign the necessary number of counterpart personnel in Tabora Region and each district and based upon the composition of the Study Team. The Team requested and the Tanzanian side agreed that the Tanzanian side will submit the counterpart list describing name, position and speciality to JICA Tanzanian Office by the commencement of the Study, after JICA side submit to the Tanzanian side information related to required specialities of counterparts.

6. Steering Committee

Both sides agreed that the Tanzanian side would establish a Steering Committee, chaired by the Director of Community Water Supply Division, MoWI. The Steering Committee will be comprised of the representatives of MoWI, Tabora Region, Basin Offices and districts. The members of the committee will be nominated by Tanzanian side by the commencement of the Study.

The committee meetings will be held at the timing of submission of each report, such as Inception Report, Progress Report, Interim Report and Draft Final Report.

7. Reports

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

8. Environmental and Social Consideration

The Team explained that JICA's environmental and social consideration guidelines will be applied to the Study.

The Tanzanian side understood the policy of JICA's guidelines, and agreed in principle to the following responsibilities and requirement.

(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 MoWI, Tabora Region, Districts and relevant Basin Offices.

(2) JICA shall provide MoWI, Tabora Region, Districts and relevant Basin Offices 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 Report is necessary to ensure the participation and dialogues with various stakeholders, in order to achieve appropriate environmental and social considerations.

9. Office Space

The Tanzanian side agreed to provide adequate office space, necessary office equipment and furniture at the base site of the Study in Tabora Regional Secretariat and branch in each local government district office.

10. Vehicles

MoWI requested the Team that the Japanese side arrange the appropriate number of vehicles with drivers for the Study Team.

The Team would convey this request to JICA Headquarters.

11. Training

The Team proposed that the materials to be provided by JICA technical cooperation project "Rural Water Supply and Sanitation Capacity Development Project: RUWASA-CAD" will be applied for the training to be implemented in the Study. The purpose of RUWASA-CAD is to enhance the capacities of the target districts of Dar es Salaam, Coast, Lindi and Mtwara Regions for providing rural water supply and sanitation service for rural communities. The Tanzanian side understood the availability of the training and accepted the proposal. Both sides agreed that travel expenses and per diem for the trainees of Tabora Region and each district to attend such training will be borne by own budget of Local Government Authorities.

In addition, the Team explained usefulness of study tours to neighboring countries in Africa

which have successful experience of rural water supply. Tanzanian side highlighted the importance of such study tours. Both sides agreed JICA Tanzanian office will support the study tours.

ATTENDANCE LIST

TANZANIAN SIDE

Ministry of Water and Irrigation

Mr. Wilson C. Mukama	Permanent Secretary
Mr. Christopher N. Sayi	Deputy Permanent Secretary
Mr. John A. Mukumwa	Acting Director, Community Water Supply Division
Mr. Reuben N. Kwigizile	Assistant Director, Community Water Supply Division
Mr. Lister Kongola	Assistant Director, Water Resources Division
Ms. Neema Siarra	Civil Engineer, Community Water Supply Division
Mr. Goyagoya J. Mubenna	Electrical Engineer, Community Water Supply Division

Ministry of Finance and Economic Affairs

Mr. Ngosha S. Magonya	Commissioner for External Finance
Ms. Mameltha Mutagwaba	Acting Assistant Commissioner (Bilateral)
Mr. James Msina	Finance Management Officer, Desk Office for Asia

Tabora Region

Hon. Abedi A.S. Mwinyimusa	Regional Commissioner
Mr. P. Makungu	Acting Regional Administrative Secretary
Mr. Longino K. Kazimoto	Assistant Administrative Secretary – Infrastructure
Mr. Muhibu Lubasa	Regional Water Advisor
Mr. Benard Chikarabani	Head of Lake Tanganika Basin Field Office, Tabora
Mr. Kyuza J. Kitundu	District Executive Director, Nzega District Council
Ms. Marian Majara	District Water Engineer, Nzega District Council
Mr. Joseph S. Faustus	Acting District Water Engineer, Igunga District Council
Mr. Rajab Maganga	Acting District Executive Director, Urambo District Council
Mr. Rebman Ganshonga	District Water Director, Urambo District Council
Mr. Lucky Mgeni	Acting District Water Engineer, Urambo District Council
Mr. P. Ngunda	District Water Engineer, Sikonge District Council
Mr. Facestine Misango	Acting District Water Engineer, Uyui District Council (Tabora Rural)
Mr. Mohamed Almas	Municipal Water Engineer, Tabora Municipal Council (Tabora Urban)

JAPANESE SIDE

JICA Preparatory Survey Team

Mr. Itsu Adachi	Team Leader
Mr. Yosuke Sasaki	Advisor
Mr. Hiroshi Ikeura	Study Planning
Dr. Kenji Takayanagi	Groundwater Development Planning / Water Supply Facilities Planning
Ms. Rie Kawahara	Operation and Maintenance Planning / Environmental and Social Assessment
Mr. Masahiko Hayashi	Hydro-geological Survey

JICA Tanzanian Office

Mr. Tetsuya Yamamoto	Representative

資料３．主要面談者リスト

主要面談者リスト

（1） 水・灌漑省（MoWI）

Mr. Wilson C. Mukama	: Permanent Secretary
Mr. R.N.T. Kwigizile	: Community Water Supply Division, Assistant Director
Mr. J.A. Mukumwa	: Community Water Supply Division, Assistant Director
Mr. Ali B. Nnunduma	: Acting Assistant Director of Water Resource, Planning, Research, and Development Section
Mr. Chandy Chacha	: Central Laboratory, Senior Chemist
Mr. Gabriel Saelie	: Head of Program Coordination Team
Mr. Allen Mweta	: Community Water Supply Division, Head of MIS Unit
Mr. Blangson Hamis Engi	: Community Water Supply Division, Database & MIS
Ms. A. Masawe	: Community Water Supply Division, Community Development Unit

