添 付 資 料

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添付資料-１　調査団員名簿

(1)　基本設計調査団員名簿

氏　　名	担　　当	所　属・役　職	備　　考
1　下村　則夫	総　　括	国際協力事業団 無償資金協力部、次長	10/21 ～11/5
2　中村　浩孝	計画管理	国際協力事業団 無償資金協力部、業務第１課	同　上
3　下平　明子	協力計画	国際協力事業団 南アフリカ事務所	同　上
4　由本　聡一郎	業務主任／ 地下水開発	(株) ﾊﾟｼﾌｨｯｸｺﾝｻﾙﾀﾝﾂｲﾝﾀｰﾅｼｮﾅﾙ 農業開発部、次長	10/22 ～12/10
5　河原　理恵	社会経済調査 ・維持管理計画	(株) ﾊﾟｼﾌｨｯｸｺﾝｻﾙﾀﾝﾂｲﾝﾀｰﾅｼｮﾅﾙ 営業業務部	10/28 ～12/13
6　山本　　修	給水設計計画	(株) ﾊﾟｼﾌｨｯｸｺﾝｻﾙﾀﾝﾂｲﾝﾀｰﾅｼｮﾅﾙ 農業開発部　課長	10/22 ～12/10
7　山下　千文	水理地質	(株) ﾊﾟｼﾌｨｯｸｺﾝｻﾙﾀﾝﾂｲﾝﾀｰﾅｼｮﾅﾙ (ユニテク)	同　上
8　寄立　徹	物理探査	(株) ﾊﾟｼﾌｨｯｸｺﾝｻﾙﾀﾝﾂｲﾝﾀｰﾅｼｮﾅﾙ 水資源開発部	11/05 ～12/10
9　松本　裕一	積算／調達計画	(株) ﾊﾟｼﾌｨｯｸｺﾝｻﾙﾀﾝﾂｲﾝﾀｰﾅｼｮﾅﾙ 農業開発部、次長	同　上
10　和田　英子	通　訳	(株) ﾊﾟｼﾌｨｯｸｺﾝｻﾙﾀﾝﾂｲﾝﾀｰﾅｼｮﾅﾙ (テクノスタッフ)	10/22 ～12/10

(2)　基本設計概要説明団員名簿

氏　　名	担　　当	所　属・役　職	備　　考
1　丸尾　祐治	総　　括	国際協力事業団、無償資金協力専門員 (南アフリカ事務所)	2/18 ～2/24
2　池崎　公彦	計画管理	国際協力事業団 人事部、給与課	2/15 ～2/26
3　由本　聡一郎	業務主任／ 地下水開発	(株) ﾊﾟｼﾌｨｯｸｺﾝｻﾙﾀﾝﾂｲﾝﾀｰﾅｼｮﾅﾙ 農業開発部、次長	2/15 ～3/1
4　河原　理恵	社会経済調査 ・維持管理計画	(株) ﾊﾟｼﾌｨｯｸｺﾝｻﾙﾀﾝﾂｲﾝﾀｰﾅｼｮﾅﾙ 営業業務部	同　上
5　松本　裕一	積算／調達計画	(株) ﾊﾟｼﾌｨｯｸｺﾝｻﾙﾀﾝﾂｲﾝﾀｰﾅｼｮﾅﾙ 農業開発部、次長	同　上
6　和田　英子	通　訳	(株) ﾊﾟｼﾌｨｯｸｺﾝｻﾙﾀﾝﾂｲﾝﾀｰﾅｼｮﾅﾙ (テクノスタッフ)	同　上

