

# 資 料

## **1 . 調査団員・氏名**

## 1. 調査団員氏名

### 官側団員

- |            |                              |
|------------|------------------------------|
| ( 1 ) 総括   | 三浦 和紀<br>国際協力事業団無償資金協力部監理課長  |
| ( 2 ) 計画管理 | 青木 英剛<br>国際協力事業団無償資金協力部業務第一課 |

### コンサルタント団員

- |                         |                   |
|-------------------------|-------------------|
| ( 3 ) 業務主任/運営維持管理計画 A   | 鎌田 烈<br>国際航業株式会社  |
| ( 4 ) 給水計画/施設設計         | 石田 智<br>国際航業株式会社  |
| ( 5 ) 地下水開発/水質          | 柴崎 直明<br>国際航業株式会社 |
| ( 6 ) 社会状況調査/運営維持管理計画 B | 升村 章司<br>国際航業株式会社 |
| ( 7 ) 機材計画              | 浮島 久幸<br>国際航業株式会社 |
| ( 8 ) 施工調達計画/積算         | 池元 壮彦<br>国際航業株式会社 |
| ( 9 ) 業務調整/住民参加         | 山内 弘美<br>国際航業株式会社 |

## 2 . 調查行程

## 2. 調査行程

### フライトスケジュール

No.	氏名	東京		チューリッヒ	チューリッヒ		ダブリス	ダブリス		ロンドン/ チューリッヒ	ロンドン/ チューリッヒ		東京
1	三浦和紀	-	-	-	-	-	11/22	11/29 9:30	→ 【BA046】	11/29 16:30	11/30 19:00	→ 【JL402】	12/1 15:45
2	青木英剛	-	-	-	-	-	11/22	11/29 9:30	→ 【BA046】	11/29 16:30	11/30 19:00	→ 【JL402】	12/1 15:45
3	鎌田 烈	11/23 11:50	→ 【LX169】	11/23 16:35	11/23 20:50	→ 【LX292】	11/24 8:15	1/4 10:45	→ 【LX293】	1/4 18:45	1/5 13:05	→ 【LX168】	1/6 8:55
4	石田智	11/23 11:50	→ 【LX169】	11/23 16:35	11/23 20:50	→ 【LX292】	11/24 8:15	1/4 10:45	→ 【LX293】	1/4 18:45	1/5 13:05	→ 【LX168】	1/6 8:55
5	柴崎直明	11/30 11:50	→ 【LX169】	11/30 16:35	11/30 20:50	→ 【LX292】	12/1 8:15	1/11 10:45	→ 【LX293】	1/11 18:45	1/12 13:05	→ 【LX168】	1/13 8:55
6	升村章司	11/30 11:50	→ 【LX169】	11/30 16:35	11/30 20:50	→ 【LX292】	12/1 8:15	1/11 10:45	→ 【LX293】	1/11 18:45	1/12 13:05	→ 【LX168】	1/13 8:55
7	浮島久幸	12/2 11:50	→ 【LX169】	12/2 16:35	12/2 20:50	→ 【LX292】	12/3 8:15	12/29 10:45	→ 【LX293】	12/29 18:45	12/30 13:05	→ 【LX168】	12/31 8:55
8	池元壮彦	11/30 11:50	→ 【LX169】	11/30 16:35	11/30 20:50	→ 【LX292】	12/1 8:15	1/11 10:45	→ 【LX293】	1/11 18:45	1/12 13:05	→ 【LX168】	1/13 8:55
9	山内弘美	11/30 11:50	→ 【LX169】	11/30 16:35	11/30 20:50	→ 【LX292】	12/1 8:15	1/11 10:45	→ 【LX293】	1/11 18:45	1/12 13:05	→ 【LX168】	1/13 8:55

調査行程

日 数	日付	曜 日	移動 宿泊	官団員	コンサルタント団員					
				三浦/青木	鎌田/石田	柴崎	池元	升村	山内	浮島
1	11/23	土	ﾀﾞﾙｽ	関係者と協議	移動（東京 ﾀﾞﾙｽ）					
2	11/24	日	〃	移動（ﾀﾞﾙｽ アルシャ）						
3	11/25	月	〃	関係者と協議、情報収集						
4	11/26	火	〃	〃						
5	11/27	水	〃	MoWLミッツ調印						
				移動（アルシャ ﾀﾞﾙｽ）						
6	11/28	木	〃	経済省ミッツ調印						
7	11/29	金	〃	移動（ﾀﾞﾙｽ ヨーロッパ 経由	再委託業者 打合せ					
8	11/30	土	〃	成田着	情報収集	移動（東京 ﾀﾞﾙｽ）				
9	12/1	日	〃		国内打合せ					