（2） タボラ州（Tabora Region）

a. 州政府（Regional Council）

Mr. M.P. Makungu	: Acting Regional Administrative Secretary
Mr. Longino K. Kazimoto	: Asistant Administrative Secretary
Mr. Lubasa Muhibu	: Water Supply and Sanitation Engineer

b. Lake Tanganyika 流域管理タボラ支所

Mr. Benard Chikarabhari	: タボラ支所、Hydrogeologist
Mr. Pancras Bwena	: Principal Hydrogeology Technician
Mr. muhiduni Mrisho	: Principal Technician

c. Tabora Urban 県

Mr. Mohamed Alamas	: DWE

d. Nzega 県

Mr. Kyuza J. Kitundu	: DED
Ms. Mariam Aatala	: DWE
Mr. Ephraim J. Kapama	: DWE, Technician

e. Igunga 県

Mr. Jesephs Faustus: Acting DWE

f. Tabora Rural District)

Ms. Doroth A. Rwiza	: DED
Mr. austine Misango	: Acting DWE, Engineer
Mr. Kanyala M. Mahmds	: DWE, Engineer

Mr. Nestory Niwdemus Mwanacyeca : DWE

g. Urambo 県

Mr. Lucky Mgeni : Acting DWE

h. Sikonge 県

Mr. P. Ngunda : DWE

i. TMA（Meteorological Agency）

Mr. Michael J. Likunama : Western Zone Manager

（3） TUWSSA（Tabora Urban Water Supply & Sewerage Authority）

Eng. Ramadhani Kalinganji : Managing Director

（4） NGO, World Vision

Mr. Obuya Malinku : Program Manager

資料４．質問票

The Study on Rural Water Supply in Tabora Region
in the United Republic of Tanzania by JICA

QUESTIONNAIRE
（地下水開発計画／給水施設設計）

Please answer in detail as much as possible in writing to the following questions and please kindly provide us with data and information requested herein for the sake of smooth implementation of the preparatory study:

A. To：Tabora Region

1. Tabora Regional Office

(1) General Condition

1) Capital town
2) Regional area (km^2)
3) Regional population
4) Main industries
5) Main road conditions to district town or national capital city (how many hours by cars)

(2) Organization

1) Organization Chart
2) Number of personnel in each section, technical staff
3) Role and function of Regional Office for rural water supply
4) Role and function of each section
5) Owned equipment for operation and management of rural water supply system (including vehicles)
6) Budget for five years

(3) Regional water supply plan or strategy, (if any)

If your office has regional water supply plans or strategy, please provide us them.

(4) Past/present water supply projects in past five years or in the future (if any)

o	Project Name	Project Area	Project Period	Project Contents/Project Cost	Fund
1					
2					
3					
4					
5					

(5) Regional Law and regulations for rural water supply (project)

(6) Any problem on rural water supply (Including water quality, maintenance of water supply facility, others)

B. To : District Office/ District Water Engineering Office ((Nzega, Lgunga, Tabora Rural, Urambo, Sikonge, and Tabora Urban)

1. District Office

(1) General Condition

1) Capital town/village (with main public office/post offices/hospitals, dispensaries, etc)
2) District area (km^2)
3) District Population
4) Main towns (plural) in the district with population
5) Main industries
6) Main road conditions to capital town from Tabora town (how many hours by car)
7) Reserved area with area size (km^2)

(2) Organization

1) Organization Chart in main office
2) Number of personnel in each department/section in main office
3) Budget for five years

2. District Water Engineering Office (Nzega, Lgunga, Tabora Rural, Urambo, Sikonge and Tabora Urban)

(1) Organization

1) Organization Chart
2) Number of personnel in each section, technical staff
3) Role and function of District Water Engineering Office for rural water supply
4) Owned equipment (including tripod, motorbikes & vehicles)
5) Budget for five years

	Total Budget	Current Budget	Project Budget		
			WSDP	District Fund	Other fund
2008/2009					
2007/2008					
2006/2007					
2005/2006					
2004/2005					

(2) District water supply plan or strategy, (if any)

If your office has the regional water supply plans or strategy, please provide us them.

(3) Past/present water supply projects in past five years or in the future (if any)

No	Project Name	Project Area	Project Period	Project Contents/Project Cost	Fund
1					
2					
3					
4					
5					

(4) District Law and regulations for rural water supply (project)

(5) Water quality (if you have any problem, please provide information for us.)

Please, indicate water quality problems/characteristics on the schematic district map/district map by hand-drawing.

(6) Any problem on rural water supply

3. Village List

(1) Information list of villages and small towns in District

Please fill up the Information List on villages and towns as target sites in Table 1-A and Table 1-B.

(2) Location Map of all the villages and towns with the same list number as Table 1-A & 1-B (on District Scales Maps)

4. Water Supply Systems in Rural Area

(1) Sorts of Water Supply Systems in Rural Area

1) Deep Wells with Hand pumps

- General specification of deep wells

No	Items	General specification	Remarks
1	Casing size		
2	Borehole size		
3	Casing Materials		
4	Depth	m - m	
5	Water consumption	lit/capita/day	

- Sorts of Hand pump

No	Name of Hand pump	Pumping depth	Country origin
1		By m	
2			
3			
4			

2) Shallow Wells

- General specification of shallow wells

No	Sort of shallow well	General Condition
1	Dug well	Examples; Most popular, mostly dry in dry season (80% in shallow wells)
2	Dug well with concrete lining	
3	Dug well with hand pump with concrete lining	

3) Public faucet system

- General specification of public faucet system

No. of HHs/faucet	Water consumption	Water rate (average)	Target population of village/town
	lit/capita/day	Tsh	

4) House connection system

- General specification of public faucet system

No. of HHs/faucet	Water consumption	Water rate (average)	Target population of village/town
1 HHs	lit/capita/day	Tsh	

(2) Categories of Served Population in Each Water Supply System

If you have any categories on water supply system, please explain it in the below table.

Water Supply System	Categories	
	Population	Others
Deep well /Shallow well with hand pump		
Public faucet system		
House connections		

(3) Standard Designs and Drawings of Water Supply System

1) Shallow concrete lining well

2) Deep well with hand pump
3) Public faucet system
4) House connection
5) Spring water supply system
6) Water supply system from dam water
7) Rainwater supply system
8) Others

(4) Pump Catalog
1) Hand pump
2) Submersible pump.

