

資料 5 討議議事録

- (1) 現地調査の Minutes of Discussions
- (2) 基本設計概要書現地説明の Minutes of Discussions

MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
ON
GROUNDWATER DEVELOPMENT AND SANITATION IMPROVEMENT PROJECT
IN THE NORTHERN PROVINCE
IN THE REPUBLIC OF ZAMBIA

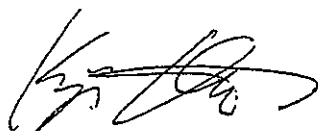
In response to a request from the Government of the Republic of Zambia (hereinafter referred to as "Zambia"), the Government of Japan decided to conduct a Basic Design Study on GROUNDWATER DEVELOPMENT AND SANITATION IMPROVEMENT PROJECT IN THE NORTHERN PROVINCE (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Zambia the Basic Design Study Team (hereinafter referred to as "the Team"), which was headed by Mr. Koji OTA, Deputy Resident Representative, JICA Zambia Office, JICA. The Team is scheduled to stay in the country from March 7, 2003 to April 15, 2003.

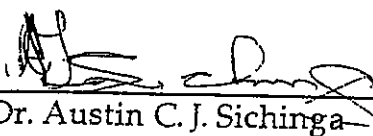
The Team held discussions with the officials concerned of the Government of the Zambia and conducted a field survey in the study area.

In the course of discussions, both parties confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Lusaka, March 13, 2003

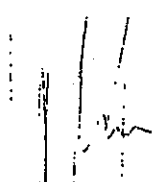


Mr. Koji OTA
Leader
Basic Design Study Team
Japan International Cooperation Agency
Japan



Dr. Austin C. J. Sichinga
Permanent Secretary,
Ministry of Energy and Water
Development (MEWD),
The Republic of Zambia

Witness



Ms. Monde F. Sitwala
Acting Director,
Economic Technical Cooperation,
Ministry of Finance and National
Planning (MFNP)
The Republic of Zambia



Mr. Peter Lubambo
Director, DISS
Ministry of Local Government and
Housing (MLGH),
The Republic of Zambia

ATTACHMENT

1. Objective of the Project

The objective of the Project is to improve the living standard of rural population by means of development of groundwater supply for drinking and capacity building and hygiene education for the community.

2. Project sites

The sites of the Project are the selected villages in the Districts of Isoka, Nakonde, Mbala, Chinsali, Mpulungu, Luwingu and Mpika in the Northern Province.

3. Responsible and Implementing Agency

The responsible agency is the Ministry of Energy and Water Development (MEWD). The implementing agency is Department of Water Affairs (DWA). The organization charts of National and Provincial DWA are shown in Annex-I.

4. Items requested by the Government of Zambia

- 1) The sites and equipment requested by the Zambian side are listed in Annex-II and Annex-III. The Zambian side also requested technical transfer in the "soft component" programme for capacity building for the Operation and Maintenance (O/M), and sanitation and hygiene education for the communities.
- 2) JICA will assess the appropriateness of the request from a technical, social and economic point of view through the further study and analysis during the basic design study, for the proper, effective and efficient utilization of the Grant Aid budget as much as possible. And JICA will recommend it to the Government of Japan for approval. However, the components of the Project will be decided by the Government of Japan.
- 3) The Zambian side explained the reason to request water supply facility construction and equipment supply as stated below. Further, the Zambian side explained to put priority on the equipment supply. Both sides agreed that whether the Project constitutes of the equipment supply, will be decided after the examination of future plans, and crew and budget allocation for construction of water supply facilities have been done;
 - i) Water supply facility construction: in order to cover the target percentage of 50 % of access to safe and adequate water supply for the rural communities as recommended in the "National Water Resources Master Plan" formulated in 1995
 - ii) Equipment facility: in order to develop groundwater supply by the Zambian side with its own budget after the Project
- 4) The Japanese side explained that the number of villages for the Project might be reduced from the requested 300 due to the severe budgetary constraints. However, both sides agreed to cover as many villages as possible by considering the following items;

- i) Design, specification and method of construction of the water supply facilities as well as specification of the equipment should be as appropriate as possible for the sake of saving the construction and O/M cost to secure sustainable O/M of the facilities to be constructed and the equipment to be procured under the Project. The Zambian side requested to maintain the quality of facilities.
 - ii) Crews of DWA shall initially construct water supply facilities in some villages with technical supervision after the technical training by Japanese contractors under the Project. The Zambian side will be responsible for selection of the staff to be trained.
 - iii) The Zambian local contractors will be utilized to construct water supply facilities in some villages if the capacity of local contractors is confirmed.
 - iv) The drilling equipment that belongs to the Zambian side will be allocated for the Project. The Japanese side especially requested to utilize the equipment that will be procured under the Debt Relief Grant Aid Project and that has been operated under the project of "GROUNDWATER DEVELOPMENT AND SANITATION PROJECT IN DROUGHT PRONE RURAL AREA"(Drought Prone Area Project).
- 5) Both sides agreed that the Project sites and the components would be further examined during the basic design study taking into consideration the proposed criteria as described in Annex-IV. Both sides also agreed that additional criteria would be developed in the course of the study if found necessary.

5. Japan's Grant Aid Scheme

The Zambian side understood Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Zambia as explained by the Team and described in Annex-VII and Annex-VIII.

6. Schedule of the Study

- 1) The Team will proceed with the study in Zambia until April 15, 2003.
- 2) JICA will prepare the Draft Final Report in English and dispatch a mission in order to explain its contents in June 2003.
- 3) In case that the content of the report is accepted in principle by the Government of Zambia, JICA will prepare the Final Report and send it to the Government of Zambia by the end of August 2003.

7. Operation and Maintenance (O/M)

- 1) The Zambian side assured that the costs of O/M of the water facilities would be covered entirely by beneficiaries and the Government of Zambia.
- 2) The Zambian side explained the function of WASHE as described in Annex-V.
- 3) The Zambian side explained that Ministry of Local Government and Housing (MLGH) is responsible for coordinating the O/M after the Project. The organization chart of MLGH is shown in Annex-VI.

8. Sanitation and Hygiene education programme

- 1) The Zambian side requested for inclusion of sanitation and hygiene education programme under the Project because communities are prone to suffering from water-borne diseases due to fetching water for drinking from contaminated resources.
- 2) Both sides agreed to include the education to the communities on proper usage of sanitary facilities for excreta disposal in the sanitation and hygiene education programme.
- 3) Further both sides agreed that communities will not be stopped from acquiring rain water for drinking in rainy season but the education for proper treatment of it should be provided to them.

9. Role of MLGH through Department of Infrastructure and Support Services (DISS)

The MLGH will participate in the Project implementation as follows;

- 1) At national level through DISS by attendance of site inspections and meetings as scheduled by the Project
- 2) They have to ensure full participation of the council through D-WASHE activities.
- 3) Ensuring that there is no duplication of D-WASHE on development of the sites.
- 4) Respective District Council should avail staff for training on handpump maintenance and other issues.