日数	日付	曜日	移動 宿泊	鎌田/石田	柴崎	浮島	池元	升村	山内
10	12/2	月	ダ'ル	再委託業者打合せ JICA打合せ		移動（東京 ダ'ル	再委託業者打合せ JICA打合せ		
11	12/3	火	ムワ	移動（ダ'ル					
12	12/4	水	"	RWEムワ打合せ					
13	12/5	木	"	サイト調査					
14	12/6	金	"	"					
15	12/7	土	"	"					
16	12/8	日	"	資料整理、調査準備					
17	12/9	月		RWEリ'ディ打合せ、サイト調査				RWE打合せ、移動（リ'ディ	
18	12/10	火	ムワ/ ダ'ル	サイト調査				移動（	
19	12/11	水	"	"				情報収集	病欠
20	12/12	木	"	"				エセ情報収集	病欠
21	12/13	金	"	"				MoWLヒアリング	
22	12/14	土	"	"				資料整理	
23	12/15	日	"	移動（ムワ	資料整理	移動（ムワ		資料整理	
24	12/16	月	"	MoWL情報収集	サイト調査	資機材調査		MoWLヒアリング	
25	12/17	火	"	MoWL情報収集	"	"		移動（ダ'ル	
26	12/18	水	"	CONCERNヒアリング MoWL情報収集	"	"		社会経済調査 "	CONCERNヒアリング
27	12/19	木	"	MoWL情報収集	"	"		"	MoWL情報収集
28	12/20	金	"	世銀情報収集	"	"		"	気象データ収集
29	12/21	土	"	資料整理	"	"		"	資料整理
30	12/22	日	"	移動（ダ'ル	資料整理	"		"	移動（ダ'ル
31	12/23	月	"	サイト調査	水質分析準備	"		"	水質分析準備
32	12/24	火	"	"	水質分析	"		"	水質分析
33	12/25	水	"	"	サイト調査	"		"	サイト調査
34	12/26	木	"	"	"	"		"	"
35	12/27	金	"	"	"	"		"	"
36	12/28	土	"	判定会議		"		判定会議	水質分析
37	12/29	日	ムワ	団内打合せ		移動（ダ'ル	移動（ダ'ル	団内打合せ	
38	12/30	月	"	RWEリ'ディへ調査結果報告		ヨーロッパ 経由)	RWEリ'ディへ調査結果報告		水質分析
39	12/31	火	"	RWEムワへ調査結果報告		成田着	RWEムワへ調査結果報告		
40	1/1	水	"	資料整理			資料整理		
41	1/2	木	ムワ/ ダ'ル	移動（ムワ	サイト調査		移動（ムワ	社会経済調査	水質分析
42	1/3	金	"	MoWL, JICA報告	"		資機材調査	"	"
43	1/4	土	"	移動（ダ'ル	"		"	"	"
44	1/5	日	"	ヨーロッパ 経由)	"		"	資料整理	
45	1/6	月	"	成田着	"		"	社会経済調査	水質分析
46	1/7	火	"		"		"	移動（ムワ	
47	1/8	水	"		"		"	JICA報告	
48	1/9	木	ダ'ル		移動（ムワ		"	DDCA、MoWL情報収集	
49	1/10	金	"		資料整理		"	大統領府情報収集	
50	1/11	土			移動（ダ'ル		移動（ダ'ル		
51	1/12	日			ヨーロッパ 経由)		ヨーロッパ 経由)		
52	1/13	月			成田着		成田着		

### **3 . 関係者（面会者）リスト**



### ３．関係者リスト（面会者リスト）

#### 水家畜開発省 Ministry of Water and Livestock Development (MoWLD)

Edward Lowassa	Minister
Bakari A. Mahiza	Permanent secretary
C. Sayi	Director, Department of Rural Water Supply Development
Reuben N. Kwigizile	Assistant director, Design Supervision
Lister Kongola	Assistant director, Water Resource Division
E.C. Mziray	Assistant director, Operation and Management
Mbwera M. Salehe	Senior technician
H. Mjengera	Director, Water laboratory
Devid Kubezya	Architect
Alex Musilanga	
J.A. Mukumwa	Assistant director, Construction and Monitoring RWS
Felix Ngamlangosi	Economist, Policy and Planning Division

#### 掘削・ダム建設公社 Drilling and Dam Construction Agency (DDCA)

Mohamed A. H	Managing Director
N. N. Lupimo	Technical manager
Ernest Mziray	Drilling supervisor

#### 州水理官事務所 Regional Water Engineer (RWE)

##### <RWE Mtwara>

Shaibu H. Geugeu	Regional Water Engineer, Water Department
John A. Luhombo	Technician, Hydrology Section
Aziz Chilbemba	Design engineer
Beda L. Mapunda	Engineer, Planning Section
Moshi Katunge	Technician, Hydrology Section

##### <RWE Lindi>

Monjesa Yohana F.A.	Regional Water Engineer
Maulid Nkrumah	Regional Hydrogeologist
Bakari A. Mbinge	Mechanical Engineer
Banda K. Issa	Civil Technician

県水理官事務所 District Water Engineer

<DWE Mtwara>

Chales W. Malisa District Water Engineer

Selemani J. Libaba Assistant DWE Mtwara

<DWE Tamdahimba>

Amos Mtweve District Water Engineer

<DWE Newala>

Fidelis Mayonbo District Water Engineer

Herman Christopher Chilumba Assistant District Water Engineer

<DWE Masasi>

Rashidi Nambuta Ag. District Water Engineer

<DWE Kilwa >

Fromence. F. Matem District Water Engineer

<DWE Nachingwea >

Robert Mnkyaua District Water Engineer

Bartholomew Matwiga Acting District Water Engineer

<DWE Ruangwa >

Valentine Ndyano District Water Engineer

Selemani J. Ngitu Assistant Water Engineer

<DWE Liwale >

Charles Isonde District Water Engineer

マコンデ給水計画 Makonde Water Supply Scheme

Bernold Mlanji Resident Engineer

Athumani Senkondo Technician Electrical Engineer

Seleman Namele Civil Technician

大統領府 The President's Office

Mathias Bazi Kabunduguru Assistant Director, Policy Development Division

首相府 Prime Minister's Office

Bernard M. Ulaya	Zonal Monitoring & Evaluation Officer, Northern Zone
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タンザニア大蔵省 Ministry of Finance in the United Republic of Tanzania

Joyce K.G. Mapunjo	Ag. Commissioner of External Finance
Paul A. Mwafongo	Assistant Commissioner, Bilateral cooperation
Joyce Momburi	Finance management officer

県カウンスル District Council

<Tamdahimba District>

Sarah Linuma, District	Executive Director
Hen Mbelenje	Mkwiti ward councilor

<Newala District>

Kitanga Eliya	District Planning Officer, Acting District Executive Director
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<Ruangua District Administration Office>

M. A. S. Nididi	District Administrative Secretary
W. L. Itala	District Planning Officer

CONCERN

Steve Levine	Country Director
Richard M. Evans	Water and Sanitation Advisor
Niger Tricks,	Programme Manager, CONCERN Mtwara