5. Operation and Maintenance of Water Supply System
(1) Operating Condition of Existing Water Supply Systems
1) Present status of existing water supply system

The requested paper explains the conditions of existing water supply schemes in Tabora Region. Among 743 existing water supply systems, 709 schemes are wells, 18 from rainwater, 11 from dams, 4 from springs and only 1 from river. Due to lack of budget for maintenance work, many of the facilities are not satisfactorily functioning. Please fill up the present status of existing water supply schemes *with numbers*. If numbers of existing water supply schemes are modified, please revise it.

Present Status of Existing Water Supply Schemes

District	Operation./ Non-opera.	Water Supply Schemes/Water Source				
		Well	Rainwater	Dam	Spring	River
Nzega	Operation					
	Non-opera.					
Lgunga	Operation					
	Non-opera.					
Tabora Rural	Operation					
	Non-opera.					
Urambo	Operation					
	Non-opera.					
Sikonge	Operation					
	Non-opera.					
Tabora Urban	Operation					
	Non-opera.					
Total						

2) Cause of Non-Operational in Wells

Please fill up causes of non-operational in wells *with numbers*.

Cause of Non-Operational in Wells

District	Non-operation	Well problem	Hand pump problem	Water Quality	Dried up	Others
Nzega	Non-opera.					
Lgunga	Non-opera.					
Tabora Rural	Non-opera.					
Urambo	Non-opera.					
Sikonge	Non-opera.					
Tabora Urban	Non-opera.					
Total						

(Note: Cl 2, F 3, Tur. 1); Tur. means turbidity.)

(2) Main Care-Taker for Repair of Non-operational Water Supply Schemes

Please explain role and function of organizations in each level for maintenance and repair of non-operational water supply schemes, with specially relating division/unit.

Role and Function of Organizations in Each Level for Maintenance/Repair

No	Administration Organization	Role and Functions for maintenance and repair	Relating division/unit
1	MoWI		
2	Regional Office		
3	District Office		
4	Village Water Committee		

(3) Repaired Existing Water Supply System

Please fill up the numbers of repaired and operational existing water supply systems.

Repaired Existing Water Supply Systems

District	Repaired/Operatonal	Water Supply Systems/Water Source				
		Well	Rainwater	Dam	Spring	River
Nzega	Repaired					
	Operational					
Lgunga	Repaired					
	Operational					
Tabora Rural	Repaired					
	Operational					
Urambo	Repaired					
	Operational					
Sikonge	Repaired					
	Operational					
Tabora Urban	Repaired					
	Operational					
Total						

Table 1-A Village List in the District (District Name: _____)

Please show us the present water supply conditions and needs of water supply systems of villages and small towns.

No	District	Ward	Village/ Small Town	Village/ Small town's population	Existing Water Supply System							Proposed Development Site in Future Plan by WSDP, Other N. Gov. Fund, Nothing)	Needs of Water Supply System
					Type of the scheme (House connection, Public faucet, Well with hand pump, Dug well, etc, Noting)	Number of deep well with hand pump /Dug well	Water Source (Groundwater, Spring, Pond, River, etc.)	Water Committee (Yes/ No)	Distance to Water Point (Maximum)	Dry up/Non-dry up of water sources in dry season	Construction Fund (WSDP, Other National Gov. Fund Water Aid, etc)		
(Example)		Holita	Sikatsuna	5,000	Deep well with Hp, Dug well	Dw with Hp/1, Dug/3	Gw	Yes	400 m	Dw Dry up	WSDP	Nothing	B(2)
		Aisatu	Kamura	6,000	Nothing	Nothing	River	No	1.5 km	No	No	Water Aid	A(1)
		Carmen	Idogo	4,500	Deep well with Hp	Dw with Hp/6	Gw	Yes	800 m	Non-dry up	WSDP/Water Aid	Nothing	C
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
Continued													

(Note) Needs of water supply system: A (No water supply system), B (Existing water supply system but not sufficient), C (Lower needs), No: Order of needs

Table 1-B Village List in the District (District Name: _____)

Please show us the present water supply conditions of villages and small towns.

No	District	Ward	Village	Existing Water Supply System					
				Type of the scheme (House connection, Public faucet, Hand pump well, etc)	Construction Year	Function/ Non-function (F/Non-F)	Reason of Non-function	Water Quality (Good/Bad, reason)	Collecting Fee of Water Committee/month
(Example)		Holita	Sikatsuna	Deep well with Hp, Dug well	Dw with Hp/2002	Non-F	Broken of pump cylinder	Bad/bad odor	500 Tsh
		Aisatu	Kamura	Nothing	No	No	No	No	No
		Carmen	Idogo	Deep well with Hp	Dw with Hp/2003	F		Good	1,000 Tsh
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
Continued									

QUESTIONNAIRE

（運営・維持管理）

1. List of the requested villages

Please show the present water supply conditions of the requested villages in following manner:

Division	District	Ward	Village /Small Town	Population	Existing Water Supply Scheme							Remarks (Rehabilitation Records, others)
					Population Served	Type of the Scheme (Piped, Public Tap, Hand Pump Well, Shallow Well, Others)	Water Source	Water Committee	Distance to Water Point	Tariff	Water Consumption Rate	

2. Environmental issues

2-1 Natural environment

(1) Environmental assessment procedures:

Please □indicate the environmental assessment procedures designated in the law and legislation for the construction of the rural water supply facilities,

(2) Protected area:

Are there national parks, game reserve areas or environmentally vulnerable areas in the Study area?

2-2 Social environment

(1) Ethnic groups

Are there concerns on ethnic groups issues which may influence when the water supply system will be constructed?

(2) Gender

Are there any traditional gender relations and roles related to water supply and management of water in the Study area?

3. District Profile

3-1 Name of District:

3-2 Population of District

(Year , data name) :

3-3 Number of Division:

3-4 Population of each Division

(Year , data name) :

3-5 Number of villages:

3-6 Income level or GDP per capita

(Year , data name) :

3-7 Annual Budget of District Administration (in total) :

(Year , data name) :

3-8 Annual Budget of DWE Office (in total) :

(Year , data name) :

3-9 Establishment of District Water & Sanitation Team:

(Year , Number of the member, Composition,) :

3-10 Activities of District Water & Sanitation Team:

3-11: Numbers of water committee at villages:

3-11: Numbers of bank account by water committee at villages

4. O&M and Social Issues

4-1 O&M System

(1) At RWE Office

Please explain a system for O&M of water supply facilities (existing monitoring and evaluation system, the present constraints etc)

(2) At DWE Office

Please explain a system for O&M of water supply facilities (conditions of District Water & Sanitation Team, existing monitoring and evaluation system, the present constraints etc)

(3) At village level

Please explain a system for O&M of water supply facilities at village levels (conditions of village water committee, management of water committee, fee collection and financial management, existing monitoring and evaluation system, communication channel with DWE office, the present constraints etc)

4-2 Social environment

(1) Ethnic groups

Are there concerns on ethnic groups issues which may influence when the water supply system will be constructed?