添付資料-2　調査日程

(1)　基本設計調査日程

日付		下村・中村・下平	由本・和田	山本	山下	河原	寄立	松本
Oct. 21,2000	(Sat.)	NRT - SIN	-	-	-			
Oct. 22,	(Sun.)	SIN - JNB	NRT - BAK					
Oct. 23,	(Mon.)		BAK - JNB					
		Courtesy Call to JICA & EOJ						
Oct. 24,	(Tue.)	JMB - MPO Courtesy Call to EOJ						
Oct. 25,	(Wed.)	Discussions with DNA Explanation of Inception Report and Site Survey Schedule						
Oct. 26,	(Thru.)	Discussions with DNA						
Oct. 27,	(Fri.)	MPO - QLM, Discussions with DPOPH, DA, EPAR						
Oct. 28,	(Sat.)	Site Survey (Quelimane: EPAR Workshop; Mocuba: DA Office, EPAR Workshop, PEC Office; Gurue: DA Office, PEC Office)				NRT - HKG		
Oct. 29,	(Sun.)	Site Survey (Ile, Alto Molocue, Gile)				HKG - JNB - MPO		
Oct. 30,	(Mon.)	Site Survey (Namarroi, Milange, Lugela)				MPO - QLM		
Oct. 31,	(Tue.)	QLM - MPO			Site Survey (Mocuba)	Site Survey (Mocuba)		
Nov. 1, 2000	(Wed.)	Discussions with DNA			Site Survey (Gurue)	Site Survey (Gurue)		
Nov. 2,	(Thu)	Signing on M/D, Report to EOJ			Site Survey (Milange)	Site Survey (Milange)		
		MPO - JNB						
Nov. 3,	(Fri.)	Report to JICA & EOJ	Data Collection		Site Survey (Alto Molocue)	Site Survey (Alto Molocue)		
Nov. 4,	(Sat.)	Lev. JNB	Data Collection		Site Survey (Gile)	Site Survey (Gile)		
Nov. 5,	(Sun.)	Arr. at SIG and Lev. for NRT	Data Collection		Site Survey (Ile)	Site Survey (Ile)	NRT - HKG	NRT - HKG
Nov. 6,	(Mon.)	-	Data Collection		Site Survey (Lugela)	Site Survey (Lugela)	HKG - JNB -MPO	HKG - JNB -MPO
Nov. 7,	(Tue.)	-	MPO - QLM		Site Survey (Namarroi)	Site Survey (Namarroi)	Site Survey (Quelimane)	Site Survey (Quelimane)
Nov. 8,	(Wed.)	-	Site Survey (Mocuba)	Site Survey (Mocuba)	Site Survey (Mocuba)	Interview Survey (Mocuba)	Site Survey (Mocuba)	Site Survey (Mocuba)
Nov. 9,	(Thu)	-	Site Survey (Gurue)	Site Survey (Gurue)	Site Survey (Gurue)	Interview Survey (Mocuba)	Site Survey (Gurue)	Site Survey (Gurue)
Nov. 10,	(Fri.)	-	Site Survey (Milange)	Site Survey (Milange)	Site Survey (Milange)	Interview Survey (Gurue)	Site Survey (Milange)	Site Survey (Milange)
Nov. 11,	(Sat.)	-	Site Survey (Alto Molocue)	Site Survey (Alto Molocue)	Site Survey (Alto Molocue)	Interview Survey (Gurue)	Site Survey (Alto Molocue)	Site Survey (Alto Molocue)
Nov. 12,	(Sun.)	-	Site Survey (Gile)	Site Survey (Gile)	Site Survey (Gile)	Interview Survey (Milange)	Site Survey (Gile)	Site Survey (Gile)
Nov. 13,	(Mon.)	-	Site Survey (Ile)	Site Survey (Ile)	Site Survey (Ile)	Interview Survey (Milange)	Site Survey (Ile)	Site Survey (Ile)
Nov. 14,	(Tue.)	-	Site Survey (Lugela)	Site Survey (Lugela)	Site Survey (Lugela)	Interview Survey (Alto Molocue)	Site Survey (Lugela)	Site Survey (Lugela)
Nov. 15,	(Wed.)	-	Site Survey (Namarroi)	Site Survey (Namarroi)	Site Survey (Namarroi)	Interview Survey (Alto Molocue)	Site Survey (Namarroi)	Site Survey (Namarroi)
Nov. 16,	(Thu)	-	Site Survey (QLM)	Site Survey (QLM)	Site Survey (WA. Sampling)	Interview Survey (Gile)	Supervision of Geoelectric Survey (G.S)	Data Collection
Nov. 17,	(Fri.)	-	Site Survey (QLM)	Site Survey (QLM)	Site Survey (WA. Sampling)	Interview Survey (Gile)	Supervision G.S	Data Collection
Nov. 18,	(Sat.)	-	Site Survey (QLM)	Site Survey (QLM)	Site Survey (WA. Sampling)	Interview Survey (Ile)	Supervision G.S	Data Collection
Nov. 19,	(Sun.)	-	Site Survey (QLM)	Site Survey (QLM)	Site Survey (WA. Sampling)	Interview Survey (Ile)	Supervision G.S	Data Collection
Nov. 20,	(Mon.)	-	Site Survey (QLM)	Site Survey (QLM)	Site Survey (WA. Sampling)	Interview Survey (Lugela)	Supervision G.S	Data Collection
Nov. 21,	(Tue.)	-	Site Survey (QLM)	Site Survey (QLM)	Site Survey (WA. Sampling)	Interview Survey (Lugela)	Supervision G.S	Data Collection
Nov. 22,	(Wed.)	-	Site Survey (QLM)	Site Survey (QLM)	Site Survey (WA. Sampling)	Interview Survey (Namarroi)	Supervision G.S	Data Collection
Nov. 23,	(Thu)	-	Site Survey (QLM)	Site Survey (QLM)	Survey in QLM	Interview Survey (Namarroi)	Supervision G.S	Data Collection
Nov. 24,	(Fri.)	-	Site Survey (QLM)	Site Survey (QLM)	Survey in QLM	Socio economic Survey	Supervision G.S	Data Collection
Nov. 25,	(Sat.)	-	Site Survey (QLM)	Site Survey (QLM)	Survey in QLM	Socio economic Survey	Supervision G.S	Data Collection
Nov. 26,	(Sun.)	-	QLM - MPO	Site Survey (QLM)	Survey in QLM	Socio economic Survey	Supervision G.S	QLM - MPO