日本大使館

出木場一實	特命全権大使
岡部 孝道	公使
柏村 博之	二等書記官

JICA タンザニア事務所

青木 澄夫	所長
木野本浩之	次長
松下 香	所員
小林 知樹	所員

Deborah Sungusia  
藤原 邦夫

Programme Officer  
長期専門家

日本テクノ株式会社  
kiyoko Takamizawa

Project Engineer, Project Department No.2

## **4 . 当該国の社会経済状況**

タンザニア連合共和国
United Republic of Tanzania

# 一般指標

政体	共和制	*1	首都	ダルエスサラーム (Dar es Salaam)	*2
元首	大統領/ベンジャミン・ウイリアム・ムカバ (Benjamin William MKAPA)	*1,3	主要都市名	ムワンザ、タボラ、ドドマ、ムベヤ、タン	*3
独立年月日	1961年12月9日	*3,4	労働力総計	17,316千人 (2000年)	*6
主要民族/部族名	バンツ系黒人97.6%、アジア系0.6%	*1,3	義務教育年数	7年間 (年)	*13
主要言語	スワヒリ語、英語	*1,3	初等教育就学率	64.8% (1998年)	*6
宗教	イスラム教31%、キリスト教25%、伝統宗教44%	*1,3	中等教育就学率	% (1998年)	*6
国連加盟年	1961年12月14日	*12	成人非識字率	24.9% (2000年)	*6
世銀加盟年	1962年9月10日	*7	人口密度	38.14人/km2 (2000年)	*6
IMF加盟年	1962年9月10日	*7	人口増加率	3.0% (1980-2000年)	*6
国土面積	945.00千km2	*1,6	平均寿命	平均 51.10 男 50.00 女 52.10	*10
総人口	33,696千人 (2000年)	*6	5歳児未満死亡率	149/1000 (2000年)	*6
			カロリー供給量	1,906.3 cal/日/人 (2000年)	*17

## 経済指標

通貨単位	タンザニア・シリング (Shilling)	*3	貿易量	(2000年)	
為替レート	1 US\$ = 981.00 (2002年12月)	*8	商品輸出	665.7百万ドル	*15
会計年度	Dec. 31	*6	商品輸入	1,139.8百万ドル	*15
国家予算	(年)		輸入カバー率	5.4(月) (2000年)	*14
歳入総額		*9	主要輸出品目	鉱物、カシューナッツ、コーヒー、工業製品、綿花	*1
歳出総額		*9	主要輸入品目	消費財、産業資材、一般機械、輸送機械	*1
総合収支	-134.8百万ドル (2000年)	*15	日本への輸出	63百万ドル (2001年)	*16
ODA受取額	1,044.6百万ドル (2000年)	*19	日本からの輸入	75百万ドル (2001年)	*16
国内総生産(GDP)	9,027.48百万ドル (2000年)	*6			
一人当たりのGNI	270.0ドル (2000年)	*6	総国際準備	55.9百万ドル (2000年)	*6
分野別GDP	農業 45.1% (2000年)	*6	対外債務残高	7,444.8百万ドル (2000年)	*6
	鉱工業 15.8% (2000年)	*6	対外債務返済率(DSR)	16.2% (2000年)	*6
	サービス業 39.1% (2000年)	*6	インフレ率	20.9% (1990-2000年)	*6
産業別雇用	農業 男 % 女 % (1998-2000年)	*6	(消費者価格物価上昇率)		
	鉱工業 % % (1998-2000年)	*6			
	サービス業 % % (1998-2000年)	*6	国家開発計画	貧困削減成長フシリテ：2000年から3年間、新国家開発ビジョン (2025年まで)	*11
実質GDP成長率	2.9% (1990-2000年)	*6			

気象 ( 1961年～ 1990 年平均) 観測地：ダルエスサラーム (南緯6度52分、東経39度12分、標高55m)														*4,5
月	1	2	3	4	5	6	7	8	9	10	11	12	平均/計	
降水量	82.2	58.2	130.8	272.0	171.0	35.6	29.6	32.5	29.2	65.5	128.6	101.3	1136.5 mm	
平均気温	27.4	27.7	27.4	26.5	25.5	24.1	23.6	23.7	24.2	25.2	26.3	27.4	25.8 ℃	

- \*1 各国概況 (外務省)
- \*2 世界の国々一覧表 (外務省)
- \*3 世界年鑑2002 (共同通信社)
- \*4 最新世界各國要覧10訂版 (東京書籍)
- \*5 理科年表2000 (国立天文台編)
- \*6 World Development Indicators2002(WB)
- \*7 BRD Membership List(WB)
- IMF Members' Financial Data by Country(IMF)
- \*8 Universal Currency Converter
- \*9 Government Finance Statistics Yearbook 2001 (IMF)

- \*10 Human Development Report2002(UNDP)
  - \*11 Country Profile(EIU),外務省資料等
  - \*12 United Nations Member States
  - \*13 Statistical Yearbook 1999(UNESCO)
  - \*14 Global Development Finance2002(WB)
  - \*15 International Financial Statistics Yearbook 2002(IMF)
  - \*16 世界各國經濟情報ファイル2002(世界經濟情報サービス)
  - \*17 FAO Food Balance Sheets 2002年6月 FAO Homepage
- 注：商品輸入については複式簿記の計上方式を採用しているため  
支払い額はマイナス表記になる

	タンザニア連合共和国
	United Republic of Tanzania

我が国におけるODAの実績						(単位：億円)	* 18
項目	年度	1996	1997	1998	1999	2000	
技術協力		31.20	34.77	21.92	24.16	28.59	
無償資金協力		48.67	75.71	100.97	62.04	56.93	
有償資金協力						31.33	
総額		79.87	110.48	122.89	86.20	116.85	

当該国に対する我が国ODAの実績						(支出純額、単位：百万ドル)	*18
項目	暦年	1996	1997	1998	1999	2000	
技術協力		29.20	29.05	21.81	21.47	26.65	
無償資金協力		80.29	36.83	81.05	59.56	203.16	
有償資金協力		-3.82	-10.51	-19.49	-6.21	-12.68	
総額		105.68	55.37	83.37	74.82	217.14	