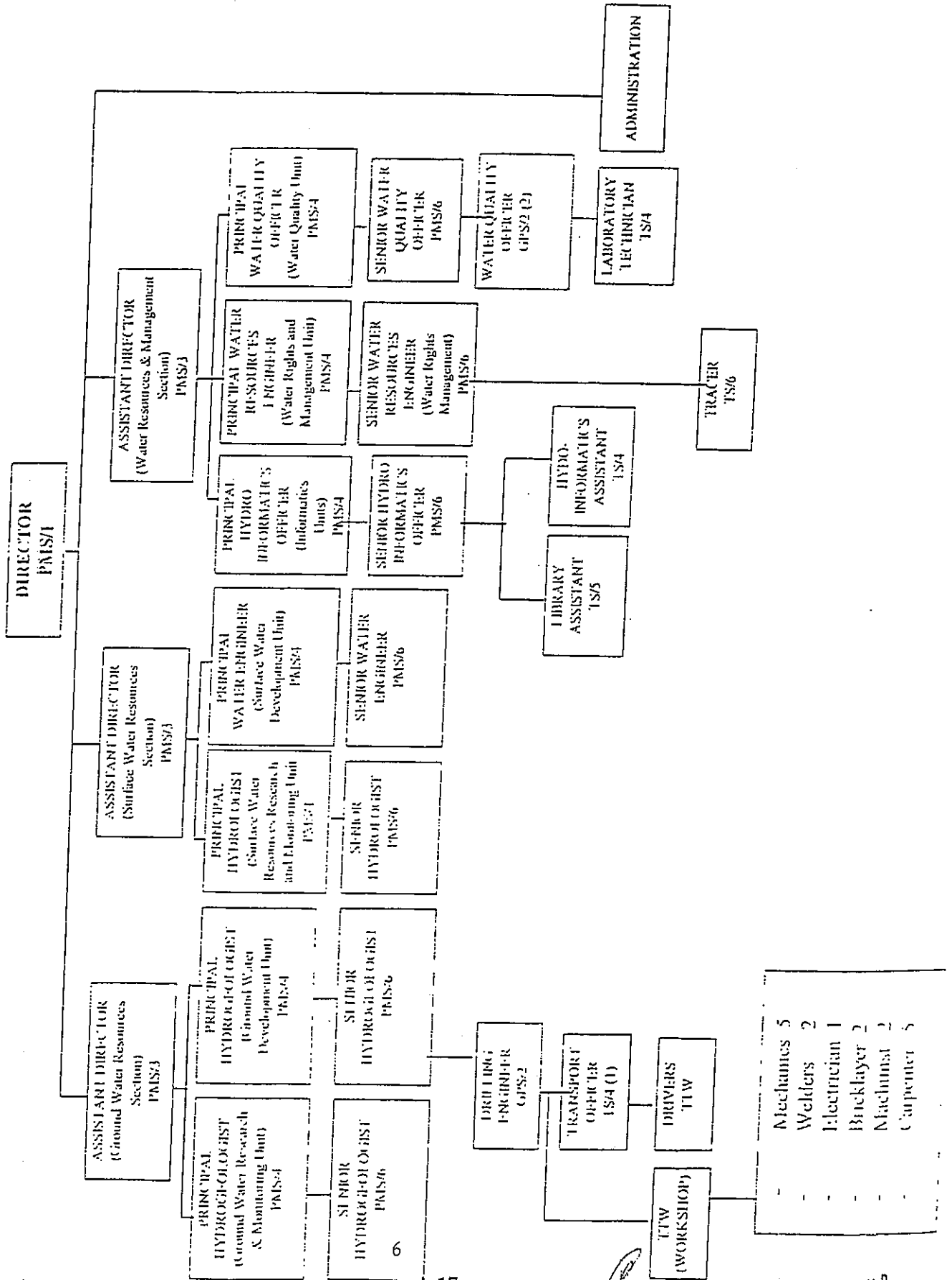
10. Coordination of the donors

- 1) The Zambian side explained the involvement of other donors;
 - i) African Development Bank (ADB) under the project of construction / rehabilitation of about 2,000 boreholes, promotion of hygiene education, malaria and HIV control, and catchment protection which is implemented from 2001 to 2006 in Central Province of Zambia,
 - ii) The German Government through KfW is implementing a rural water supply development project in Eastern Province aimed at constructing 820 water points for the period from 2001 to 2005,
 - iii) In the Northwestern Province of Zambia, the Government of Zambia is working with KfW in designing a program aimed at construction and rehabilitation of boreholes, construction of pit latrines, and promotion of hygiene education, and
 - iv) Ireland Aid is undertaking of integrating development project in Northern Province with some elements of construction and rehabilitation of boreholes on a small scale, and also promotion of hygiene education.
- 2) The Zambian side mentioned that there is no duplication of the projects by other donors in the Project sites.
- 3) At the national level there is a Donor/NGO coordination committee whose main function is to coordinate implementation of projects in rural water supply.

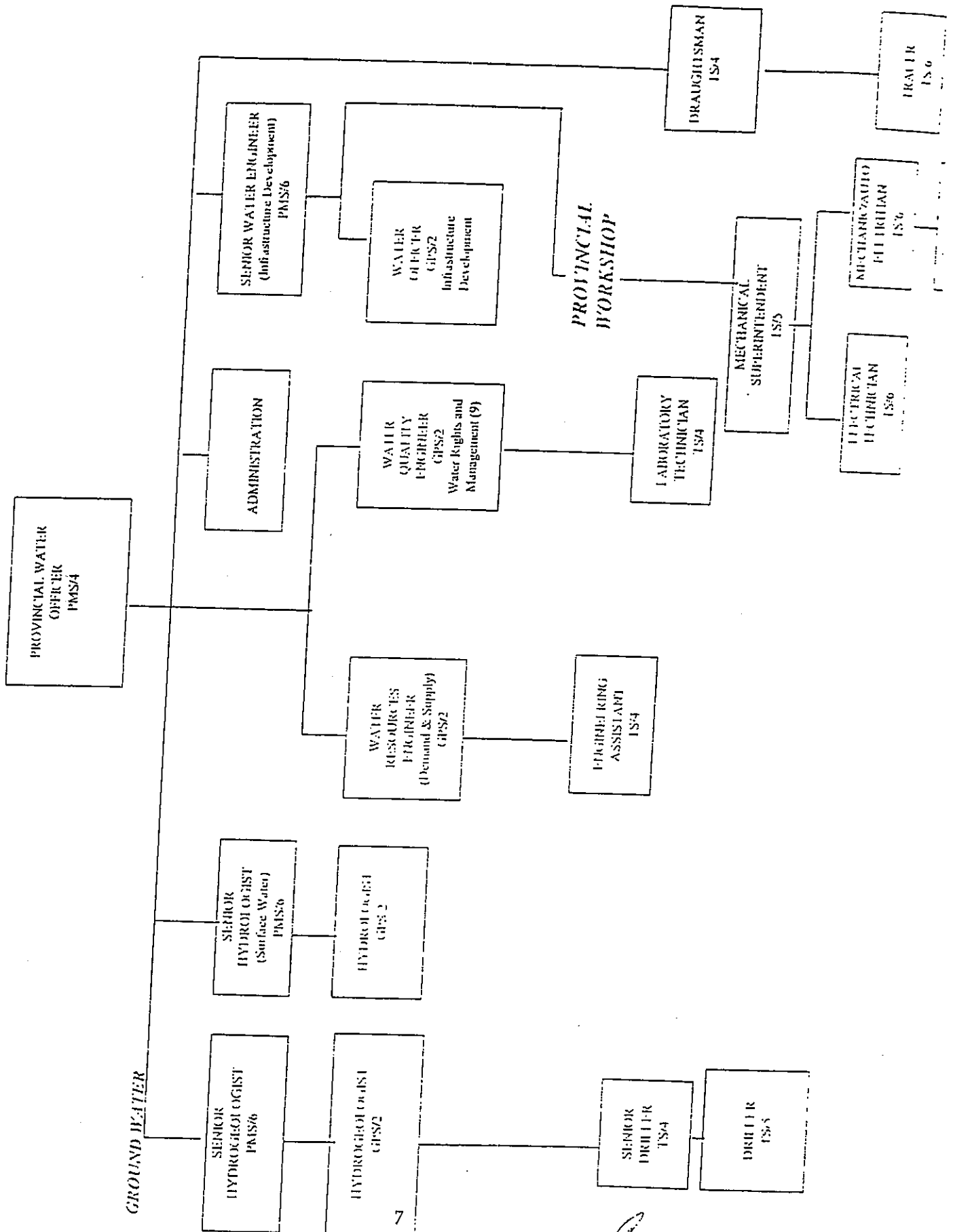
11. Other relevant issues

- 1) Both sides agreed in principle to adopt the Zambian water quality standard and to consider WHO guidelines for items which have high health risks.
- 2) The Zambian side requested that Indian Mark II handpumps be installed on the boreholes because of its widely spread usage in Zambia and it is also highest ranked among the five standardized handpumps (Indian Mark II, afridev, consallen, blair and bush pump) in Zambia. The Japanese side, however, explained that the brand of handpumps will be decided after examination of water quality, depth of water level, ease of O/M and accessibility to spare parts in Zambia during Basic Design Study.
- 3) Both sides agreed that there will not be the third trial of drilling after two trials are concluded unsuccessful in terms of water quality, production, etc in the same village.
- 4) The Zambian side informed that there are seven (7) operative existing drilling rigs under DWA; one in Kasama, two under the HIPC project and 4 under the Drought Prone Area Project. However five of them are in their need of repair and their operation efficiency is below 50%.
- 5) The Zambian side agreed to submit the Project site list with ranking of priority in each district during the study by the mid of April.