日付		由本・和田	山本	山下	河原	寄立	松本
Nov. 27, (Mon.)		Survey in Gaza	Data Collection	Survey in QLM	Socio economic Survey	Supervision G.S	Survey in MPO
Nov. 28, (Tue.)		Survey in MPO	Data Collection	Survey in QLM	Socio economic Survey	Supervision G.S	Survey in MPO
Nov. 29, (Wed.)		Survey in MPO	Data Collection	Survey in QLM	Socio economic Survey	Supervision G.S	Survey in MPO
Nov. 30, (Thu)		Survey in MPO	Data Collection	Arrangement of Data	Arrangement of Data	Arrangement of Data	Survey in MPO
Dec. 1, 2000 (Fri.)		Survey in MPO	Data Collection	QLM - MPO	Arrangement of Data	Arrangement of Data	Survey in MPO
Dec. 2, (Sat.)		Survey in MPO	Data Collection	Arrangement of Data	Arrangement of Data	Arrangement of Data	Survey in MPO
Dec. 3, (Sun.)		Survey in MPO	Data Collection	Arrangement of Data	Arrangement of Data	Arrangement of Data	Survey in MPO
Dec. 4, (Mon.)		Discussion with DNA	Data Collection	Discussion with DNA	Arrangement of Data	Arrangement of Data	Survey in MPO
Dec. 5, (Tue.)		Discussion with DNA	Data Collection	Discussion with DNA	Arrangement of Data	Arrangement of Data	Survey in MPO
Dec. 6, (Wed.)		Signing on Technical Note	QLM - MPO	Signing on Technical Note	QLM - MPO	QLM - MPO	MPO - JMB
Dec. 7, (Thu)		Report to EOJ,	Report to EOJ	Report to EOJ	Survey in MPO	Arrangement of Data	Survey in JNB
Dec. 8, (Fri.)		MPO - JNB, Report to JICA			Survey in MPO	Arrangement of Data	Survey in JNB
Dec. 9, (Sat.)		Lev. JNB			Survey in MPO	Lev. JNB	
Dec. 10, (Sun.)		Arr. at HKG and Lev. for NRT			Survey in MPO	Arr. at HKG and Lev. for NRT	
Dec.11 (Mon)					MPO - JNB		
Dec.12 (Tue.)					JNB - BAK		
Dec.13 (Wed.)					BAK- NRT		

(2) 基本設計概要説明日程

日付	丸尾	池崎	由本	河原	松本	和田
Feb. 15,2001 (Thu.)	-	NRT - SIN	NRT - HKG			
Feb. 16, (Fri.)	-	SIN - JNB	HKG - JNB			
Feb. 17, (Sat.)	-	JNB - MPO	JNB- MPO			
		Meeting				
Feb. 18, (Sun.)	JNB- MPO	Meeting				
	Meeting					
Feb. 19, (Mon.)	Courtesy Call to EOJ and MOFC, Discussions with DNA, Explanation of Draft Report					
Feb. 20, (Tue.)	Discussions with DNA					
Feb. 21, (Wed.)	Discussions with DNA					
	Visiting to DFID and Discussions		Arrangement of Data			
Feb. 22, (Thu.)	Discussions with DNA, Signing on M/D					
Feb. 23, (Fri.)	Arrangement of Data, Report to EOJ					
Feb. 24, (Sat.)	MPO - JNB		Collection and Arrangement of Data			
Feb. 25, (Sun.)		JNB - SIN	Collection and Arrangement of Data			
Feb. 26, (Mon.)		SIN - NRT	Discussions with DNA, UNICEF, CFPAS, Visiting to Hand Pump Maker (STENAKS, AGRO ALFA) Collection of Data			
Feb. 27, (Tue)			Discussions with DFID, CFPAS MPO - JNB			
Feb. 28, (Wed.)			JNB - HKG			
March 1, (Thu.)			HKG - NRT			

添付資料-３　関係者リスト

(1)　日本側関係者リスト

在南ｱﾌﾘｶ共和国日本大使館

西村　洋一郎	領事
石塚　勇人	一等書記官

国際協力事業団南ｱﾌﾘｶ事務所

高橋　嘉行	所長
今村　嘉宏	所長補佐
下平　明子	協力計画ｱﾄﾞﾊﾞｲｻﾞｰ

在ﾓｻﾞﾝﾋﾞｰｸ共和国日本大使館

野瀬　芳弘	大使
長島　公平	公使参事官
佐藤　卓央	理事官（経済協力担当）

国際協力事業団専門家

大山　一義	外務協力省ｱｼﾞｱ・ｵｾｱﾆｱ局、開発計画ｱﾄﾞﾊﾞｲｻﾞｰ

(2)　モザンビーク国側関係者リスト

Ministry of Foreign Affairs and Cooperation (MFAC) (外務協力省)

Mr. Arthur Jossefa Jamo	Deputy Director, Directorate for Asia and Oceania
Mr. Herngild Caetano	First Secretary, Department for North, Central and South Asia

Ministério das Obras Públicas e Habitação (MOPH) (公共事業住宅省)

Direcção Nacional de Águas (DNA) (国家水利局)