OECD 諸国の経済協力実績 (2000 年) (支出純額、単位：百万ドル) *19					
	贈与 (1) (無償資金協力・ 技術協力)	有償資金協力 (2)	政府開発援助 (ODA) (1)+(2)=(3)	その他政府資金 及び民間資金(4)	経済協力総額 (3)+(4)
二国間援助 (主要供与国)	792.9	-14.2	778.7	154.5	933.2
1. Japan	229.8	-12.7	217.1	-12.1	205.0
2. United Kingdom	152.7	0.0	152.7	96.8	249.5
3. Netherland	97.3	0.0	97.3	17.2	114.5
4. Denmark	70.5	-1.7	68.8	-0.2	68.6
多国間援助 (主要援助機関)	88.0	180.5	268.5	-4.8	263.7
1. IDA			109.4	0.0	109.4
2. IMF			49.9	0.0	49.9
その他	1.5	-4.1	-2.6	-0.2	-2.8
合計	882.4	162.2	1,044.6	149.6	1,194.2

援助受入窓口機関 *20	
技術協力	専門家／大統領府 開発調査／大蔵省 研修員／外務省
無償	大蔵省
協力隊	大統領府

\*18 政府開発援助 (ODA) 国別データブック 2001 (国際協力推進協会)

\*19 International Development Statistics (CD-ROM) 2002 OECD

\*20 JICA資料

## 5 . 討議議事録



MINUTES OF DISCUSSIONS  
ON  
THE BASIC DESIGN STUDY  
ON  
THE RURAL WATER SUPPLY PROJECT IN LINDI AND MTWARA REGIONS  
IN THE UNITED REPUBLIC OF TANZANIA

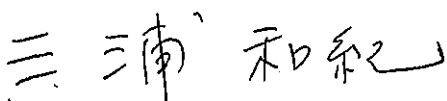
In response to a request from the Government of the United Republic of Tanzania (hereinafter referred to as "Tanzania"), the Government of Japan decided to conduct a Basic Design Study on THE RURAL WATER SUPPLY PROJECT IN LINDI AND MTWARA REGIONS (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Tanzania the Basic Design Study Team (hereinafter referred to as "the Team"), which was headed by Mr. Kazunori MIURA, Director, Project Monitoring and Coordination Division, Grant Aid Management Department, JICA. The Team is scheduled to stay in the country from November 22, 2002 to January 11, 2003.

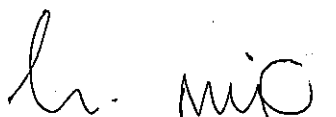
The Team held discussions with the officials concerned of the Government of the United Republic of Tanzania and will conduct a field survey in the study area.

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.

Arusha, November 27, 2002

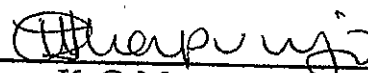


Mr. Kazunori MIURA  
Leader  
Basic Design Study Team  
Japan International Cooperation Agency  
Japan



Mr. Bakari A. Mahiza  
Permanent Secretary,  
Ministry of Water and Livestock  
Development (MoWLD),  
The United Republic of Tanzania

Witness



Mrs. Joyce K. G. Mapunjo  
Ag. Commissioner of External Finance,  
Ministry of Finance  
The United Republic of Tanzania

## 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.

### 2. Project sites

The sites of the Project are the selected villages in Lindi and Mtwara Regions.

### 3. Responsible and Implementing Agency

The responsible and implementing agency is the Ministry of Water and Livestock Development (MoWLD).

### 4. Items requested by the Government of Tanzania

- 1) The sites and equipment requested by the Tanzanian side are listed in **Annex-I** and **Annex-II**. The Tanzanian side also requested technical assistance in the soft component programme for capacity building for the Ministry, the regions, the districts, the communities. JICA will assess the appropriateness of the request and will recommend it to the Government of Japan for approval. However, the components of the Project will be decided by the Government of Japan during the basic design study.
- 1) 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 and the flow chart as described in **Annex-III** and **Annex-IV** respectively. Both sides also agreed that additional criteria would be adopted in the course of the study if found necessary.
- 3) The Team explained that the number of villages for the Project might be reduced from the requested 100 due to budgetary constraints. However, both sides agreed to cover as many villages as possible by considering the following items;
  - i) Exploratory boreholes shall be drilled to confirm the availability of the groundwater in villages with poor resource potential during detailed design stage.
  - ii) The existing water supply facilities that have been deteriorating shall be re-used or rehabilitated in order to reduce the construction cost.
  - iii) The design of water supply facilities shall be as simple as possible in order to save the construction cost for each village, and operation and maintenance cost.
  - iv) In order to reduce the Project cost, the Tanzanian contractors shall construct water supply facilities for some of the villages under the Project with technical supervision and material supply financed by the Grant if the capability of local contractors is confirmed. The Tanzanian side will be responsible for engaging local contractors.
  - v) The Tanzanian side expressed its desire to cover more villages identified in the feasibility study because the communities have high expectations of the

support. It was therefore proposed that priority shall be given to construction of facilities among the Project components requested.

#### **5. Japan's Grant Aid Scheme**

The Tanzanian side understood Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Tanzania as explained by the Team and described in Annex-V and Annex-VI.

#### **6. Schedule of the Study**

- 1) The Team will proceed with the study in Tanzania until January 11, 2003.
- 2) JICA will prepare the Draft Final Report in English and dispatch a mission in order to explain its contents in April 2003.
- 3) In case that the content of the report is accepted in principle by the Government of Tanzania, JICA will complete the Final Report and send it to the Government of Tanzania by the end of June 2003.

#### **7. Operation and Maintenance (O/M)**

- 1) The Tanzanian side explained that the beneficiaries are responsible for paying for their water supply services as described in the approved Water Policy (2002). The Tanzanian side assured that the costs of O/M of the water facilities would be covered entirely by beneficiaries.
- 2) The Regional Water Engineers (RWEs) and the District Water Engineers (DWEs) explained that the existing facilities are properly operated, including the ones constructed during the pilot project in the stage of feasibility study, and the funds for O/M have been deposited in the village water accounts.
- 3) Village Water Committees (VWCs) and Water Point Committees (WPCs) which have been established should be strengthened.