(2) Gender

Are there any traditional gender relations and roles related to water supply and management of water in the Study area?

5. REQUIRED DATA AND INFORMATION

No.	Item	Availability (Y/N)	Agency of Information Source	Name of Materials
l.	Development Plan			
1.1	National and regional development plan			
	1) Medium-long Term Strategic Plan			
	2) Poverty Reduction Strategy Paper			
	3) Other National Plans			
1.2	Water Supply development plan			
	1) Water policy 1991			
	2) National Water Policy 2002			
	3) Project Appraisal Document on RWSSP World Bank 2002			
	4) Project Operation Manual on RWSSP World Bank 2001			
	5) Workshop Report on Support to the Tanzanian Water Sector Reform GTZ			
	6) Belgian Technical Cooperation Project on Borehole Water Supply Systems in Peri-Urban			
	7) Other development plan			
2.	Counterpart Agency			
2.1	MoWLD			
	1) Present organization chart, number of personnel and budgetary arrangement			
	2) Future organization chart and number of personnel after restructuring			
	3) Equipment list for the survey and drilling			
2.2	Provinces			
	1) Organization chart			
	2) Number of personnel			
	3) Budgetary arrangement			
2.3	Districts			
	1) Organization chart			
	2) Number of personnel			
	3) Budgetary arrangement			

No.	Item	Availability (Y/N)	Agency of Information Source	Name of Materials
3.	Data and information regarding social and environmental issues			
	(1) Legislation related to environmental policies and standards			
	(a) Responsible ministry or agency and its organization chart			
	(b) Laws and guidelines			
	(2) Laws/guidelines related to environmental impact assessment (EIA)			
	(a) Type/size of activities for EIA			
	(b) Procedure			
	(3) Present situation of the area regarding for environmental issues			
	(a) Socio-economic environment			
	-History of epidemic disease including water-borne disease for the last five years			
	(b) Natural environment			
	-Location of particular area officially protected such as game reserve and natural parks			
	-Location of environmentally vulnerable area			
	-Species of precious animals and plants			
	-Distribution of important historical spots, landscape and scenery			
4.	Others			
4.1	Statistic data			
	1) The latest Population and Housing Census (Year)			
	2) Water and Sanitation in Tanzania/Tabora			
	3) The economic survey			
	4) Other Census of Province, Districts			
	5) Social and economic indicators			
4.2	Capable Consultants and NGOs list			
	1) Environmental study			
	2) Socio-economic survey and analysis			
	3) Animation, education and monitoring of the rural water supply			

QUESTIONNAIRE
（水理地質）

The Preparatory Study Team shall be furnished with the following general and specific information on the requested project, in order to clarify the contents of the project and to appraise the scope of cooperation.

Please answer in detail as much as possible in writing to the following questions (Items A), and please kindly provide us with data and information requested herein (Items B) for the sake of smooth implementation of the preparatory study:

A. QUESTIONS

1. Questions on water resources

1-1 Topography and Geology

Please provide topographical and geological information such as topographical map, geological map, investigation report, drilling log and experience of the geologist / engineer in the MoWLD and other agencies.

1-2 Surface Water

Please provide information of the river flow data and current situation of surface water use.

1-3 Ground water

Please provide inventory of shallow / deep well. The inventory should include location, village name, depth, diameter, static water level, depth of aquifer, draw down, pumping rate, geology, pump rate, pump type and etc.

1-4 Water quality

Groundwater contamination and salt water intrusion is indicated in your TOR. Please provide measured data for these phenomena.

1-5 Related organization

Please introduce following companies / organizations. We hope to have an interview with them and may ask some cost estimations.

- Three (3) capable deep well drilling companies.
- Three (3) capable consultants for the geological / hydrological survey,
- Two (2) NGOs active in the rural water supply field
- Two (2) manufactures / distributors of hand / motor pump

B. REQUIRED DATA AND INFORMATION

No.	Item	Availability (Y/N)	Agency of Information Source	Name of Materials
2.	Data and information regarding natural conditions of the project area			
2.1	Maps and other information			
	(1) Topographic maps ; scale 1/100.000, 1/50,000 and l/25,000			
	(2) Geological maps; scale 1/100,000, l/50,000 and l/25,000			
	(3) Other geological data			
	(4) Hydro-geological maps 1 /100,000, l/50,000 and l/25.000			
	(5) Aerial photograph 1/500.000, 1/200.000, 1/100,000, l/50,000 and l/25,000			
	(6) Satellite image, 1/500,000,1/100,000			
	(7) Land use maps and vegetation maps			
2.2	Meteorological and hydrological data			
	(1) Meteorological data near the project area for the last 10 years			
	1) Air temperature - monthly mean			
	2) Humidity - monthly mean			
	3) Wind direction & velocity			
	4) Evaporation - monthly			
	5) Precipitation – daily, monthly & annual			
	6) Measurement stations and maps			
	7) Climate maps			
	(2) Hydrological data in and surroundings of the target area			
	1) Discharge - daily, monthly & annual			
	2) Water level - daily & monthly			
	3) Water quality			
	4) Suspended solid - sedimentation			
	5) Measurement stations and maps			
	6) Maps of river network			