ORGANIZATION CHART OF National DWA



ORGANIZATION CHART OF PROVINCIAL DWA



PROJECT SITES REQUESTED BY THE GOVERNMENT OF ZAMBIA (vol.1)

ISOKA DISTRICT	
No.	Name
IS-1	WENJIA
IS-2	KAFWIMBI
IS-3	KAPEMBE
IS-4	NTUMBI
IS-5	MULAMBA
IS-6	CHITETE VILLAGE
IS-7	MUBAPA
IS-8	MWENJISI
IS-9	MPANGALA VILLAGE
IS-10	MWENJISI SCHOOL
IS-11	NAMSIKURKALUNGU
IS-12	MWESISI VILLAGE
IS-13	CIANAMA
IS-14	CHIWANDA VILLAGE
IS-15	KAPILONGA
IS-16	TUBALE
IS-17	KAYANGA VILLAGE
IS-18	CIUWI
IS-19	MWEMBE
IS-20	LIJALI
IS-21	MUTUKUMBI
IS-22	NOAS VILLAGE
IS-23	KOSAMU VILLAGE
IS-24	NYENGO VILLAGE
IS-25	SICHTAMBULE VILLAGE
IS-26	THEENDERE RIC
IS-27	THEENDERE BASIC SCHOOL
IS-28	MUYOMBE VILLAGE A
IS-29	CHINYANSI VILLAGE
IS-30	CHIPKOSO VILLAGE
IS-31	SANSAMWENJE VILLAGE
IS-32	KANTENSHA
IS-33	SICIRINGA VILLAGE
IS-34	KAWENGA
IS-35	KALIMAMUTENGO
IS-36	ZEBEDIA VILLAGE
IS-37	NAMYALA
IS-38	MULUNGWIZI VILLAGE
IS-39	ITONTELA VILLAGE
IS-40	MWASENI COMMUNITY
IS-41	NACHISITU VILLAGE
IS-42	CHIMUNGOTO VILLAGE
IS-43	MUTIKATEMBO

KAKONDE DISTRICT	
No.	Name
NA-1	NAKAKOLA VILLAGE
NA-2	KAWELE SCHOOL
NA-3	KANDALALA VILLAGE
NA-4	KAWELE VILLAGE
NA-5	BURTON VILLAGE
NA-6	NEGA
NA-7	KASAI AWE VILLAGE
NA-8	MAYEMBE VILLAGE
NA-9	MIRUYA SCHOOL
NA-10	NACHIPETA VILLAGE
NA-11	ISASA VILLAGE
NA-12	UZINI SCHOOL
NA-13	CHIWELE SCHOOL
NA-14	NANKUNGULI SCHOOL
NA-15	CHINSAMBWE SCHOOL
NA-16	KAZEMBE SCHOOL
NA-17	YOLO COMMUNITY SCHOOL
NA-18	MUSESENGOMA SCHOOL
NA-19	SHEMU RIC
NA-20	KALANDA
NA-21	LUKIMBA VILLAGE
NA-22	ILENGA VILLAGE
NA-23	MUTACHI VILLAGE
NA-24	KAZEMBE VILLAGE
NA-25	IYICHI VILLAGE
NA-26	MISANKA VILLAGE
NA-27	CHITAMBI VILLAGE
NA-28	MUSESENGOMA VILLAGE
NA-29	MWANGA VILLAGE
NA-30	IZUWA VILLAGE (B)
NA-31	CHINSAMBWE VILLAGE
NA-32	KASICHIILA VILLAGE
NA-33	CHOZI RIC
NA-34	MULI VILLAGE
NA-35	CHIAPANZA SCHOOL
NA-36	MWANGA SCHOOL

MBALALA DISTRICT	
No.	Name
MB-1	CHIYANGA SCHOOL
MB-2	NIELISANI VILLAGE
MB-3	MULUNDA VILLAGE
MB-4	ZOMBE SCHOOL
MB-5	CIUPA VILLAGE
MB-6	MUSIPAZI SCHOOL
MB-7	MUSIPAZI VILLAGE
MB-8	MPINGA VILLAGE
MB-9	MASAMBA VILLAGE
MB-10	MUSEMKELE VILLAGE
MB-11	LUKWESA VILLAGE
MB-12	MILUWEZI VILLAGE
MB-13	KAZIWE SCHOOL
MB-14	REUBEN SCHOOL
MB-15	MWENYI SCHOOL
MB-16	SONGOLI VILLAGE
MB-17	NAKAPONDA VILLAGE
MB-18	CHIPANDA VILLAGE
MB-19	KAPENDA VILLAGE
MB-20	MWAMBIZA CHILINO VILLAGE
MB-21	MWAMBIZA VILLAGE
MB-22	CHINENKE VILLAGE
MB-23	KEDRICKS VILLAGE
MB-24	NAMUKALE VILLAGE
MB-25	KAMYANGA VILLAGE
MB-26	CHIMULA VILLAGE
MB-27	CHIMULA SCHOOL
MB-28	VIMBULI VILLAGE
MB-29	MAMBWE SCHOOL
MB-30	NSINDANO SCHOOL
MB-31	JOHN CHIUVITA SCHOOL
MB-32	MWILA VILLAGE
MB-33	KALEKWA VILLAGE
MB-34	ETON VILLAGE
MB-35	LOBO VILLAGE
MB-36	CHIKOTI VILLAGE
MB-37	MWAMBWO SCHOOL
MB-38	MWAMBA SCHOOL
MB-39	MOSES SCHOOL
MB-40	MOSES VILLAGE
MB-41	SUME VILLAGE
MB-42	KALALA VILLAGE
MB-43	ISANYA VILLAGE
MB-44	KANYIKA VILLAGE
MB-45	MUNKALALA VILLAGE
MB-46	KATI VILLAGE
MB-47	LONDE VILLAGE
MB-48	KAKONDE VILLAGE
MB-49	MUNTONGA VILLAGE
MB-50	CHASHA VILLAGE
MB-51	MINDOLO VILLAGE
MB-52	KAYIMBO SCHOOL
MB-53	CHILESHIYA SCHOOL

CHINSALI DISTRICT	
No.	Name
CH-1	MUBANGA VILLAGE
CH-2	MPYANABWAI YA VILLAGE
CH-3	MUSANYA SCHOOL
CH-4	KALELA VILLAGE-1
CH-5	LUBU SCHEME
CH-6	NAMBITULMA VILLAGE
CH-7	MULANGA VILLAGE
CH-8	MUSAPA VILLAGE
CH-9	CHIABALA VILLAGE
CH-10	KALELA VILLAGE-2
CH-11	CHIBESAKUNDA SCHOOL
CH-12	KABANGAMA SCHOOL
CH-13	CHINKALANGA SCHOOL
CH-14	SHE SCHOOL
CH-15	LUBWA VILLAGE
CH-16	MUNGULUBE SCHOOL
CH-17	POYA SCHOOL
CH-18	CHIBESA SCHOOL
CH-19	MWALALA SCHOOL
CH-20	CHANDAMALI VILLAGE
CH-21	KANTIMBA SCHOOL
CH-22	VITONDO SCHOOL
CH-23	MATUNBO VILLAGE
CH-24	MUSONKO SCHOOL
CH-25	CHOSHI VILLAGE
CH-26	MUKWIKILE PALACE
CH-27	KAPASII VILLAGE
CH-28	MUKUNGWA SCHOOL
CH-29	KAPISHA SCHOOL
CH-30	KALISHA SCHOOL
CH-31	SHIMWALULE SCHOOL
CH-32	CHESWA SCHOOL
CH-33	CHIIPUNGA SCHOOL
CH-34	MUPEKA SCHOOL
CH-35	BWINAMBO SCHOOL
CH-36	CHILUNDA SCHOOL

PROJECT SITES REQUESTED BY THE GOVERNMENT OF ZAMBIA (vol.2)

⑤ MIPULANGU DISTRICT	
No.	Name
MI-1	KAMBWA
MI-2	KAMBOTJE
MI-3	KAKOLO
MI-4	LEMBAI
MI-5	MULI-MPUMU
MI-6	CHUMBWA RHC
MI-7	KASTA
MI-8	CHIKONDE
MI-9	KASISU
MI-10	MTEMA
MI-11	SHIMWALOTJA
MI-12	KAMBWA
MI-13	KOPEKA
MI-14	SIMOKIJA
MI-15	JECAP
MI-16	KASASII
MI-17	CHILWA
MI-18	CHIAUJU
MI-19	MENGO
MI-20	MUSWITO
MI-21	KALONGOLA
MI-22	CHIBOTE
MI-23	CHINTA
MI-24	PATRICK
MI-25	KATULA
MI-26	MUKAKA
MI-27	MULUWE
MI-28	KAZYA
MI-29	ISOKO
MI-30	MAKOLA
MI-31	CHINAKIIA
MI-32	VYAMBA
MI-33	MULI-ANGINDO
MI-34	MUNGHILA
MI-35	KASANSALA
MI-36	KALINDA
MI-37	KASASA
MI-38	MIPATA
MI-39	PUSA
MI-40	MWANAKATWE
MI-41	KAPOKO
MI-42	MUSINDE
MI-43	KASAKALAWI