#### **8. Drilling and Dam Construction Agency (DDCA)**

The Tanzanian side explained that DDCA is a semi-governmental authority and is entrusted by the Government of Tanzania to drill boreholes and to construct dams.

#### **9. Coordination of the donors**

- 1) The Tanzanian side explained the involvement of other donors in the rural subsector. Germany in Kilimanjaro Region, the Netherlands in Shinyanga Region, ADB in Monduli District, France in 6 district head quarters in the central areas, China in Coast Region, World Bank in 12 districts in the central areas, NGO for assistance to district councils (Water Aid for Dodoma, Arusha, Singida and Tabora, CONCERN for Mtwara and Lindi, World Vision for Arusha, Shinyanga and Tanga).
- 2) CONCERN is assisting different villages other than the Project sites.

- 3) The Tanzanian side mentioned that there is no duplication of the projects by other donors in the Project sites.

#### 10. Other relevant issues

- 1) Both sides agreed in principle to adopt the Tanzanian water quality standard and to consider WHO guidelines for items which have high health risks.
- 2) The Tanzanian side explained that RWEs and DWEs belong to the Regional Administration and District Councils respectively, under administrative supervision of the President's Office Regional Administration and Local Government, although they are technically supervised by MoWLD.
- 3) The Tanzanian side explained the importance of supporting ongoing decentralization process. It is therefore important to build the capacity of DWE offices in the Project area.

No.	Region	District	Division	Ward	Village	Facility type	Required number of borehole well
1	Mtwara	Mtwara	Nanyamba	Nanyamba	Mbembaleo	Level 2	1
2	Mtwara	Mtwara	Nanyamba	Mtiniko	Maranje	Level 2	1
3	Mtwara	Mtwara	Nanyamba	Mtiniko	Mtiniko	Level 2	1
4	Mtwara	Mtwara	Nanyamba	Mtiniko	Malamba	Level 2	1
5	Mtwara	Mtwara	Ziwani	Ziwani	Ziwani	Level 2	0
6	Mtwara	Mtwara	Ziwani	Nalingu	Msimbati	Level 1	5
7	Mtwara	Mtwara	Ziwani	Nalingu	Msangamkuu	Level 1	5
8	Mtwara	Mtwara	Ziwani	Nanguruwe	Nanguruwe	Level 2	1
9	Mtwara	Mtwara	Ziwani	Nanguruwe	Mbawala	Level 2	1
10	Mtwara	Mtwara	Mayanga	Mayanga	Kawawa	Level 1	5
11	Mtwara	Mtwara	Kitaya	Kitaya	Kitaya	Level 2	1
12	Mtwara	Mtwara	Kitaya	Kitaya	Arusha Chini	Level 2	0
13	Mtwara	Mtwara	Kitaya	Kiromba	Mayembe Juu	Level 2	1
14	Mtwara	Mtwara	Kitaya	Mahurunga	Kitunguli	Level 2	1
15	Mtwara	Mtwara	Kitaya	Mahurunga	Mahurunga	Level 2	1
16	Mtwara	Mtwara	Dihimba	Dihimba	Dihimba	Level 2	1
17	Mtwara	Mtwara	Dihimba	Dihimba	Mpondomo	Level 2	1
18	Mtwara	Tandahimba	Namikupa	Mihambwe	Mihambwe	Level 2	1
19	Mtwara	Tandahimba	Namikupa	Kitama	Kitama	Level 2	1
20	Mtwara	Tandahimba	Namikupa	Kitama	Mitondi A	Level 2	1
21	Mtwara	Tandahimba	Namikupa	Mkoreha	Misutini	Level 2	1
22	Mtwara	Tandahimba	Litehu	Luagala	Litehu	Level 2	1
23	Mtwara	Tandahimba	Litehu	Luagala	Mmeda	Level 2	1
24	Mtwara	Tandahimba	Litehu	Luagala	Mabeti	Level 2	1
25	Mtwara	Tandahimba	Litehu	Mkwiti	Mkwiti Chini	Level 2	0
26	Mtwara	Tandahimba	Litehu	Ngunja	Namindondi Juu	Level 2	0
27	Mtwara	Tandahimba	Litehu	Ngunja	Nanjanga	Level 2	1
28	Mtwara	Tandahimba	Litehu	Ngunja	Mkuti	Level 2	1
29	Mtwara	Newala	Newala	Nanguruwe	Mnanje	Level 2	1
30	Mtwara	Newala	Newala	Mnekachi	Kilidu	Level 2	1
31	Mtwara	Newala	Chilangala	Mnyambe	Mnima	Level 2	1
32	Mtwara	Newala	Chilangala	Chilangala	Miyuyu	Level 2	1
33	Mtwara	Newala	Chilangala	Chilangala	Namangudu	Level 2	1
34	Mtwara	Newala	Kitangari	Kitangari	Mitanga	Level 2	1
35	Mtwara	Newala	Kitangari	Kitangari	Likwaya	Level 2	1
36	Mtwara	Newala	Kitangari	Malatu	Malatu Juu	Level 2	1
37	Mtwara	Newala	Kitangari	Mchemo	Mdimba	Level 2	1
38	Mtwara	Newala	Kitangari	Chiwonga	Chiwonga	Level 2	1
39	Mtwara	Newala	Kitangari	Chiwonga	Mmulunga	Level 2	1
40	Mtwara	Masasi	Chikundi	Nanganga	Nanganga	Level 2	1
41	Mtwara	Masasi	Lisekese	Lisekese	Namkungwi	Level 2	1
42	Mtwara	Masasi	Lisekese	Mikangaula	Kilosa	Level 2	1
43	Mtwara	Masasi	Lisekese	Namatutwe	Chikoweti	Level 2	1
44	Mtwara	Masasi	Lisekese	Namatutwe	Mlingula	Level 2	1
45	Mtwara	Masasi	Lisekese	Lukuledi	Chiwale	Level 2	1
46	Mtwara	Masasi	Nanyumbu	Nanyumbu	Nanyumbu	Level 1	4
47	Mtwara	Masasi	Nanyumbu	Nanyumbu	Namasogo	Level 2	1
48	Mtwara	Masasi	Lulindi	Namalenga	Msanga	Level 2	1
49	Mtwara	Masasi	Chiungutwa	Chiungutwa	Mpeta	Level 2	1
50	Mtwara	Masasi	Chiungutwa	Mbuyuni	Mitonji	Level 2	1
Sub total	1 region	4 districts			50 villages		59