Mr. Americo Muianga	Natinal Director

Dept. de Água Rural (DAR) (地方給水・衛生部)

Ms. Ivone de Jesus Amaral	Department Manager
Mr. Inacio M. Chilengue	Investigator Social

Ministry of Health (保健省)

Ms. Maria Isabel Amado	Technical Profesional, LNHAA (Laboratório Nacional de Higine dos Alimentos e Águas)
Ms. Josefina M. Maniça	Technical Assistant, LNHAA
Dr. Antonio Noja	Epidemiologist, DNS-DEE
Ms. Adelia Aly Moela	Tec. Estaistica

National Directorate of Geography and Map (国土地理院)

Mr. Salvador Jossias	Secretary

Direcção Provincial das Obras Públicas e Habitação (公共事業住宅省州事務所)

Mr. Santos Alberto	Director of DPOPH, Zambezia Province
Mr. Leonardo Chambe	Head of Water and Sanitation Department, Quelimane
Mr. Tarcisio Omega	Chief of Section, DAS-DPOPH-2-section, Quelimane

Estaleiros Provinciais de Água Rural (EPAR) (地方給水工務部)

Mr. Mauricio E. Munequele	Director, Quelimane
Mr. Tomás Brito	Chief of Production Section, Quelimane

Participação e Educação Comunitaria (PEC) (住民教育班)

Mr. Tomé Varela	Chief of PEC, Quelimane

Morrumbala District

Mr. David Manhacha	Administrator
Mr. Gabriel Carimo	D.D.O.P, District Director

Mocuba District

Mr. Rafael José Manso	Administrator
Mr. Paulo Julio Paulino	EPAR, Director of Mocuba

Ire District

Mr. Marcelino Wilson Suphelo	Administrator
Mr. Moisé Sebastião Ngomane	PEC, Activist

Namarroi District

Mr. Orácio Figueiredo	Acting Administrator

Gurue District

Mr. Jose Cherequejane	Administrator
Mr. Cordeiro Mucufo	Director of OPH

Alto Molocue District

Mr. Guilherme A. Petersbrugo	Administrator
Mr. Felezardo Anselmo	DPOPH, District Director
Mr. Anselmo Joaquin	Chief of Administration Secretariat

Gile District

Mr. Rodrigues A. Encarnação	Administrator

Lugela District

Mr. Jose Rafio Arfinado	Director of Education

Milange District

Mr. Cristene Joaquim Consula	Administrator

Centro de Formação Profissional de Águas e Saneamento (CFPAS)

Mr. Carlos Macôo	Director
Ms. Carlota Isac Nuianga	Coodinator of PEC

(3) 国際機関関係者リスト

UNICEF

Mr. Dermot Carty	Programme Officer
Mr. Samuel Mawunganidce	Project Officer
Ms. Angelina Xavier	Assistant Project Officer

British High Commission Maputo

Ms. Julia Compton	First Secretary, DFID
Mr. Clare Barrington	Assistant Engineering Adviser, DFID

World Vision

Mr. Veronique Kollhoff	Health Programme Officer

Mr. S. Adriano Máquina Agriculture Economist
Swiss Agency for Development and Cooperation (SDC)
Ms. Ana Lúcia Obiols Programme Counselor of PEC
ACTIONAID
Mr. Manuel Luís Human Resource Manager
COSV (UNIÃO EUROPIA)
Dr. Alessandro Basilicó Chief of Hydro Project
MOVIMONDO
Mr. Jorge Gallego Socio-economist
CONSELHO CRISTÃO DE MOÇAMBIQUE
Mr. Jorge Samuel Regional Coordinator

添付資料-4　当該国の社会・経済事情

	モザンビーク共和国
	Republic of Mozambique

一般指標					
政体	共和制	*1	首都	マプト (Maputo)	*2
元首	大統領／ジョアキン・アルベルト・チサノ	*1,3	主要都市名	ベイラ、ナムプラ、テテ、モザンビーク	*3
			雇用総数	8,812千人　(1998 年)	*6
独立年月日	1975年6月25日	*3,4	義務教育年数	7年間 (　　年)	*13
主要民族／部族名	ﾏｸｱﾛﾑｳｪ人40%、ｿﾝｶﾞ人25%等	*1,3	初等教育就学率	60.2 %　(1997 年)	*6
主要言語	ポルトガル語	*1,3	中等教育就学率	7.1 %　(1997 年)	*6
宗教	ｷﾘｽﾄ教53%、ｲｽﾗﾑ教17.8%、原始宗教	*1,3	成人非識字率	56.2 %　(2000 年)	*13
国連加盟年	1975年9月16日	*12	人口密度	21.61 人/km2　(1998 年)	*6
世銀加盟年	1948年9月	*7	人口増加率	1.9 %　(1980 年)	*6
IMF加盟年		*7	平均寿命	平均 45.20　男 43.90　女 46.60	*6
国土面積	802.00 千km2	*6	5歳児未満死亡率	213 /1000　(1998 年)	*6
総人口	16,947千人　(1998 年)	*6	カロリー供給量	1,799.0 cal/日/人　(1996 年)	*10