⑥ LUWINGU DISTRICT	
No.	Name
LU-1	CHIANDA CHIPALO
LU-2	SALI
LU-3	PAUNDI
LU-4	SANDUULILA
LU-5	KAPISHA
LU-6	MULALA SCHOOL
LU-7	CHIFWA SCHOOL
LU-8	MUCHILEKA SCHOOL
LU-9	MPASA SCHOOL
LU-10	CHIBULIT COMMUNITY SCHOOL
LU-11	KATUTA SCHOOL
LU-12	CHIFWILE SCHOOL
LU-13	MUKANGA SCHOOL
LU-14	MISAMBILA SCHOOL
LU-15	KANDATA SCHOOL
LU-16	LUENA CLINIC
LU-17	MFUNGWE SCHOOL
LU-18	NSOLO SCHOOL
LU-19	WASHENI SCHOOL
LU-20	CHIBOFWE
LU-21	KABANGALA SCHOOL
LU-22	CHAKABA VILLAGE
LU-23	MALAYA
LU-24	MUMBA VILLAGE
LU-25	CHAMBULA SCHOOL
LU-26	MWANDO SCHOOL
LU-27	NSINDABA VILLAGE
LU-28	LUNDU SCHOOL
LU-29	NSOMBO VILLAGE
LU-30	MWANDO HP
LU-31	CHIFESH VILLAGE
LU-32	KATUTA RHC
LU-33	BULAMBO SCHOOL
LU-34	CHAMBO SCHOOL
LU-35	NDALAMA VILLAGE
LU-36	MAI EKANI SCHOOL
LU-37	CHIMPAMA SCHOOL
LU-38	TOLOPA VILLAGE
LU-39	KANSASA SCHOOL
LU-40	KAROMBO SCHOOL
LU-41	KAPUTI VILLAGE
LU-42	KAPOMA VILLAGE
LU-43	LWENGE SCHOOL
LU-44	SANDE VILLAGE

⑦ MPEKA DISTRICT	
No.	Name
MK-1	KAPOKO
MK-2	KALONGA(CHI ONGA)
MK-3	MPIMBA SCHOOL
MK-4	MPIMBA VILLAGE
MK-5	LUKULI VILLAGE
MK-6	NGWAI COMMUNITY SCHOOL
MK-7	KATONGO KAPALA
MK-8	MWATESHI
MK-9	CHISONGO VILLAGE
MK-10	MUKUNGULE VILLAGE
MK-11	LUFILA VILLAGE
MK-12	KAKOKO VILLAGE
MK-13	CHINSHI VILLAGE
MK-14	CHISHALA SCHOOL
MK-15	CHOBELA SCHOOL
MK-16	CHISHALA VILLAGE
MK-17	CHOBELA VILLAGE
MK-18	MWANFUSHI VILLAGE
MK-19	KATUBA VILLAGE
MK-20	IFUNDA VILLAGE
MK-21	MUFUBISHI VILLAGE
MK-22	MALAMBWA VILLAGE
MK-23	MPEPO VILLAGE
MK-24	CHAMBESHI VILLAGE
MK-25	KABILA MWIKO VILLAGE
MK-26	KALOG VILLAGE
MK-27	NDAKA VILLAGE
MK-28	ALUNI VILLAGE
MK-29	LICHEMBE VILLAGE
MK-30	CHIPENDELE VILLAGE
MK-31	CHIAKOFU VILLAGE
MK-32	MUKUNGHU PALACE
MK-33	CHIKOLE VILLAGE
MK-34	CHIKWANDA VILLAGE
MK-35	MUNDEMA SCHOOL
MK-36	CHIKAKALA VILLAGE
MK-37	KOPA VILLAGE
MK-38	KOPA SCHOOL
MK-39	MPANDAFISIARA COMMUNITY
MK-40	NEW KAMWANYA
MK-41	CHUNDAPONDE VILLAGE
MK-42	CHUNDAPONDE SCHOOL
MK-43	CHUNDAPONDE RHC
MK-44	KASHAITA VILLAGE
MK-45	KASHIYA VILLAGE

EQUIPMENT REQUESTED BY THE GOVERNMENT OF ZAMBIA

No.	Item	Quantity
1.	DRILLING EQUIPMENT	
1)	Truck-mounted rig, Top-head drive type	1 unit
2)	Standard tools and accessories	1 set
3)	Truck-mounted compressor	1 unit
4)	Logging equipment	1 unit
5)	Pumping test equipment	1 set
6)	Workshop equipment and tools	1 set
2.	SUPPORTING VEHICLES	
1)	Cargo truck with crane for transport containers and casing pipes	1 unit
2)	Cargo truck with crane for transport pumping test equipment	1 unit
3)	Water tanker	1 unit
4)	Fuel tanker	1 unit
5)	Pickup truck, 4WD, double cabin	3 units
3.	GEOLOGICAL SURVEY EQUIPMENT	1 set
4.	SPARE PARTS FOR EXISTING DRILLING MACHINES, VEHICLES AND RELATED MACHINES	1 lot
5.	SUPPORTING EQUIPMENT FOR WASHE ACTIVITIES	
1)	Pickup truck, 4WD, single cabin	3 units
2)	Motorbike	21 units
3)	Data processing equipment	2 sets
4)	Water quality analysis kit	7 sets

**CRITERIA FOR SELECTION OF THE PROJECT SITES
AND COMPONENT OF FACILITIES**

Water sources

- 1) Raw water quality of groundwater meets the Zambian standards for drinking water.
- 2) Depth to the water table is not beyond practical and economical pumping range.
- 3) Accessibility to the target sites is secured.

Facilities

- 4) There is neither safe nor sufficient existing water supply facility.
- 5) There are no existing water supply facilities which can be rehabilitated.

Socio-economical situations

- 6) Water committees are established before commencement of construction.
- 7) Communities are ready to participate and contribute to O/M for the Project.
- 8) Water-borne diseases are prevalent.
- 9) There is no apparent obstruction to land acquisition.
- 10) Possibility of money raising by the water committee satisfactorily covers O/M cost requirement for water supply facilities.

Others

- 11) There is no project by other donors overlapping in the drilling sites.
- 12) The project cost efficiency is justifiable.

WASHE FUNCTION

WASHE stands for Water Sanitation and Hygiene Education. The main role/responsibility of all WASHE committees, be it Provincial WASHE (P-WASHE), District WASHE (D-WASHE), Sub-district WASHE (Sub-WASHE) or Village WASHE (V-WASHE) is to co-ordinate water, sanitation and hygiene education activities.

It should be noted that D-WASHE is a sub-committee of the District Development and coordinating committee (DDCC) whose tasks is to address WASHE concerns. Some of the specific roles and responsibilities of the respective WASHE committees are as given below:

1. P-WASHE

- Consolidation of D-WASHE plans to develop the provincial plan;
- To coordinate D-WASHE activities;
- Dissemination of information, e. g. on policy, donors supporting agencies operating in the province;
- Coordinating of donor support;
- Development of systems and strategies; and
- Monitoring and Evaluation of D-WASHE programmes.

2. D-WASHE

- Consolidation of Sub-WASHE plans into the District Plan;
- Co-ordination of Sub-WASHE activities;
- Training of Sub-WASHE Committee;
- Monitoring and Evaluation of Sub-WASHE Committees;
- Facilitate the carrying out of major repairs; and
- Community Sensitisation.