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## Project Sites Requested by the Government of Tanzania (2/2)

Annex-I

No.	Region	District	Division	Ward	Village	Facility type	Required number of borehole well
51	Lindi	Kilwa	Pwani	Kikole	Migeregere	Level 2	1
52	Lindi	Kilwa	Miteja	Tingi	Mtandango	Level 1	3
53	Lindi	Kilwa	Miteja	Kinjumbi	Somago Ndumbo	Level 2	1
54	Lindi	Kilwa	Pande	Pande Mikoma	Pande Plot	Level 2	1
55	Lindi	Kilwa	Pande	Pande Mikoma	Mtitimira	Level 1	3
56	Lindi	Kilwa	Pande	Lihimalyoao	Lihimalyoao	Level 2	1
57	Lindi	Kilwa	Pande	Lihimalyoao	Namakongoro	Level 1	5
58	Lindi	Kilwa	Pande	Mandawa	Mandawa	Level 2	1
59	Lindi	Kilwa	Pande	Mandawa	Kiwawa	Level 2	1
60	Lindi	Lindi	Mtama	Nyangao	Chiwerere	Level 1	5
61	Lindi	Lindi	Mtama	Nyengedi	Nyengedi	Level 2	1
62	Lindi	Lindi	Mtama	Nyengedi	Mtumba	Level 2	1
63	Lindi	Lindi	Mtama	Mtua	Kilimahewa(Muta)	Level 2	0
64	Lindi	Lindi	Sudi	Sudi	Madangwa	Level 2	0
65	Lindi	Lindi	Sudi	Sudi	Hingewali	Level 2	1
66	Lindi	Lindi	Nyangamara	Nyangamara	Madingo	Level 2	1
67	Lindi	Lindi	Nyangamara	Mandwanga	Chiuta	Level 2	1
68	Lindi	Lindi	Nyangamara	Mandwanga	Malungo	Level 1	5
69	Lindi	Lindi	Mingoyo	Kwalala	Kwalala	Level 2	1
70	Lindi	Lindi	Mingoyo	Mnolela	Mnolela	Level 2	1
71	Lindi	Lindi	Rondo	Chiponda	Chiodya	Level 2	0
72	Lindi	Lindi	Ngapa	Ngapa	Kinengene	Level 2	1
73	Lindi	Lindi	Mchinga	Mchinga	Kilangala	Level 2	1
74	Lindi	Lindi	Mchinga	Kilolombwani	Kilolombwani	Level 1	4
75	Lindi	Lindi	Mipingo	Mipingo	Lihimilo	Level 2	1
76	Lindi	Lindi	Nangaru	Chikonji	Chikonji	Level 2	1
77	Lindi	Ruangwa	Ruangwa	Malolo	Nanganga	Level 2	1
78	Lindi	Ruangwa	Ruangwa	Likunja	Chilangalile	Level 1	3
79	Lindi	Ruangwa	Ruangwa	Narun'gombe	Machanganja	Level 2	1
80	Lindi	Ruangwa	Ruangwa	Narun'gombe	Liuguru	Level 2	1
81	Lindi	Ruangwa	Ruangwa	Namichiga	Mihewe	Level 1	3
82	Lindi	Ruangwa	Mnacho	Luchelegwa	Chinongwe	Level 2	1
83	Lindi	Ruangwa	Mnacho	Luchelegwa	Litama	Level 2	1
84	Lindi	Ruangwa	Mnacho	Luchelegwa	Likwachu	Level 2	1
85	Lindi	Ruangwa	Mnacho	Luchelegwa	Ipingo	Level 1	3
86	Lindi	Ruangwa	Mandawa	Mandawa	Chibula	Level 2	1
87	Lindi	Nachingwea	Mnero	Mnero Miembeni	Mkonjela	Level 2	1
88	Lindi	Nachingwea	Ruponda	Marambo	Litula	Level 1	5
89	Lindi	Nachingwea	Ruponda	Mkoka	Rweje	Level 1	5
90	Lindi	Nachingwea	Nambambo	Naipanga	Naipanga	Level 2	1
91	Lindi	Nachingwea	Nambambo	Naipanga	Chlumbati Miembeni	Level 2	1
92	Lindi	Nachingwea	Nambambo	Mkotokuyama	Mandai	Level 2	1
93	Lindi	Nachingwea	Nambambo	Ndomoni	Ndomoni	Level 2	1
94	Lindi	Nachingwea	Nambambo	Mtua	Kipara Mtua	Level 2	1
95	Lindi	Nachingwea	Nambambo	Mpiruka	Mpiruka	Level 2	1
96	Lindi	Liwale	Barikwa	Mlembwe	Mlembwe	Level 1	5
97	Lindi	Liwale	Liwale	Liwale B	Mikunya	Level 1	4
98	Lindi	Liwale	Liwale	Mihumo	Mihumo	Level 2	1
99	Lindi	Liwale	Liwale	Mbaya	Mbaya	Level 2	1
100	Lindi	Liwale	Liwale	Ngongowe	Ngongowe	Level 1	4
Sub total	1 region	5 districts			50 villages		90
Total	2 region	9 districts			100 villages		149

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## Equipment Requested By the Government of Tanzania

Annex-II

No.	Description	Unit	Quantity	Remark
1	Drilling Equipment			
1-1	Supplement of spare parts of FSW-7T-L37	lump sum	1	for Ministry owned equipment
1-2	Drilling rig with supporting equipment and vehicles	set	1	capable to drill deep wells of 300m
2	Equipment for Periodical Patrol Services			
2-1	4x4 light weight vehicles	set	9	for 9 district water engineer office
2-2	maintenance tools	set	9	ditto
3	Equipment for Survey			
3-1	for pumping test	set	2	for 2 regional water engineer office
3-2	for well logging	set	2	ditto
3-3	for well cleaning	set	2	ditto
3-4	for geophysical survey	set	3	ditto
3-5	for water quality analysis	set	3	ditto
3-6	4x4 light weight vehicles	set	2	for mobilization of survey equipment
3-7	computers accessories	set	8	for Ministry and regional water office

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

**Water sources**

- 1) Raw water quality of groundwater meets the WHO / Tanzanian standard.
- 2) Depth to the water table is not beyond practical and economical pumping range.