経済指標					
通貨単位	メティカル(Metical)	*3	貿易量	(1996 年)	
為替レート	1 US $ = 16,946.00　(2000 年　12月)	*8	商品輸出	226.1 百万ドル	*15
会計年度	Dec. 31	*6	商品輸入	-704.4 百万ドル	*15
国家予算	(　　年)		輸入カバー率	(月) (1997 年)	*14
歳入総額		*9	主要輸出品目	えび、カシューナッツ、砂糖、綿花	*1
歳出総額		*9	主要輸入品目	一般消費材(主に食糧)、原油	*1
総合収支	-368.5 百万ドル　(1996 年)	*15	日本への輸出	百万ドル　(　　年)	*16
ODA受取額	1,039.3 百万ドル　(1998 年)	*18	日本からの輸入	百万ドル　(　　年)	*16
国内総生産(GDP)	3,893.07 百万ドル　(1998 年)	*6			
一人当たりGNP	210.0 ドル　(1998 年)	*6	粗外貨準備額	0.0 百万ドル　(1998 年)	*6
GDP産業別構成	農業　34.3 %　(1998 年)	*6	対外債務残高	8,208.3 百万ドル　(1998 年)	*6
	鉱工業　20.8 %　(1998 年)	*6	対外債務返済率(DSR)	18.0 %　(1998 年)	*6
	サービス業　44.8 %　(1998 年)	*6	インフレ率 (消費者価格物価上昇率)	44.6 %　(1990-98 年)	*6
産業別雇用	農業　男　%女　% (1992 年)	*6			
	鉱工業　%　% (1992 年)	*6			
	サービス業　%　% (1992 年)	*6	国家開発計画		
実質GDP成長率	5.7 %　(1990 年)	*6			*11

気象　(1961年～ 1990 年平均)　観測地：マプート (南緯25度55分、東経32度34分、標高44m)　*4,5

月	1	2	3	4	5	6	7	8	9	10	11	12	平均/計
降水量	174.4	139.4	95.9	54.6	28.5	14.2	20.4	14..0	41.7	65.1	74.6	76.0	798.8 mm
平均気温	26.4	26.2	25.6	23.5	21.5	18.9	18.9	20.0	21.5	22.5	23.8	25.4	22.9 ℃

*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2000 (共同通信社)
*4　最新世界各国要覧10訂版 (東京書籍)
*5　理科年表2000 (国立天文台編)
*6　World Development Indicators2000
*7　The World Bank Public Information Center, International Financial Statistics Yearbook 1998
*8　Universal Currency Converter
*9　Government Finances Statistics Yearbook1998 (IMF)
*10　Human Development Report1999(UNDP)
*11　Country Profile(EIU),外務省資料等
*12　United Nations Member States
*13　Statistical Yearbook 1999(UNESCO)
*14　Global Development Finance1999(WB)
*15　International Finances Statistics 1999(IMF)
*16　世界各国経済情報ファイル1999(日本貿易振興会)
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標記になる

	モザンビーク共和国
	Republic of Mozambique

我が国におけるODAの実績　（資金協力は約束額ベース、単位：億円）　＊17

項目＼暦年	1995	1996	1997	1998	1999
技術協力	2.77	3.82	4.28	5.48	
無償資金協力	22.00	48.84	35.67	47.96	
有償資金協力	0.00	0.00	0.00	0.00	
総額	24.77	52.66	39.95	53.44	

当該国に対する我が国ODAの実績　（支出純額、単位：百万ドル）　＊17

項目＼暦年	1995	1996	1997	1998	1999
技術協力	2.25	3.32	3.42	3.89	
無償資金協力	39.01	28.85	33.46	37.63	
有償資金協力	-1.50	-2.12	1.23	-0.92	
総額	39.76	30.04	38.12	40.60	

OECD 諸国の経済協力実績　（支出純額、単位：百万ドル）　＊18

	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）	713.9	-1.3	712.6	229.2	941.8
1. Italy	110.6	0.0	110.6	-52.1	58.5
2. Germany	82.6	2.6	85.2	35.5	120.7
3. United States	70.5	0.0	70.5	1.0	71.5
9. Japan	41.5	-0.9	40.6	0.0	40.6
多国間援助（主要援助機関）	109.7	219.5	329.2	10.7	339.9
1. IDA			128.4	0.0	128.4
2. EC			84.1	0.0	84.1
その他			-2.5	0.0	-2.5
合計	823.6	215.7	1,039.3	240.0	1,279.3

援助受入窓口機関　＊19

技術協力：外務・協力省
無償　　：外務・協力省
協力隊　：

＊17　我が国の政府開発援助1999(国際協力推進協会)
＊18　International Development Statistics（CD-ROM）2000　OECD
＊19　JICA資料

添付資料-5　討議議事録

Page

1. Minutes of Discussions signed on November 1, 2000
   for the Inception Report 資-10

2. Minutes of Discussions signed on February, 20001
   for the explanation of Draft Report 資-27

3. Technical Notes signed on December 6, 2000
   for the Field Survey 資-25

MINUTES OF DISCUSSIONS
BASIC DESIGN STUDY
ON
THE PROJECT
FOR
GROUNDWATER DEVELOLPMENT FOR RURAL WATER SUPPLY
IN
ZAMBEZIA PROVINCE
IN
THE REPUBLIC OF MOZAMBIQUE