3. SUB-WASHE

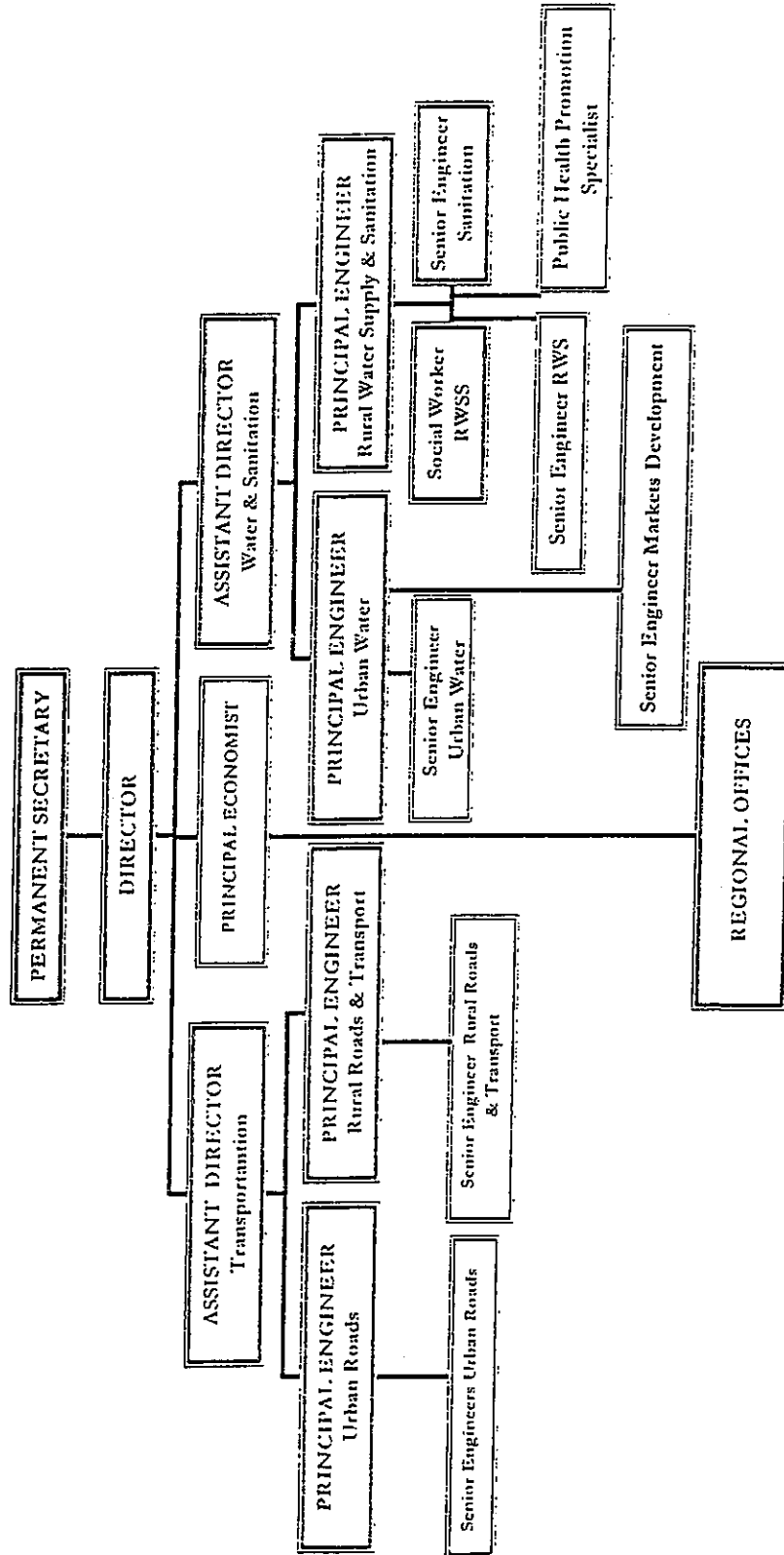
- Assist communities in planning;
- Identification/Selection of pump mender to be trained;
- Co-ordinate V-WASHE activities;
- Monitor and Evaluate performance of V-WASHEs; and
- Facilitate carrying out of monitor repairs by pump mender.

4. V-WASHE

- Mobilisation of the community;
- Mobilisation of resources for O & M;
- Carry out day to day operation and maintenance;
- Develop rules and regulations on the use of the WATSAN facilities;
- Community needs identification; and
- Provide locally available resources such as unskilled labour, local material and tools.

ORGANIZATION CHART OF MLGH

MINISTRY OF LOCAL GOVERNMENT AND HOUSING
DEPARTMENT OF INFRASTRUCTURE AND SUPPORT SERVICES



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JAPAN'S GRANT AID SCHEME

1. Grant Aid Procedures

(1) Japan's Grant Aid Program is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

(2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Basic Design Study

(1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Japanese Government. The contents of the Study are as follows:

- 1) Confirmation of the background, objectives, and benefits of the requested project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation.

- 2) Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, social and economical point of view.
- 3) Confirmation of items agreed on by both parties concerning the basic concept of the Project.
- 4) Preparation of a basic design of the Project.
- 5) Estimation of costs of the Project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Study, JICA uses (a) registered consultant firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the Study is (are) recommended by JICA to the recipient country to also work in the Project's implementation after the Exchange of Notes, in order to maintain technical consistency.

3. Japan's Grant Aid Scheme

(1) Grant Aid

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

(2) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the Governments concerned, in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid, etc. are confirmed.

(3) "The period of the Grant Aid" means the one fiscal year which the Cabinet

approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consultant firm(s) and (a) contractor(s) and a final payment to them must be completed.

However in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year by mutual agreement between the two Governments.

- (4) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However the prime contractors, namely, consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

- (5) Necessity of "Verification"

The Government of recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

- (6) Undertakings required of the Government of the Recipient Country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

- 1) To secure land necessary for the sites of the Project, and to clear, level and reclaim the land prior to commencement of the construction.
- 2) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.
- 3) To secure buildings prior to the procurement in case the installation of the equipment.
- 4) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid.
- 5) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts.
- 6) To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into

the recipient country and stay therein for the performance of their work.

- 7) Proper Use
The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.
- 8) Re-export
The products purchased under the Grant Aid should not be re-exported from the recipient country.
- 9) Banking Arrangement (B/A)
 - (a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified contracts.
 - (b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an authorization to pay issued by the Government of the recipient country or its designated authority.

MAJOR UNDERTAKING TO BE TAKEN BY EACH GOVERNMENT

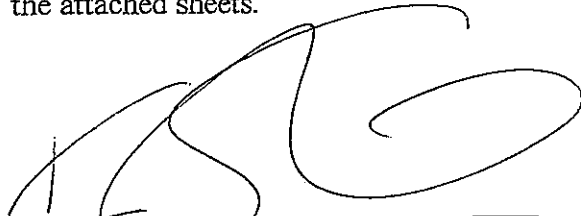
No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To secure land		●
2	To clear, level and reclaim the site when needed		●
3	To construct gates and fences in and around the site		●
4	To bear the following commissions to the Japanese foreign exchange bank for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
5	To ensure unloading and customs clearance at port of disembarkation in recipient country		
	1) Marine (Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site		●
6	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.		●
7	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts.		●
8	To maintain and use properly and effectively the equipment provided under the Grant.		●
9	To bear all the expenses, other than those to be borne by the Grant.		●

MINUTES OF DISCUSSIONS
ON BASIC DESIGN STUDY
ON
GROUNDWATER DEVELOPMENT AND SANITATION IMPROVEMENT
PROJECT IN THE NORTHERN PROVINCE
IN THE REPUBLIC OF ZAMBIA
(EXPLANATION ON DRAFT FINAL REPORT)

In March 2003, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on the GROUNDWATER DEVELOPMENT AND SANITATION IMPROVEMENT PROJECT IN THE NORTHERN PROVINCE (hereinafter referred to as "the Project") to the Republic of Zambia (hereinafter referred to as "Zambia"), and through discussions, field survey, and technical examination of the study results in Japan, JICA prepared a draft final report of the study.

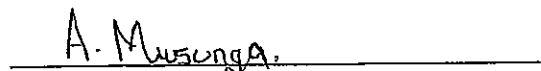
In order to explain and to consult the Government of Zambia on the components of the draft final report, JICA sent to Zambia the Draft Final Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Mr. Katsuichiro Sakai, Deputy Resident Representative, JICA Zambia Office, from 21 July to 25 July 2003.

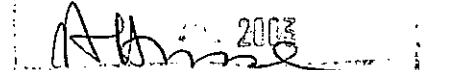
As a result of discussions, both parties confirmed the main items described on the attached sheets.



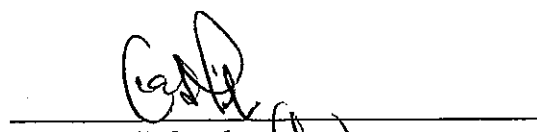
Mr. Katsuichiro Sakai
Leader
Draft Report Explanation Team
Japan International Cooperation Agency
Japan

Witness:


Ms. Agnes M. Musunga
Chief Economist, Economic and
Technical Cooperation (ETC)
Ministry of Finance and National
Planning (MFNP)
The Republic of Zambia

REPUBLIC OF ZAMBIA
Lusaka, 25th July 2003


Mr. Adam Hussen
Acting Director
Department of Water Affairs (DWA)
Ministry of Energy and Water
Development (MEWD)
The Republic of Zambia


Mr. Peter Lubambo
Director, Department of Infrastructure
and Support Services (DISS)
Ministry of Local Government and
Housing (MLGH)
The Republic of Zambia

ATTACHMENT

1. Components of the Draft Report

The Government of Zambia agreed and accepted in principle the components of the draft report explained by the Team.

2. Japan's Grant Aid Scheme

The Zambian side understands Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Zambia as explained by the Team and described in Annex-VII and Annex-VIII of the Minutes of Discussions signed by both parties on 13 March 2003.

3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Government of Zambia by September 2003.

4. Other Relevant Issues

(1) Project Sites

- The Team explained that, from the results of the field survey, 268 sites out of the requested 300 sites were selected as feasible for development using the following criteria.
 - a. The target population is over 100 persons.
 - b. Construction vehicles are accessible into the site.
 - c. The site is not receiving a safe and sufficient supply of water.
 - d. The target residents are willing to maintain the constructed water supply facilities.
 - e. Other water supply projects are not in duplication in the site.
- The Team further explained that, in order to increase possibilities for the Zambian side to carry out construction works by themselves, a short listing was conducted with the following additional criterion.
 - f. The site already has a voluntarily formed water or health related organization
- As a result of the screening, both sides confirmed that the number of Project sites is 175 as listed in ANNEX-1.
- Both sides confirmed that there will not be a third drilling after two trials are concluded as unsuccessful in terms of yield and water quality at the same site. In this case alternative sites, which did not satisfy the additional criterion f. above, will be selected from the list shown in ANNEX-1,.