**Facilities**

- 3) There is not either safe or sufficient existing water supply facility.
- 4) There are existing water supply facilities which can be rehabilitated.

**Socio-economical situations**

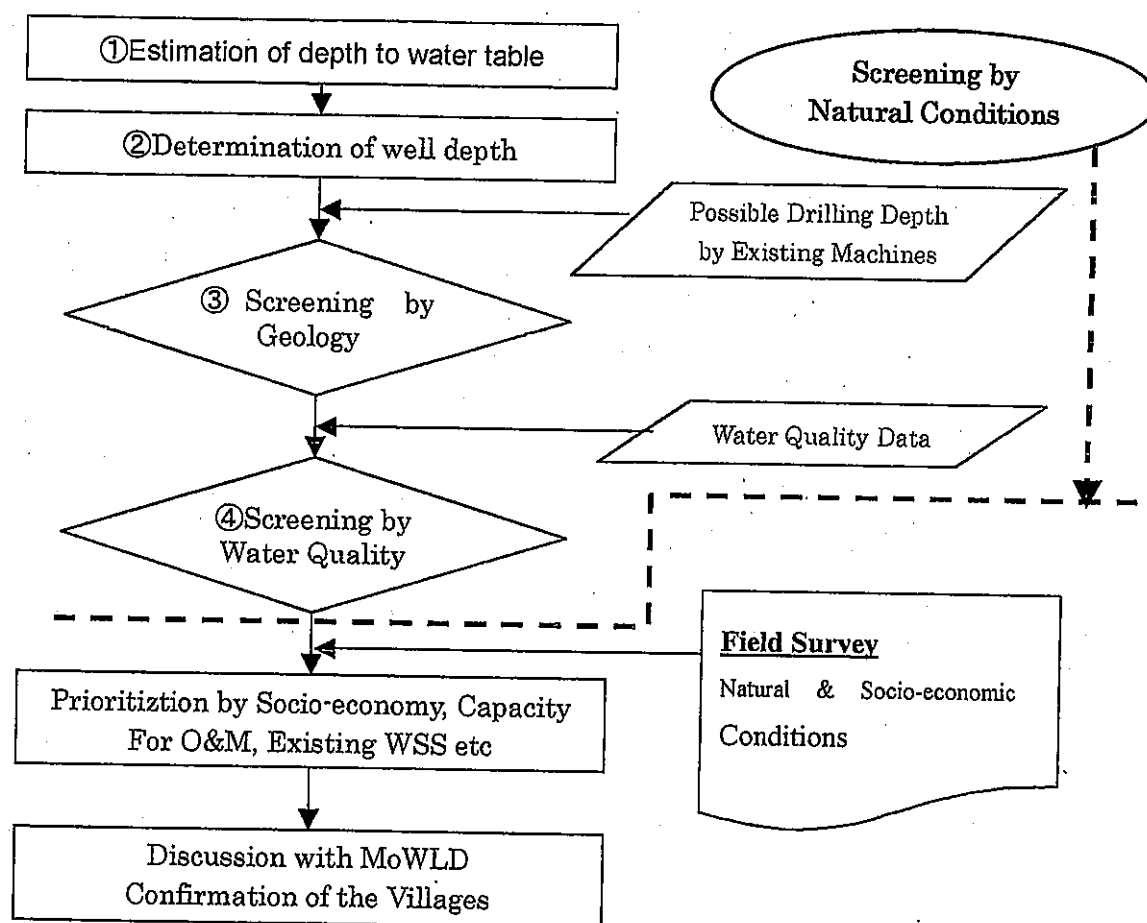
- 5) VWC and WPC are established.
- 6) Communities participate and contribute to O/M for the project.
- 7) Sanitation and hygiene condition is assessed severe.
- 8) There is no apparent obstruction to land acquisition.
- 9) Possibility of money raising by the water committee satisfies to cover O/M cost for water supply facilities.
- 10) The people are ready to contribute.

**Others**

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



## Flow Chart of Screening and Selection of the Villages



li. B

## 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 when needed		•
4	To construct the parking lot	•	
5	To construct roads		
	1) Within the site	•	
	2) Outside the site		•
6	To construct the buildings	•	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1) Electricity		
	a. The distribution line to the site		•
	b. The drop wiring and internal wiring within the site	•	
	c. The main circuit breaker and transformer	•	
	2) Water supply		
	a. The city water distribution main to the site		•
	b. The supply system within the site (receiving and elevated tank)	•	
	3) Drainage		
	a. The city drainage main (for storm, sewer and others) to the site		•
	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	•	
	4) Gas supply		
	a. The city gas main to the site		•
	b. The gas supply system within the site	•	
	5) Telephone system		
	a. The telephone trunk line to the main distribution frame/panel (MDF) of the building		•
	b. The MDF and the extension after the frame/panel	•	
	6) Furniture and equipment		
	a. General furniture		•
	b. Project equipment	•	
8	To bear the following commissions to the Japanese bank for the banking services based upon the B/A		
	1) Advising commission of A/P		•
	2) Payment commission		•
9	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	•	•
10	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract as may be necessary for their entry into the recipient country and stay therein for the performance of their work		•
11	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		•
12	To maintain and use properly and effectively the equipment and materials provided under the Grant		•
13	To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment		•