In response to a request from the Government of the Republic of Mozambique (hereinafter referred to as "GOM"), the Government of Japan decided to conduct a basic design study on the Project for Groundwater Development for Rural Water Supply in Zambezia Province in the Republic of Mozambique (hereinafter referred to as "the Project") and entrusted the study to Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to GOM a study team, headed by Mr. Norio SHIMOMURA, Deputy Managing Director, Grant Aid Management Department, JICA, and scheduled to stay in GOM from October 24 to December 8, 2000.

The Team held discussions with the officials concerned of GOM, and conducted field surveys at the study areas.

In the course of the discussions and field surveys, 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.

Maputo, November 1, 2000

下村則夫
Mr. Norio Shimomura
Leader
Basic Design Study Team
JICA

Américo Muianga
Mr. Americo Muianga
National Director,
National Directorate of Water Affairs,
Ministry of Public Works and Housing,
Government of Republic of Mozambique

Mr. Santos Alberto
Provincial Director of Public Works
and Housing of Zambezia Province,
Government of Republic of Mozambique

資-10

ATTACHMENT

1. Objective

The objective of the Project is to improve the health and living standard of the people who live in rural areas by providing potable water through the construction of water supply facilities.

2. Project Sites

The Project sites are the eight (8) districts of Lugela, Gurue, Alto Molocue, Namarroi, Ile, Milange, Mocuba and Gile in the Zambezia province for drilling of new boreholes as shown in Annex-I.

3. Responsible and Implementing Agencies

(1) Coordinating organization	:	Ministry of Foreign Affairs and Cooperation
(2) Responsible organization	:	Ministry of Public Works and Housing
(3) Implementing organization	:	National Directorate for Water Affairs (DPOPH-Zambezia)

4. Items requested by GOM

After a series of discussions with the Team, GOM requested the items shown in Annex-II. JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval.

5. Japan's Grant Aid System

(1) GOM side has understood Japan's Grant Aid system explained by the Team, as described in Annex-III.

(2) GOM side will take necessary measures, as described in Annex-IV, for smooth implementation of the Project, on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

6. Schedule of the Study

(1) The consultant of the Team will proceed to further studies in GOM until December 8, 2000.

(2) Based on the Minutes of Discussions and technical examination of the study results, JICA will prepare a draft report in English and dispatch a mission to GOM in order to explain its contents around the middle of February 2001.

(3) In case that the contents of the draft report are accepted in principal by GOM, JICA will complete the final report and send it to GOM by the middle of April 2001.

7. Other Relevant Issues

The following issues have been discussed and confirmed by both parties.

(1) Responsible organization for operation and maintenance
The equipment and facilities requested by GOM shall be properly operated and maintained by the respective organizations as stated below.

- Drilling and related equipment:	EPAR-Zambezia
- Vehicles and motorcycles:	PEC-Zambezia
- Geophysical survey equipment:	DRH/DNA in Maputo
- Constructed 150 tubewells:	Respective villages under the assistance by EPAR/PEC-Zambezia
- 30 tubewells of which hand pumps are replaced:	Respective villages under the assistance by EPAR/PEC-Zambezia

(2) Number of required animadors
Since the many tubewells will be constructed and have to be handed over to villages in a short period, GOM side agreed to increase the numbers of animadors to be assigned for the project implementation as required in order to avoid the delay of such implementation which may be caused by the shortage of animadors' number during the implementation.

(3) Preparation of village groups for O & M of the constructed tubewells
The GOM agreed to make his best efforts to set up the organization or group in each village for proper proceeding with the operation and maintenance of the provided tubewells before the commencement of implementation.

(4) Preparation of spaces for the provided equipment and materials
The GOM agreed that he shall prepare enough garages and store places to keep them properly before the implementation of the project.

(5) Screening of villages for tubewell construction
The GOM agreed that the villages requested for tubewell construction are to be examined in views of socio-economy, easiness of construction and hydrogeology, and the following items of field surveys will be conducted.