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(2) Project Water Source

- Fundamentally, water should be supplied from confined aquifer, but if the yield or water quality does not satisfy the agreed criteria, then water should be supplied from unconfined aquifer on condition that the yield and quality of unconfined groundwater satisfy the criteria.
- The Zambian side suggested adopting a drinking water quality guideline value of 2 mg/lit for iron in favor of increasing possibilities for securing greater number of confined groundwater sources.

(3) Equipment to be Procured

Both sides confirmed that the items listed in ANNEX-2 would be procured in the project.

(4) Software Component Programme

- The Zambian side requested the consultant services of the “software component” to be included in the Project in order to conduct health and hygiene education and secure sustainable operation and maintenance activities after completion of the Project.
- The Zambian side explained that the D-WASHEs, Sub-WASHEs and V-WASHEs of Project sites require strengthening and capacitating through the software component programme.
- The Zambian side agreed to assign relevant personnel at the Provincial, District and Sub-District levels to implement the software component programme with support from the Japanese consultant and local NGO/consultant, and preparations will be made for the programme.

(5) Operation and Maintenance

- The Ministry of Local Government and Housing (MLGH) should be responsible for coordination of operation and maintenance to ensure sustainability of the water supply facilities constructed under the Project.
- Each level WASHE committees (P-WASHE, D-WASHE, Sub-WASHE, V-WASHE) will function accordingly for proper operation and maintenance of the completed water supply facilities.
- The costs for operation and maintenance of the completed water supply facilities would be covered entirely by the beneficiary residents of the Project sites with support from the government of Zambia.

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(6) Technology Transfer Programme

- The Zambian side requested training of technicians as conducted in previous Japanese grant aid projects to strengthen the dwindling technical staff of DWA, as well as technology transfer on planning, supervision and management to foster trainers for the future, to be included in the Project.
- For this technology transfer, the Zambian side agreed to select the trainees and make preparations for the programme.

(7) Responsibilities of Zambian Side

- The Zambian side confirmed that land necessary for the main stockyard in Kasama and base camps in the target districts would be provided during the construction works.
- The Zambian side agreed to take necessary measures to allocate the budget required by the Zambian side for implementation of the Project.

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ANNEX-1 Project Site List

Site Code No.	Site Name	D-WASHE Priority	Project Priority	Pop.	Implementation
MPIKA DISTRICT					
MK 22	Malambwa Village	2	1	1326	Project
MK 20	Ifunda Village	5	2	510	Project
MK 19	Kaluba Village	6	3	2500	Project
MK 7	Katongo Kapala	7	4	600	Project
MK 8	Mwateshi	8	5	130	Project
MK 26	Kaole Village	12	6	1812	Project
MK 32	Mukungule Palace	13	7	243	Project
MK 17	Chobela Village	15	8	105	Project
MK 15	Chobela School	16	9	250	Project
MK 16	Chishala Village	17	10	156	Project
MK 14	Chishala School	18	11	226	Project
MK 11	Lufila Village	19	12	185	Project
MK 6	Ngwai	23	13	205	Project
MK 29	Luchembe Village	24	14	1200	Project
MK 31	Chakopo Village	29	15	3000	Project
MK 24	Chambeshi Village	33	16	2214	Project
MK 21	Mufubushi Village	34	17	100	Project
MK 1	Kapoko	35	18	800	Project
MK 4	Mpumba Village	37	19	600	Project
MK 5	Lukulu Village	38	20	360	Project
MK 33	Chikole Village	44	21	455	Project
MK 40	New Kamwanya	1	22	8500	Alternative
MK 34	Chikwanda Village	3	23	800	Alternative
MK 18	Mwamfushi Village	4	24	2000	Alternative
MK 35	Mudemwa School	11	25	728	Alternative
MK 10	Mukungule Village	14	26	200	Alternative
MK 44	Kashaita Village	21	27	800	Alternative
MK 45	Kashila Village	22	28	1000	Alternative
MK 28	Aluni Village	25	29	1300	Alternative
MK 27	Ndakala Village	26	30	300	Alternative
MK 38	Kopa School	27	31	573	Alternative
MK 37	Kopa Village	28	32	1200	Alternative
MK 36	Chikakala Village	30	33	265	Alternative
MK 25	Kamulamwiko Village	31	34	1000	Alternative
MK 23	Mpepo Village	32	35	2000	Alternative
MK 3	Mpumba School	36	36	546	Alternative
MK 30	Chisengo	43	37	516	Alternative
CHINSALI DISTRICT					
CH 4	Kalela Village 1	1	1	1000	Project
CH 21	Kantimba School	2	2	272	Project
CH 30	Kalisha School	6	3	510	Project
CH 24	Musonko School	8	4	272	Project
CH 22	Vitondo School	9	5	229	Project
CH 6	Nambutuma Village	10	6	575	Project
CH 27	Kapashi Village	12	7	574	Project
CH 31	Shimwalule School	13	8	300	Project
CH 33	Chipunga School	14	9	238	Project
CH 10	Kalela Village 2	15	10	1000	Project
CH 34	Mupeka School	16	11	200	Project
CH 16	Mungulube School	17	12	315	Project
CH 14	Sele School	18	13	211	Project
CH 13	Chinkalanga School	19	14	287	Project
CH 9	Chabala Village	21	15	400	Project
CH 7	Mulanga Village	22	16	776	Project
CH 11	Chibesakunda School	23	17	600	Project
CH 12	Kabangama School	24	18	327	Project
CH 19	Mwalala School	25	19	500	Project
CH 18	Chibesa School	26	20	348	Project
CH 26	Mukwikile Palace	28	21	125	Project
CH 29	Kapisha School	29	22	231	Project
CH 32	Cheswa School	30	23	270	Project
CH 1	Mubanga Village	31	24	568	Project
CH 3	Musanya School	32	25	267	Project
CH 15	Lubwa Village	33	26	800	Project
CH 2	Mpyanavwalya Village	34	27	700	Project
CH 36	Chilunda School	3	28	370	Alternative
CH 5	Lubu Schems	5	29	216	Alternative
CH 28	Mukungwa School	7	30	230	Alternative
CH 17	Foya School	11	31	237	Alternative
CH 8	Musapa Village	20	32	310	Alternative
CH 23	Matumbo Village	27	33	2150	Alternative
CH 25	Choshi Village	35	34	3000	Alternative
CH 20	Chandamali Village	36	35	2000	Alternative

Site Code No.	Site Name	D-WASHE Priority	Project Priority	Pop.	Implementation
ISOKA DISTRICT					
IS 17	Katanga Village	1	1	1803	Project
IS 28	Muyombe Village A	3	2	1209	Project
IS 27	Thendere Basic School	6	3	900	Project
IS 26	Thendere RHC	7	4	200	Project
IS 43	Mulekalembo	11	5	200	Project
IS 39	Kontela Village	12	6	1000	Project
IS 41	Nachisitu Village	14	7	500	Project
IS 5	Mulamba	17	8	260	Project
IS 2	Kafwimbi C	24	9	1000	Project
IS 21	Mulukumbi	26	10	2000	Project
IS 11	Namisuku (Kalungu)	27	11	1676	Project
IS 31	Sansamwenje Village	28	12	230	Project
IS 38	Mulungwizi Village	30	13	674	Project
IS 34	Kawenga	34	14	1000	Project
IS 32	Kantensha (Yazaza)	36	15	130	Project
IS 12	Mwaiseni Village A	39	16	200	Project
IS 42	Chimungoto Village	2	17	600	Alternative
IS 1	Wenela	4	18	784	Alternative
IS 16	Tubale	5	19	200	Alternative
IS 33	Sichinga (Choma) Village	8	20	112	Alternative
IS 3	Kapembe	9	21	157	Alternative
IS 13	Chanama	10	22	350	Alternative
IS 9	Mweni Mpangala	13	23	2500	Alternative
IS 7	Mupapa	16	24	215	Alternative
IS 20	Lualizi	20	25	900	Alternative
IS 6	Chitete Village	21	26	550	Alternative
IS 24	Nyengo Village	22	27	177	Alternative
IS 4	Ntumbi	23	28	105	Alternative
IS 18	Chuiwi	32	29	900	Alternative
IS 14	Chiwanda Village	33	30	600	Alternative
IS 22	Noa's Village	35	31	180	Alternative
IS 23	Kosamu Village	36	32	402	Alternative
IS 29	Chinyansi Village	37	33	1008	Alternative
IS 40	Mwaiseni Village C	40	34	200	Alternative
IS 15	Kapillionga	41	35	375	Alternative
NAKONDE DISTRICT					
NA 35	Chapanya School	1	1	300	Project
NA 36	Mwanga School	2	2	219	Project
NA 9	Mipulya School	3	3	320	Project
NA 2	Kawele School	4	4	232	Project
NA 14	Nankungulu School	6	5	175	Project
NA 15	Chisambwe School	7	6	150	Project
NA 27	Chitambi Village	9	7	300	Project
NA 19	Shemu RHC	10	8	108	Project
NA 12	Uzinji School	11	9	243	Project
NA 21	Lukumba Village	13	10	400	Project
NA 23	Mutachi Village	16	11	647	Project
NA 25	Lyuchi Village	17	12	465	Project
NA 28	Musesengoma Village	18	13	107	Project
NA 29	Mwanga Village	19	14	431	Project
NA 33	Chozl	20	15	950	Project
NA 1	Nakakola Village (A)	21	16	1000	Project
NA 3	Kandalala Village	22	17	192	Project
NA 4	Kawele Village	23	18	800	Project
NA 6	Nega (A)	25	19	324	Project
NA 11	Isasa Village	28	20	170	Project
NA 8	Mayembe Village	29	21	309	Project
NA 30	Izuwa Village (B)	32	22	700	Project
NA 32	Nkasichila Village	33	23	1876	Project
NA 34	Muli Village	34	24	560	Project
NA 13	Chiwale school	5	25	135	Alternative
NA 17	Yolo Community School	12	26	240	Alternative
NA 22	Ilenga Village	14	27	105	Alternative
NA 24	Kazembe Village	15	28	425	Alternative
NA 5	Burton Village	24	29	1115	Alternative
NA 7	Kasakalabwe Village	26	30	207	Alternative
NA 26	Musanka Village	31	31	100	Alternative
NA 31	Chinsambwe Village	35	32	170	Alternative