No.	Item	Availability (Y/N)	Agency of Information Source	Name of Materials
2.3	Data and information regarding ground water and tube wells			
	l) Well inventory sheets			
	2) Location map of well			
	3) Hydrogeological maps and profiles			
	4) Technical reports of groundwater			
	5) Monitoring records of groundwater level			
	6) Monitoring records of groundwater quality			
	7) Records of groundwater abstraction			
	8) Results of geophysical investigation			
	9) Drilling record of deep well			
3.	Data and information regarding water supply			
	1) Detail of MIS			
	-Input items			
	-History of the records			
	-Progress of preparation			
	-Data base system			
	-Data related to the Study area			
4.	Others			
4.1	Statistic data			
	1) 2002 Population and Housing Census General Report PWANI. Dar es Salaam			
	2) Water and Sanitation in Tanzania			
	3) The economic survey			
	4) Other Census of Provinces, Districts			
	5) Social and economic index			
4.2	Capable Consultants and NGOs list			
	l) Water supply engineering			
	2) Topographic survey			
	3) Geological investigation for ground water development			
	4) Geophysical survey			
	5) Environmental study			
	6) Socio-economic survey and analysis			

No.	Item	Availability (Y/N)	Agency of Information Source	Name of Materials
	7) Animation, education and monitoring of the rural water supply			
	8) Capacity building of the officer5 in the districts			
4.3	Drilling company			
	l) List of the companies			
	2) Qualification of the companies			
	3) Drilling rigs owned by the companies			
	4) Stuff members of the companies			
	5) Experience of the companies			
4.4	Cost and Price			
	1) Exploratory drilling			
	2) Geophysical survey			
	3) Socio-economic survey			
	4) Water quality analysis			
	5) Environmental Assessment			
	6) Engineer expenditure, senior, middle, junior, technician, welt technician			
	7) Expenditure of typist, driver, labor			
	8) Unit price of design and construction engineers for water supply system with hand pump well			
	9) Accommodation fee in the field			
	10) Rental fee of vehicles, sedan, 4WD			
	11) Gasoline, diesel			
	12) Maps and other documents			
	13) Office rental			
	14) Copy, copy paper			
	15) PC, printer, copy machine, Fax, Tel.			
	16) Taxi fare			

資料５．資料収集リスト

資料リスト（■収集資料/□専門家作成資料）

主管部長	文書管理課長	主管課長	情報管理課長	技術情報課長	図書館受入日

		プロジェクトID		調査団番号			
地域		調査団名又は専門家氏名		調査の種類又は指導科目	開発調査（事前調査）	担当部課	
国名		配属機関名		現地調査期間又は派遣期間		担当者氏名	

番号	資 料 の 名 称	形態(図書、ﾋﾞﾃﾞｵ、地図、写真等)	収集資料	専門家作成資料	JICA作成資料	ﾃｷｽﾄ	発行機関	取扱区分	図書館記入欄
1	NRWSSP Manual and Guide	電子ファイル（オリジナル）	有				Ministry of Water	(JR)・CR(　)・SC	
2	WSDP Procurement Plan Documents	電子ファイル（オリジナル）	有				Ministry of Water	(JR)・CR(　)・SC	
3	WSDP Documents, Financial Manual	電子ファイル（オリジナル）	有				Ministry of Water	(JR)・CR(　)・SC	
4	WSDP, Project Implementation Manual Package	電子ファイル（オリジナル）	有				Ministry of Water	(JR)・CR(　)・SC	
5	WSDP, Concept Document	電子ファイル（オリジナル）	有				Ministry of Water	(JR)・CR(　)・SC	
6	Maji MIS 1.1 Users Guide	電子ファイル（オリジナル）	有				Ministry of Water and Livestock Development	(JR)・CR(　)・SC	
7	Water Utilization Act	電子ファイル（オリジナル）	有				Parliament of Tanzaina	(JR)・CR(　)・SC	
8	Water Supply Design Manual, Chapter 1, Planning	図書（コピー）	有				Ministry of Lands, Water, Housing and Urban Development	(JR)・CR(　)・SC	
9	Stability Analysis on Earthfill Dams	図書（コピー）	有				Ministry of Water	(JR)・CR(　)・SC	
10	Tabora Urban県地図	1枚用紙（コピー）	有				入手先:Tabora Urban県給水事務所	(JR)・CR(　)・SC	
11	WSDP, Programme Implementation Manual	電子ファイル（オリジナル）	有				水省	(JR)・CR(　)・SC	
12	Management Models for Community Water User Entities	電子ファイル（オリジナル）	有				Ministry of Water and Livestock Development	(JR)・CR(　)・SC	
13	NRWSSP, Programme Operation Manual (POM)	電子ファイル（オリジナル）	有				Ministry of Water	(JR)・CR(　)・SC	
14	Uyui District, Socio-economic Profile 2008	電子ファイル（オリジナル）	有				Ministry of Finance and Economic, National Bureau of Spastics, Uyui District Council	(JR)・CR(　)・SC	
15	WATSAN Manual and Trainers Guide Draft	電子ファイル（オリジナル）	有				Ministry of Water and Livestock Development	(JR)・CR(　)・SC	
16	Design Manual for Water Supply and Waste Water Disposal	電子ファイル（オリジナル）	有				水省	(JR)・CR(　)・SC	

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国名		配属機関名		現地調査期間又は派遣期間		担当者氏名	