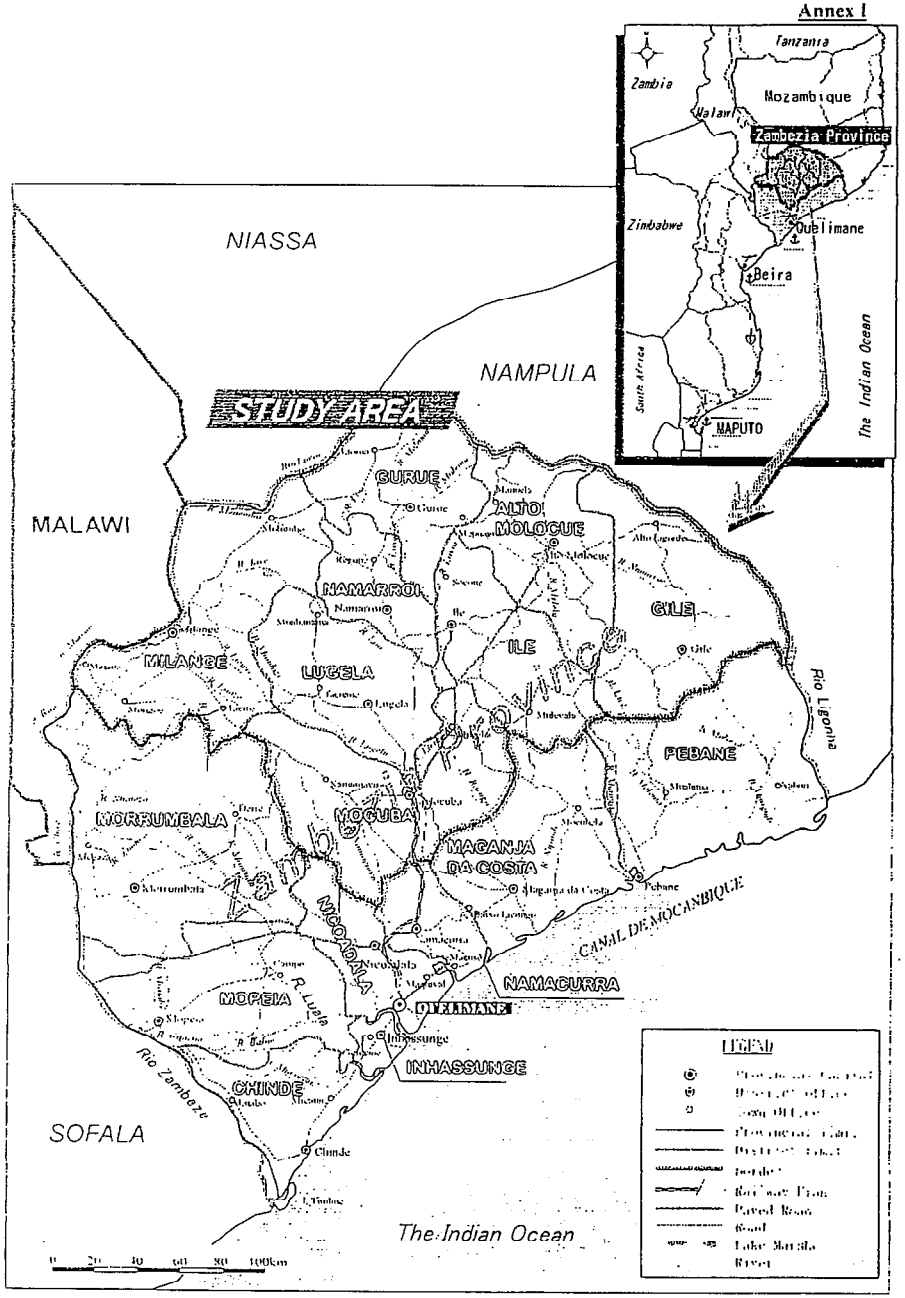
- Survey on socio-economy:	Questionnaire surveys will be made for all of the requested 150 villages, and interview surveys will be made meanwhile for the selected villages.
- Survey on construction condition:	Questionnaire surveys will be made together with the above socio-economy survey for all the villages, and reconnaissance surveys will also made along the access roads in order to confirm the accessibilities.
- Survey on hydrogeology:	Geophysical investigation will be made for all the villages, and hydrogeological study will also be made based on such survey results together with available data and information.

(6) Equipment and materials requested for provision
Both sides agreed that the necessity of the equipment and material requested by GOM shall be examined from the view points of purpose of use, operation and maintenance, conditions of the existing equipment, etc. including the necessary quantities of such equipment and materials requested. The type, quantity and specification of these equipment and materials shall be determined on the minimum required and the easiest operation level.

(7) Works to be done by GOM side
The GOM agreed that he should be responsible for instructing villagers to construct the access roads, fences around the completed apron and the drainage pit in time.

(8) The Mozanbican side requested the consultant services for assisting him in reinforcing the animadors' activities in order to facilitate community mobilization in the villages considered in the project as one of the components of the GRANT Aid.