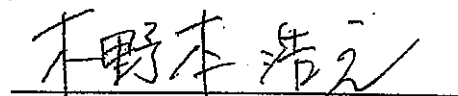
**MINUTES OF DISCUSSIONS**  
**ON**  
**THE BASIC DESIGN STUDY ON**  
**THE RURAL WATER SUPPLY PROJECT IN LINDI AND MTWARA REGIONS**  
**IN THE UNITED REPUBLIC OF TANZANIA**  
**(EXPLANATION ON DRAFT FINAL REPORT)**

In November 2002, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on the Rural Water Supply Project in Lindi and Mtwara Regions in the United Republic of Tanzania (hereinafter referred to as "the Project") and through discussion, field survey, and technical examination of the results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult with the Government of the United Republic of Tanzania on the components of the draft report, JICA sent to Tanzania the Draft Final Report Explanation Team (hereinafter referred to as "the Team"), headed by Mr. Hiroyuki Kinomoto, Deputy Resident Representative, Tanzania Office, JICA, from April 24 to April 30, 2003.

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

Dar es Salaam, April 30, 2003



Mr. Hiroyuki Kinomoto  
Leader  
Basic Design Study Team  
Japan International Cooperation Agency



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The United Republic of Tanzania

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

Witness



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## ATTACHMENT

### 1. Components of the Draft Final Report

The Tanzanian side agreed and accepted in principle the components of the draft final report as explained by the Team. After discussions with the Team, the Tanzanian side finally confirmed the items and components which will be procured and constructed under the Project described in **Annex-I and Annex -II**. However, the following issues were requested by the Tanzanian side:

- The Tanzanian side requested to add the magnetic survey equipment into the equipment list and to include water level meter in the well-testing equipment.
- The Tanzanian side explained the necessity of nine (9) 4WD vehicles for each district because of the poor road conditions.
- The Tanzanian side explained that the water yield of the existing borehole in Kilangala Village in Lindi Region has decreased and it is necessary to drill a new borehole.
- The Tanzanian side explained the need for additional permanent storage tanks in Kilangala and Ziwani villages.

### 2. Japan's Grant Aid scheme

The Tanzania side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Tanzania as explained by the Team and described in **Annex-V and Annex-VI** of the Minutes of Discussions signed by both parties on November 27, 2002.

### 3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to Tanzania by July 2003.

### 4. Other relevant issues

- (1) The Team explained the criteria for screening of the requested villages as follows;

Ground water level (Static water level) : up to 60 m (hand pump) / 150 m (motorized pump)

Water yield : more than 5 l/min. (hand pump) / 20 l/min. (motorized pump)

Water quality : Tanzania water quality standard

Both sides agreed to construct water supply facilities in 64 villages after screening of the 100 requested villages.

- (2) The Team decided the type of water supply facilities for each village based on the ground water level, population and willingness to pay of the villagers for the O/M cost.

The Tanzanian side confirmed the result as follows;

Level I: 26 villages

Level II: 38 villages



(3) Operation and Maintenance (O/M)

- Ministry of Water and Livestock Development and Regional Water Engineers should be responsible for the technical backstopping for the district councils' activities and O/M of the equipments procured under the Project.
- District Water Engineers should be responsible for O/M of the water supply facilities constructed under the Project.
- Village Water Committees and Water Point Committees which have been established should be strengthened.
- The beneficiaries should be responsible for paying for their water supply services.

(4) The Tanzanian side requested the consultant services as "soft component" to be included in the Project, in order to secure sustainable hygiene education and O/M activities after completion of the Project. The following soft components shall be executed under the Project;

- Awareness enlightenment for resident's participation
- Planning of O/M and technical training
- Monitoring and evaluation
- Hygiene education

(5) The Team explained that detailed geophysical surveys shall be conducted in the villages during detailed design stage instead of exploratory drilling, in order to assure successful boreholes.

(6) The Tanzanian side expressed the importance of the monitoring of the water levels in the boreholes. The consultant will consider the method to be used for that purpose during the detailed design stage.



# ANNEX I

## Results of Final Screening

Region	District	
Mtwara	Mtwara Rural	16
	Tandahimba	5
	Newala	2
	Masasi	8
Mtwara Total		31
Lindi	Kilwa	3
	Lindi	13
	Ruangwa	8
	Nachingwea	5
	Liwale	4
Lindi Total		33
Grand Total		64

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## ANNEX II

## List of Equipment

Division	Equipment	Purpose/Items	Qty	Remarks
A. Drilling Equipment	Spare parts for FSW-7T-L37	Spare parts of drilling rig, vehicles and compressor provided in 1997. Used for maintenance.	1 set	
	Drilling machine	Truck mount rotary in combination with DTH, drilling capability 200m at 6-12 inches.	1 set	
	Supporting equipment and vehicles	Hammer, bit, tools, compressor, cargo truck, water tank lorry, fuel truck. Utilized for drilling and transportation of equipment and materials.	1 set	One set each
	Well testing equipment	Well logging, motor pump, generator, notch for pumping test. Utilized for judgement of aquifer parameters and possible pumping discharge	2set each	Well logging 1 set
	Geophysical survey equipment	Resistivity survey equipment. With 12V24A Batteries, cables and poles	2 set	ditto
B. O&M Equipment	Small size truck with crane	Repair and maintenance	2 set	One set for each RWE
	Welder	Welding of pipes	2 set	ditto
	Maintenance tool	Repair tool kit	2 set	ditto
	Motorbike	Routine check and technical guidance	9 set	One set for each DWE
	Well cleaning equipment	Compressor, cargo truck Utilized for well cleaning.	2 set	One set for each RWE
C. Survey Equipment	Water quality meter	Portable pH, ORP, EC meters	2 set	ditto
	Pickup truck	Transportation of equipment	2 set	ditto
	Computer with accessories	Desktop, printer and software	2 set	ditto
	Current meter	For stream flow measurement	2 set	ditto
	Land survey equipment	Total station system	2 set	ditto