番号	資 料 の 名 称	形態(図書、ﾋﾞﾃﾞｵ、地図、写真等)	収集資料	専門家作成資料	JICA作成資料	ﾃｷｽﾄ	発行機関	取扱区分	図書館記入欄
17	Modular Guide for DWST Training	電子ファイル（オリジナル）	有				水省	JR・CR(　)・SC	
18	Nzega District Ward Map	1枚用紙（コピー）	有				入手先：Nzega DWE	JR・CR(　)・SC	
19	タボラ州内給水施設リスト	電子ファイル（オリジナル）	有				Water Aid	JR・CR(　)・SC	
20	タボラ州人口推計資料(2003-2019)	1枚用紙（コピー）	有				国家統計局(NSO)	JR・CR(　)・SC	
21	タンザニア飲料水基準	1枚用紙（コピー）	有				水灌漑省	JR・CR(　)・SC	
22	Nyasa Area Development Programme, Hydrogeological Survey for Drilling and Construction of Water Wells in Miguwa, Wela & Mbogwe Wards	本文コピー	有				World Vilsion	JR・CR(　)・SC	
23	Sustainable and Integrated Management of the Malagarasi – Muyovozi Ramsar Site (Simmors), Hydrogeological Survey for Construction of Shallow Wells in Ussinge, Maboha and Chagu Village		無				Regional Water Department, Hydrogeologecal Unit	JR・CR(　)・SC	
24	Tanzania Tabira Rural Integrated Development Project, Land Use Component, Land Use Atlas		無				Overseas Development Administration, Land Resources Development Center, (England)	JR・CR(　)・SC	
25	Tabora Regional Water Master Plan		無				International Bank for Reconstruction and Development, Brokonsult AB (Sweden)	JR・CR(　)・SC	
26	The Study on the Groundwater Development for Hanang, Singida Rural, Manyoni and Igunga Districts in the United Republic of Tanzania	JICA図書館	無				JICA, Sanyu Cousultants Inc. (Japan), Japan Engineering Consultant Co. Ltd. (Japan)	JR・CR(　)・SC	
27	Low Permeability Rocks in Sub-Sahara Africa, Groundwater Development in Tabora Region, Tanzania, Groundwater System and Water Quality Programme Commission Report CR/02/19N	CD-ROM	有				British Geological Survey	JR・CR(　)・SC	
28	Hydrogeological Investigation for Water Wells Drilling – Lusu Ward	本文コピー	有				Water Aid – Tabora, Regional Consulting Unit, Hydrogeological Unit	JR・CR(　)・SC	
29	Geology and Mineral Map of Tanzania, Scale 1:2,000,000	カラーコピー	有				Bureau of Geological and Mining Research (BRGM, France)	JR・CR(　)・SC	
30	Hydrogeological Investigation for Drilling and Construction of Water Wells in Iyombo, King' Wagoko, Nyasa, Sasu and Seleli Villages; Kashishi Ward, Urambo District., Volume I: Main Report	本文コピー	有				Water Aid – Tabora	JR・CR(　)・SC	
31	Hydrogeological Investigation for Drilling and Construction – Kashishi Ward, Volume II: Annexes	本文コピー	有				Water Aid –Tabora	JR・CR(　)・SC	

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32	Hydrological Survey for Water Wells Drilling and Construction in Upuge, Uhuru-Mbiti, Kigwa B and Nzigala Village	本文コピー	有				Tabora District Council	(JR)・CR(　)・SC	
33	Hydrogeological Survey for Water Wells, Drilling and Construction in Izimbili, Malolo, Ulamba and Masagara Villages – Tabora Municipality	本文コピー	有				Tabora Municipal Council	(JR)・CR(　)・SC	
34	Area Development Programme Bukene, Hydrogeological Survey for Water Wells Drilling and Construction in the Wards of Nogwa, Ikinda, Uduka and Kahamayanhlanga, Nzega District	本文コピー	有				World Vilsion Tanzania	(JR)・CR(　)・SC	
35	Project for Drilling 10 Water Wells in Kiwere Division, Hydrogeological Survey Report	本文コピー	有				Sikonge District Council, Tanzania Social Action Fund – (TASAF)	(JR)・CR(　)・SC	
36	Reaching Tanzania, A Magazine for Business Advertising	オリジナル	有				Misha Communication and Publishing Limited	(JR)・CR(　)・SC	
37	Well Inventry of Tabora Region	手書き	有				Ministry of Water and Irrigation, Lake Tanganyika Basin, Tabora Water Office	(JR)・CR(　)・SC	
38	The United Republic of Tanzania, Tabora Region, Socio – Economic Profile	オリジナル	有				National Bureau of Statistics (NBA) and Tabora Regional Commissionar's Office	(JR)・CR(　)・SC	
39	Regional Administration and Local Government, Sikonge District Council, Strategic Plan, 2007/08 – 2011/11, Volume I, Institutional Analysis	コピー	有				United Republic of Tanzania, Prim Minister Office	(JR)・CR(　)・SC	
40	Regional Administration and Local Government, Igunga District Council, District Water and Sanitation Plan for 2007/2008, 2008/2009 and 2009/2010	コピー	有				United Republic of Tanzania, Prim Minister Office	○ JR・CR(　)・SC	
41	Regional Administration and Local Government, Igunga District Council, District Water and Sanitation Plan for 2007/2008, 2008/2009 and 2009/2010	電子データ	有				United Republic of Tanzania, Prim Minister Office	○ JR・CR(　)・SC	
42	Tanzania Water Secotor Development Programme 2006-2025, Implementation Manual	電子データ	有				Ministry of Water	(JR)・CR(　)・SC	
43	Tabora Figures 2006	電子データ	有				National Bureau of Statistics, Ministry of Planning, Economy and Empowerment	(JR)・CR(　)・SC	
44	Tabora Trgional and District Projections 2006	電子データ	有				National Bureau of Statistics, Ministry of Planning, Economy and Empowerment	(JR)・CR(　)・SC	
45	2002 Population and Housing Census, Tabora Regional Profile、Volume VI	電子データ	有				Central Census Office, National Bureau of Statistics, President's Office, Planning and Privatization	(JR)・CR(　)・SC	

資料６．事前評価表（JICA）

事業事前評価表

作成日：平成 21 年 4 月 24 日

担当課：地球環境部水資源第 2 課

１．案件名

タンザニア国「タボラ州地方給水・衛生計画策定支援調査」

２．協力概要

（1）事業の目的

本調査の目的は、タンザニア国（以下「タ」国とする）タボラ州における地方給水計画を策定し（M/P）、その計画の中から最も優先性の高いプロジェクトの概略設計（F/S）を行うとともに、本調査の実施を通して実施機関である水・灌漑省、タボラ州、県給水事務所及び流域水管理事務所のカウンターパートの計画策定・実施能力の向上を計ることを目的とする。

（2）調査期間

2009 年 7 月～2011 年 3 月（21 カ月）

（3）総調査費用

（4）協力相手先機関

水・灌漑省地方給水局、水・灌漑省流域水管理事務所、タボラ州政府、各県給水事務所

（5）計画の対象（対象分野、対象規模等）

対象地域は、6県（Nzega県、Igunga県、Urambo県、Sikonge県、Tabora Rural県、Tabora Urban県）からなるタボラ州全域である（面積：約73,500km^2、人口：約200.6万人（2006年））。