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ANNEX-1 Project Site List

Site Code No.	Site Name	D-WASHE Priority	Project Priority	Pop.	Implementation
MBALA DISTRICT					
MB 7	Musipazi Village	1	1	400	Project
MB 6	Musipazi School	2	2	168	Project
MB 8	Mpunga Village	3	3	894	Project
MB 45	Makala Village	4	4	431	Project
MB 48	Kakonde Village	5	5	500	Project
MB 52	Kavumbo School	7	6	564	Project
MB 26	Vimbuli Village	8	7	720	Project
MB 31	John Chivuta School	9	8	176	Project
MB 25	Kamyanga Village	10	9	600	Project
MB 24	Namukale Village	11	10	436	Project
MB 39	Moses School	13	11	285	Project
MB 42	Kalala Village	16	12	400	Project
MB 12	Mulowezi Village	17	13	355	Project
MB 40	Moses Village	19	14	2400	Project
MB 2	Njelesani Village	24	15	800	Project
MB 46	Kali Village	25	16	630	Project
MB 37	Mfwambo School	27	17	256	Project
MB 36	David Chikoti Village	28	18	400	Project
MB 16	Songofo Village	29	19	426	Project
MB 29	Mambwe School	30	20	603	Project
MB 14	Rueben School	31	21	280	Project
MB 26	Chimula Village	33	22	900	Project
MB 4	Zombe School	37	23	324	Project
MB 5	Chupa Village	38	24	210	Project
MB 43	Isanya Village	43	25	2200	Project
MB 47	Londe Village	46	26	300	Project
MB 3	Mulunda Village	48	27	202	Project
MB 53	Chleshya School	49	28	306	Project
MB 30	Nshindano School	50	29	150	Project
MB 33	Kalekwa Village	52	30	1160	Project
MB 32	Mwila Village	53	31	400	Project
MB 51	Mindolo Village	6	32	340	Alternative
MB 13	Kaziwe School	12	33	108	Alternative
MB 20	Muwambezi Chilino Village	14	34	665	Alternative
MB 22	Chinenke Village	15	35	700	Alternative
MB 41	Sume Village	18	36	402	Alternative
MB 50	Chasha Village	20	37	315	Alternative
MB 23	Kedricks Katipa Village	21	38	250	Alternative
MB 1	Chiyanga School	23	39	415	Alternative
MB 44	Kanyika Village	26	40	324	Alternative
MB 27	Chimula School	34	41	224	Alternative
MB 18	Chipanda Village	35	42	250	Alternative
MB 19	Kaponda Village	36	43	112	Alternative
MB 34	Elon Village	39	44	236	Alternative
MB 11	Lukwesa Village	40	45	304	Alternative
MB 17	Nakaponda Village	41	46	135	Alternative
MB 35	Lobo Village	42	47	210	Alternative
MB 10	Musekelele Village	44	48	192	Alternative
MB 9	Masamba Village	45	49	345	Alternative
MB 49	Muntonga Village	47	50	700	Alternative
MB 38	Mwamba School	51	51	302	Alternative
MPULUNGU DISTRICT					
ML 20	Muswilo	1	1	530	Project
ML 25	Katula	2	2	192	Project
ML 30	Makola	3	3	264	Project
ML 40	Mwanakatwe	4	4	266	Project
ML 29	Isoko	5	5	320	Project
ML 43	Kasakalawe	7	6	4800	Project
ML 38	Mupata	9	7	6400	Project
ML 42	Musende	11	8	750	Project
ML 24	Patrick	13	9	380	Project
ML 23	Chilinta	14	10	370	Project
ML 41	Kapoko	15	11	680	Project
ML 17	Chilwa	16	12	2400	Project
ML 15	Jecap	21	13	2220	Project
ML 12	Kabamba	23	14	500	Project
ML 13	Kopeka	25	15	4816	Project
ML 6	Chitimbwa RHC	27	16	1380	Project
ML 8	Chikonde	29	17	150	Project
ML 5	Mutemfuma	35	18	270	Project
ML 26	Mukaka	36	19	150	Project
ML 35	Kasansala	39	20	514	Project
ML 27	Muluhwe	41	21	1000	Project
ML 31	Chinakila	42	22	3000	Project
ML 33	Mullanonondo	43	23	426	Project
ML 37	Kasasa	8	24	1200	Alternative
ML 39	Posa	10	25	504	Alternative
ML 11	Shimwalota	22	26	170	Alternative
ML 10	Ntema	24	27	176	Alternative
ML 21	Kalongola	26	28	170	Alternative
ML 18	Chaulu	28	29	370	Alternative
ML 2	Kambole	30	30	150	Alternative
ML 7	Kasita	32	31	630	Alternative
ML 4	Lemba 1	33	32	200	Alternative
ML 3	Kakolo	34	33	367	Alternative
ML 19	Mengo	37	34	360	Alternative
ML 9	Kasusu	38	35	250	Alternative
ML 36	Kaunda	40	36	115	Alternative

Site Code No.	Site Name	D-WASHE Priority	Project Priority	Pop.	Implementation
LUWINGU DISTRICT					
LU 40	Kabombo School	1	1	191	Project
LU 25	Chabula School	2	2	274	Project
LU 32	Katuta RHC	3	3	360	Project
LU 28	Lundu School	4	4	520	Project
LU 9	Mpasa School	5	5	223	Project
LU 12	Chifwile School	6	6	250	Project
LU 16	Luena Clinic	8	7	200	Project
LU 36	Malekani School	9	8	236	Project
LU 7	Chilwa School	12	9	126	Project
LU 8	Mucheleka School	13	10	361	Project
LU 10	Chibiliti Community	14	11	348	Project
LU 30	Mwando HP	15	12	150	Project
LU 21	Kabangala School	16	13	221	Project
LU 2	Saili	17	14	405	Project
LU 19	Washeni School	18	15	216	Project
LU 14	Misambula School	19	16	188	Project
LU 44	Sande Village	20	17	731	Project
LU 42	Kapoma Village	21	18	240	Project
LU 33	Bulambo School	22	19	211	Project
LU 15	Kandata School	23	20	234	Project
LU 18	Nsolo School	24	21	106	Project
LU 29	Nsombo Village	25	22	931	Project
LU 26	Mwando School	26	23	200	Project
LU 41	Kaputu Village	27	24	350	Project
LU 37	Chimpama School	29	25	231	Project
LU 39	Kansasa School	30	26	292	Project
LU 3	Paundi	32	27	200	Project
LU 11	Katuta Village	34	28	400	Project
LU 24	Mumba Village	35	29	394	Project
LU 31	Chepeshi Village	37	30	123	Project
LU 27	Shindaila Village	38	31	275	Project
LU 6	Mulafa School	42	32	286	Project
LU 34	Chambo School	43	33	226	Project
LU 17	Mfungwe School	7	34	368	Alternative
LU 43	Lwenge School	10	35	335	Alternative
LU 20	Chibotwe	11	36	455	Alternative
LU 5	Kapisha	31	37	1124	Alternative
LU 38	Tolopa Village	33	38	360	Alternative
LU 22	Chakaba Village	39	39	360	Alternative
LU 23	Malaya Village	40	40	210	Alternative
LU 1	Chanda Chipalo	41	41	432	Alternative
LU 35	Ndalama Village	44	42	280	Alternative