３．協力の必要性・位置付け

（1）現状及び問題点

タボラ州は、「タ」国のほぼ中央に当たる標高 1,000～1,300m の高原に位置する。気候は 6～11 月の乾季と 12～5 月の雨季に分かれ、平均年間降水量は 960mm（2002 年時点）である。雨季には季節性の河川が出現するほか、豊富な降雨を利用して農業が行われており、水稲、トウモロコシ、タバコ、落花生、トマト、スイカ、綿花等、多様な作物が栽培され、タボラ州の主要な産業となっている。一方、乾季には河川が枯れ、作物栽培も行われず、飲料水の不足も深刻になる。飲料水の水源は主に地下水に依存しており、現在利用されている 743 箇所の給水施設のうち、709 箇所が地下水を水源としている。

タボラ州では水供給に関し、以下のような課題が見られる。

1）安全な水の確保

タボラ州の給水率は安全な水源にアクセスできる世帯数は 25%となっており、全国平均の 54%を大きく下回っている。その理由として、水源が豊富にないことに加え、同州の既存の水源の多くは手掘りの浅井戸であり、水質は悪く、乾季には枯渇するものも多いことが挙げられ

る。この結果、タボラ州では、下痢、赤痢、腸内寄生虫病等の水因性疾病が、疾病全体の 32.6%を占めている。

2）既存給水施設の現状

既存の給水施設の多くは建設後 20～30 年が経過して老朽化しており、その改修には膨大な資金が必要であるが、予算の不足により、多くの施設が機能の低下を生じている。

3）水資源開発の可能性

タボラ州ではこれまでに包括的な地下水ポテンシャルに関する調査が行なわれたことがない。本地域の地盤は基盤岩層が大半を占めており、滞水層の特定及び深井戸の掘削は技術的に難易度が高く、また調査、開発に要する予算も不足している。

「タ」国政府は、これらの問題を解決するために、2007 年 7 月に我が国に対し、タボラ州の地下水資源ポテンシャルに関する調査とデータベース化、「タ」国が推進する水セクター開発計画（以下「WSDP」とする）に沿った地方給水計画の策定及び優先プロジェクトの提案を主な内容とした開発計画調査型技術協力を要請した。「タ」国は本調査により提案される地下水開発計画の優先プロジェクトを実施するために、我が国に無償資金協力を要請することを計画しており、同協力が実施された場合、タボラ州における安全な水へのアクセスの改善のための直接的な貢献につながる。また、本調査で取りまとめられる地下水開発計画（以下「地方給水計画」とする）及び地下水資源のデータベースは、WSDP に沿った「タ」国独自の給水施設の整備にも資する。

なお、本調査は、広大なタボラ州が抱える給水分野の問題の深刻さに鑑み、短期間で有効な成果を得ることが求められている。JICA は 2009 年 2 月に本調査に関する準備調査を実施し、「タ」国水・灌漑省及びタボラ州の関係機関と協議し、本調査の目的を①タボラ州における既存の水資源に関する情報の整理とそれに基づく地方給水計画の策定及び②優先プロジェクトの概略設計を行うこととして整理した。

（2）相手国政府国策上の位置付け

「タ」国政府は、2006 年に創設された WSDP のコモンファンドを活用し、地方給水・衛生サブプログラム（以下「RWSSP」とする）を実施しており、「2025 年までに地方の平均給水率を 90%まで上昇する」ことを目標に掲げている。本調査は、上記の目標達成に資するものである。

（3）他国機関の関連事業との整合性

「タ」国に対する給水分野のドナーの支援は、WSDP のコモンファンドへの資金投入が主な内容となっており、現在タボラ州で二国間協力を行っているドナーはない。コモンファンドへの主要なドナーは世銀、アフリカ開発銀行、EU、ドイツ開発協会、スイス開発協会、オランダ及び US Millennium Challenge 協会等である。「タ」国政府は、コモンファンドを用いて給水施設の整備を進めており、第一期の 3 ヵ年である現在は、タボラ州の全 6 県で各 10 村、合計 60 村において給水施設の整備が計画されている。一方、NGO では、Water Aid と World Vision がタボラ州で支援を行っている。しかしながら、WSDP 及び NGO の支援が受けられるのは、タボラ州全 487 村落のうちの一部に過ぎない。本調査は、タボラ州全域を対象に地方給水計画を策定し、その成果を

我が国の無償資金協力のほか、第二期以降の WSDP 等の開発計画に活用することが可能である。

（4）我が国援助政策との関連、JICA 国別事業実施計画上の位置付け

本調査は、我が国の援助政策として掲げている TICADIV横浜行動計画の水分野での協力に合致する。また、JICA 国別事業実施計画において、基礎インフラ整備等による生活環境改善が援助重要分野として取り上げられており、水セクターにおいては、本調査の目的である給水率の向上について言及されている。

４．協力の枠組み

（1）調査項目

本調査は 2 つのフェーズに分けて実施する。タボラ州では早急に給水率の向上を図ることが必要とされていることから、第 1 フェーズにおいて、タボラ州全域の地方給水計画（M/P）を策定し、第 2 フェーズにおいて優先プロジェクト実施のための調査（F/S）を行うものとする。具体的には、第 1 フェーズ（M/P）では既存の水理地質、給水施設等に関する情報・資料の収集・分析及びデータベース化を行い、それに基づく地方給水計画を策定するとともに、優先プロジェクトの提案を行う。第 2 フェーズ（F/S）では、優先プロジェクトについて詳細な水理地質調査、裨益村落を対象とした社会条件調査等を実施し、無償資金協力の基本設計レベルの概略設計を実施する。なお、WSDP の第一期プロジェクト及び NGO の支援対象になっている村落は、優先プロジェクトの対象としない。また、第 2 フェーズ（F/S）については、無償資金協力が採択された場合、迅速な実施を考慮し、そのために必要な精度の調査を行うこととする。

1）第 1 フェーズ：地方給水計画の策定

ア．既存情報の収集・分析

①社会条件

②自然条件（水文、気象、地形、地質、水理地質等）

③衛生条件及び水因性疾病の発生状況

④社会経済開発計画、その他開発に関する政策及び計画

⑤水資源の開発・管理、給水・衛生に関する実施中または計画中の事業に関する情報

⑥水資源の開発・管理、給水・衛生に関する既存の法的枠組み

⑦運営・維持管理に関する基準

⑧給水・水資源に関する既存のデータベース

⑨衛星画像、航空写真

イ．既存給水施設に関する現地調査

①取水、浄水、揚水及び配水の各施設の構造

②既存水源の水量及び水質

③村落給水委員会の構成

④運営・維持管理状況

④水費、料金徴収体系

⑤水利用、水へのアクセス、支払い意志、衛生、疾病等

⑥既存給水施設（ハンドポンプ）の復旧の検討

ウ．地下水開発ポテンシャル調査

①地形・地質調査

②衛星画像・航空写真判読
③表流水・地下水調査（流況、利用状況）
④水質分析
⑤水文、気象、地形、地理、地質及び水理地質に関するデータ分析
⑥水理地質図の作成
⑦航空写真判読図の作成
⑧水収支解析
⑨地下水ポテンシャルの評価
⑩地下水ポテンシャルに関するデータベースの取りまとめ