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ANNEX-2

List of Equipment and Materials

No.	Item	Request	Project
1.	DRILLING EQUIPMENT		
1)	Truck-mounted rig, Top-head drive type	2 units	1 unit
2)	Standard tools and accessories	2 sets	1 set
3)	Truck-mounted compressor	2 units	1 unit
4)	Logging equipment	2 units	1 unit
5)	Pumping test equipment	3 sets	1 set
6)	Workshop equipment and tools	1 set	1 set
2.	SUPPORTING VEHICLES FOR DRILLING WORKS		
1)	Cargo truck with 3t crane for transport containers and pipes	2 units	1 unit
2)	Cargo truck with 3t crane for transport pumping test equipment	2 units	1 unit
3)	Water tanker, 4 m ³	2 units	1 unit
4)	Fuel tanker, 4 m ³	2 units	1 unit
5)	Pickup truck, 4WD, double cabin	6 units	3 units
3.	GEOLOGICAL SURVEY EQUIPMENT	1 set	1 set
4.	SPARE PARTS	1 lot	1 lot
5.	CONSTRUCTION MATERIALS		
1)	Consumable drilling tools	1 lot	Included in construction (175 sets)
2)	Consumable drilling materials	1 lot	
3)	Casing and screen	300 sets	
4)	Handpump with spare parts kit	300 sets	
6.	SUPPORTING EQUIPMENT FOR WASHE ACTIVITIES		
1)	Station wagon, 4WD	2 units	-
2)	Pickup truck, 4WD	8 units	2 units
3)	Motorbike	24 units	21 units
4)	Data processing equipment	2 sets	1 set
5)	Water quality analysis kit	8 sets	7 sets

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資料 6 基本設計概要表

1. 協力対象事業名
ザンビア共和国 北部州地下水開発計画
2. 我が国が援助することの必要性・妥当性
<p>1) 我が国が当該国に対し援助することの必要性・妥当性</p> <p>我が国は、ザンビア国が、 アフリカ統一機構(OAU)等の有力メンバー国の一つであり、南部アフリカ地域において指導的立場にある国であること、 世銀・IMF の支援の下、金融関連規制の自由化、公営企業の民営化、各種価格統制の廃止等の構造調整を積極低に推進していること、 銅、コバルト等鉱物資源の供給国として我が国にとって重要であり、また、我が国と良好な関係にあること等から、援助を実施している。</p> <p>2) 当該プロジェクトを実施することの必要性・妥当性</p> <p>「ザ」国における給水・衛生サービスの普及率は、依然として低い水準であり、特に農村部の普及率は 30%程度に留まっている。この為、十分な給水施設のない多くの村落では、生活用水を手掘りの浅井戸や村落から数 km 離れた涸れ川のたまり水等の不衛生な水に依存しており、水因性疾患の増加、婦女子の水くみ労働負担の増大、住民の経済活動、教育、健康といった様々の面で深刻な影響を受けている。</p> <p>このような状況に対し、我が国は 1993-95 年にかけて開発調査「全国水資源開発計画 (M/P)」を実施し、これに前後して数次に渡り主として旱魃の影響を受けやすい地域での給水施設整備を支援してきた。また、本計画対象地域である北部州の課題としては、年間降水量が 1,100mm ~ 1,400mm と比較的多いものの、適切な衛生概念・習慣が定着していないことから、河川や保護されていない浅井戸等、汚染された水源を直接飲料に利用し、また、給水施設がある場合にも適切な維持管理技術が普及していないことから、多くの住民が安全な水の恩恵を受けることが出来ずにいる。</p> <p>1998 年に取りまとめられた、「北部州地方給水・衛生プログラム (5 ヶ年計画)」では、給水率を 17%から 50%、衛生施設普及率を 11%から 55%に向上し、また、衛生概念を 50%の住民に浸透させるなどの目標が設定された。しかし、北部州は首都から 800km 以上と遠く、雨季には幹線道路も寸断されるなど交通の便も悪い事から、アイルランド政府の支援が行われているものの、他地域に比べこれまで十分な支援がなされていないのが現状である。</p> <p>本要請では北部州の中でも他ドナーによる支援が行われていない、もしくは不十分な 7 郡において支援要請が行われており、我が国による当該プロジェクトの実施が必要であると判断される。</p>
3. 協力事業の目的 (プロジェクト目標)
<p>北部州 7 郡 (ムピカ、チンサリ、イソカ、ナコンデ、ムバラ、ムプルング、ルウィング) においてハドポソ付深井戸給水施設を整備することにより持続的に安全な水が供給されることを目的とする。</p>

4. 協力対象事業の内容

1) 対象地域

- ・ 北部州に位置する 7 郡 (ムピカ、チンサリ、イソカ、ナコンデ、ムバラ、ムブルング、ルウィング)

2) アウトプット

- ・ 地下水開発の推進及び維持管理体制の強化が可能となる資機材が実施機関および関係機関に整備される。
- ・ 保護された安全な水源へのアクセスをもたない対象地域において、安全な水を安定的に供給可能なハンドポンプ付深井戸給水施設が整備される。

3) インプット

日本側

- ・ 掘さく関連機材、運営・維持管理活動用機材の調達
- ・ 対象 175 サイトにおけるハンドポンプ付深井戸給水施設の建設 (計 175 井)
- ・ 実施機関掘さく技術者および指導者に対する深井戸建設技術、技術者養成能力および工事管理技術の向上についての指導
- ・ 建設された施設の運営・維持管理体制強化のための技術支援

ザンビア側

- ・ カウンターパート技術者、井戸掘さく要員、掘さく技術指導者
- ・ 実施機関保有の工事用既存機材
- ・ ローカルコスト (運営・維持管理費)

4) 総事業費

概算事業費 8.38 億円 (日本側 8.09 億円、ザンビア側 0.29 億円)

5) スケジュール

詳細設計期間を含め、約 32 ヶ月

6) 実施体制

監督機関：地方自治・住宅省 インフラ・支援サービス局

実施機関：エネルギー・水開発省 水利局

5. プロジェクトの成果

1) プロジェクトの裨益対象の範囲及び規模

北部州 7 郡の 175 サイトの住民

直接裨益人口：約 43,750 人

2) 事業の目的 (プロジェクト目標) を示す成果指標

	2003 年	2007 年
安全な水の給水量	0 ㍉/人/日	30 ㍉/人/日

安全な水：ザンビア国水質基準による (但し、鉄分については基準では 1mg/㍉であるが、郡によっては半数以上の深井戸でこの基準を満たさない可能性が予測されることから、先方実施機関からの要請を受け、健康に影響の無いとされる 2mg/㍉以下として設定する。)

6. 外部要因リスク
<ul style="list-style-type: none"> 1) 地下水位が予測以上に低下しない。 2) ターゲットグループを取り巻く社会・経済条件が急激に悪化しない。 3) 養成された指導員や維持管理要員が業務を継続する。
7. 今後の評価計画
<ul style="list-style-type: none"> 1) 事後評価に用いる成果指標 給水量 2) 評価のタイミング 2007年以降

資料 7 参考資料／入手資料リスト

調査名 ザンビア国北部州地下水開発計画基本設計調査

番号	名 称	形態 図書・ビデオ 地図・写真等	デジタル・ コピー	発行機関	発行年
1	Report on the Restructuring of the Ministry of Energy and Water Development	図書	コピー	Management Development Division, Cabinet Office	1999
2	Ministry of Local Government and Housing, Northern Province Rural Water Supply and Sanitation Project for the Year 2000 to 2002	図書	コピー	Provincial Local Government Office, Northern Province	2002
3	Policy Guidelines on Water Supply and Sanitation	図書	コピー	Ireland Aid Evaluation and Audit Unit	1999
4	Operation and Maintenance System, Rural Water Supply and Sanitation Programme in Northern Province, Guiding Document	図書	コピー	P-WASHE Task Team	2002
5	Northern Province Provincial Water, Sanitation and Hygiene Education Committee (P-WASHE), Monitoring & Evaluation Guide	図書	コピー	P-WASHE Task Team	2003
6	Highlights of Water Resources Management in Zambia in relation to the National Water Policy	パンフレット	デジタル	Water Resources Action Programme	
7	Review of Irish Aid Support to the Water Sector in Zambia	図書	コピー		1998
8	Water & Sanitation Strategic Plan 2002-2005 (Draft)	図書	コピー	Ministry of Local Government and Housing	2002
9	Report on Health and Hygiene : Knowledge, Attitudes and Practices Survey for the Northern Province Rural Water Supply and Sanitation Programme	図書	コピー	Participatory Assessment Group	2002