エ．水需要の確認

オ．地方給水計画策定（計画対象年：2020 年）
①水資源開発計画
②給水施設整備計画
③運営・維持管理計画
④政策の改善計画
⑤コミュニティ教育計画
⑥衛生計画
⑦事業費の概算
⑧関係機関の能力向上計画
⑨初期環境調査（IEE）実施に関する技術支援
⑩地方給水計画の評価（経済、財政、政策、社会及び環境面からの評価）

カ．優先プロジェクト及び対象候補村落の選定

2）第 2 フェーズ：優先プロジェクトの概略設計

ア．対象候補村落における衛星画像及び航空写真の判読

イ．対象候補村落における水理地質踏査、物理探査、試掘、孔内検層、揚水試験、水質試験及び地下水位観測

ウ．補足調査・データ収集

エ．対象村落の選定

オ．施設の概略設計

カ．施工計画の策定

キ．運営・維持管理計画策定

ク．コミュニティ教育計画策定

ケ．概算事業費の算定

コ．環境影響評価（EIA）の実施に関する技術支援

シ．優先プロジェクトの評価（経済、財政、政策、社会及び環境面からの評価）

(2) アウトプット（成果）

1）タボラ州全体の地方給水計画が策定される。

2）優先プロジェクトが提案される。

3）本調査を通して、水・灌漑省、州、県、その他関係機関の職員の能力が向上する。

（3）インプット（投入）：以下の投入による調査の実施

1）コンサルタント（分野/人数）

本調査の実施に必要とされる要員は下記の 15 名である。

ア．総括/地方給水計画
イ．地下水開発計画
ウ．水理地質調査
エ．水質調査
オ．水文・気象調査
カ．社会条件調査
キ．都市水道計画
ク．データベース/GIS
ケ．物理探査
コ．試掘調査
サ．給水施設設計
シ．運営・維持管理計画
ス．施工・調達計画/積算
セ．環境・社会配慮
ソ．衛生計画

2）その他

現地再委託による調査（既存給水施設インベントリ、自然条件、社会条件調査、物理探査、試掘）、調査に必要な機材、運営委員会の開催・協議、給水施設の運営・維持管理に関する研修、近隣諸国へ第三国研修等

５．協力終了後に達成が期待される目標（上位目標）

（1）提案計画の活用目標

1）策定された地方給水計画が採用され、WSDP コモンファンド等を用いた水資源開発・管理及び給水施設整備が実施される。

2）地方給水計画に基づき整備される施設において、適切な施設利用がなされる。

3）タボラ州の地方部において、給水施設の改善等を通して、飲料水の量・質両面の改善が図られ、住民の生活環境、健康状態、衛生状態が改善する。

（2）地方給水計画の活用による達成目標の指標

1）タボラ州の地方部における給水率が向上する。

2）タボラ州において水資源が適切に開発・管理される。

６．外部要因

（1）協力相手国内の事情

1）政策的要因：開発政策の変更により水資源開発・管理分野の優先度が低下しないこと

2）行政的要因：水・灌漑省の権限が変更されないこと

3）経済的要因：事業実施に関る予算措置が遅れないこと。WSDP コモンファンドへのドナー支援が継続されること。

4）社会的要因：対象地域人口の急激な増加及び治安の悪化がないこと

（2）関連プロジェクトの遅れ

特になし。

7．貧困・ジェンダー・環境等への配慮項目

（1）本調査で策定する計画は基本的に大規模な水源開発や土木工事を伴うものではないが、管路給水施設の建設に際しては、「タ」国の環境・社会配慮関連の法規に準じ、工事及び用地取得に伴う環境・社会面への影響を考慮する。

（2）本調査の主な裨益者としては、インフラが整備されていない地方部に居住し、雨季の農業を主要な生計とする農民が想定される。施設計画や運営・維持管理計画を策定する際や、村落給水委員会のメンバー構成、水料金の決定の過程で社会的弱者に配慮する。

（3）給水施設の計画に際しては、女性や子供の水汲み労働の軽減に資することを目的とし、集落から給水施設までの距離、運搬時間が短くなるように考慮する。

8．過去の類似案件からの教訓の活用

（1）JICA 開発調査「内部収束地域における地下水開発・管理能力強化計画調査」の対象地域がタボラ州の一部を含んでいることから、その調査結果を本調査に活用する。特に、地下水へのフッ素の影響が指摘されていることから、本調査においても同様に考慮し、対策を検討する。

（2）現在ダルエスサラム州、沿岸州、リンディ州、ムトワラ州で実施されている JICA 技術協力「地方給水衛生能力強化プロジェクト」では、地方給水に関する運営・維持管理に関する教材を作成している。本調査においても、その教材を活用し、カウンターパートの能力向上を図る。

（3）今回の案件は従来、開発調査－無償基本設計調査に分けて実施していた調査を、開発調査の中で一括して実施し、開発計画策定から水供給施設の建設に至る工期を短縮することにより、早期の協力効果の発現を図るものである。

9．今後の評価計画

（1）事後評価に用いる指標

1）活用の進捗度

ア．策定された地方給水計画が活用されたか。

①策定された地方給水計画に基づき事業が実施されたか。

②事業の実施により整備された給水施設は、適正に運営・維持管理が行なわれているか。

イ．活用による達成目標の指標

①地方給水計画に基づいて実施された個別の計画の数

②地方部における給水率の向上

③整備後適切に運営・維持管理が行われている施設の数

2）上記ア及びイを評価する方法および時期

ア．フォローアップ調査によるモニタリング

イ．事後評価：本調査終了後 5 年目以降、必要に応じ実施