Annex I



Location Map

Annex II

Items Requested by GOM

List of Equipment and Materials Requested

	Items	Req. No
(1)	Truck Mounted Drilling Rig	2 unit
(2)	Standard Accessories and Tools for Rig	
	Standard Accessories	2 lot
	Drilling Tools	2 lot
	Casing and Tools	2 lot
	Fishing Tools	2 lot
	Air Lifting and Miscellaneous Tools	2 lot
(3)	High Pressure Compressor	2 unit
(4)	Pumping Test Appurtenance	
	High Capacity Submersible Pump	2 lot
	Low Capacity Submersible Pump	2 lot
	Diesel Engine Generator	2 lot
(5)	Motor Vehicles	
	Cargo Truck with 5 t Crane	2 set
	Water Tank Trailer	2 set
	Cargo Truck with 3 t Crane	2 set
	Pick-up Type Vehicle	5 sets
	Motorcycle	7 sets
(6)	Fuel Tank	5 sets
(7)	Pump Unit (VLOM) Type	1 lot
(8)	Casing and Screen Pipes	2 lot
(9)	Water Quality Analysis Equipment	5 sets
(10)	Trailer Type Mobile Workshop	1 lot
(11)	Truck Mounted Hydro-fracturing Unit to Increase the Production Ratio	1 lot
(12)	Spare Parts	1 lot
(13)	Personal Computer and Copy Machine	1 lot
(14)	Tractor (110 HP)	1 no.
(15)	Geophysical Research Equipment	2 sets
(16)	GPS	2 sets
(17)	Complete Topographical Equipment	1 set
(18)	Pick-up Type Vehicle	2 units
(19)	Water Quality analysis Equipment	4 sets

List of Villages Requesting Tubewell Construction

District	Villages	No. of Tubewells	Beneficiaries
Lugela	Muabanana, Comone, Mpemuma, Munhamade, Cubá, Mulide, Mussenga, Putine, Nagobo, Ira, Mucula, Murramela, Comoé, Tenede, Ebide, Mahú, Tacuane, Alto Lugera, Mucuccuela, Montegire	20	10,000
Gurue	Lioma, Nanivacha, Gomoli (Nepuagida), Nintulo, Chicopera, Walasse, Mussangula, Mualljane, Naprotela, Magige, Nepuagiua, Injabo, Vehiua, Manhara, Nipive, Nicoropale, Incise, Murimo, Covela, Nanzua, Nahemo	23	11,500
Alto Molocue	Naparia, Cherrea, Rucula, Vacha, Guiva, Tatu, Inagu, Munepa, Natulo, Murrucha, Caromano, Chapala, Campira (Murepueteia), Nicaca, Nachapa, Namucuna, Narise, Napala, Nawela, Malua, Mutala, Muirro, Uelela	23	11,500
Namarroi	Lipale, Marcia, Sagura, Mudine, Mucmue, Aluta Continua, Mocuna, Namarua, Cacatiua, Inlugo, Munhenhere, Muhere, Niaga, Mutepua, Namauna, Metatala, Mutucla, Liasse, Rumala	19	9,500

REPUBLICA DE MOCAMBIQUE

PROVINCIA DE ZAMBEZIA

ADMINISTRAÇÃO DO DISTRITO DE MOCUBA

Nº.DE ORDEM	ACTIVIDADE	TIPO DE BOMBA	OBRA	LOCAL	RESPONSÁVEL
01	Colocação de um nova bomba	AFRIDEV	1 Furo normal	Joaquim Chissano	Morrumbala Sede
02	Colocação de uma nova bomba	"	1 poço	Julys Meireire	Morrumbala Sede
03	Reabilitação total da bomba	"	1 poço	Samora Machel	Morrumbala Sede
04	Reabilitação total da bomba	"	1 poço	Coqueiro	Morrumbala Sede
05	Reabilitação total da bomba	"	1 poço	João Terra	Morrumbala Sede
06	Reabilitação total da bomba	"	1 furo mecânico	Mpanhiua L.S.Hospital	Morrumbala
07	Reabilitação total da bomba	"	1 furo mecânico	Boroma Localidade Sede	Morrumbala
08	Reabilitação da bomba	"	1 poço	Gebe Localidade Sede	Morrumbala
09	Reabilitação total da bomba	"	1 poço	Mepinha L.Sede	Morrumbala
10	Aumento de capacidade de um poço	"	1 poço	Kambul P.A. Zeira	7.de Novembro
11	Reabilitação total da bomba	"	1 furo mecânico	Mujinha P.Magrumba	9. de Novembro
12	Colocação de uma nova bomba	"	1 poço	Agostinho Teto	Sede Morrumbala
13	Reabilitação total da bomba	"	1 poço	L.Pinto P.A.de Negaze	9. de Novembro
14	Reabilitação total da bomba	"	1 poço	P.A.de Nyamadzabue	9. de Novembro
15	Reabilitação total da bomba	"	1 poço	P.A. de Chiro P.Domingos	7. de Novembro

Annex II

List of Villages Requesting Tubewell Construction

District	Villages	No. of Tubewells	Beneficiaries
Ile	Erupué, Namanda, Nampevo (Nacuca), Nipiodi, Vieriua, Musziva, Muliquela, Nanla, Malalcia, Tibina, Ejaju (Rugc), Muquituna, Napala, Mulevala, Namigonha, Chiraco, Micalanc, Inturro, Namuduma, Macuo, Soconc, Corruanc, Melalcla, Murcua, Lava	26	13,000
Milange	Mebirima, Nesassa, Namuto, Cadonc, Picuni, Chilambo, Intocola, Caria, Nehia, Malico, Mogolua, Mucla, Miciassc, Nacupa, Lipalc, Mongué, Corico, Tundo, Chuliuc, Chinangua, Namaja	21	10,500
Mocuba	Romba, Murramba, Chimbua, Malava, Tonga, Mebudana, Niguanc, Muaquiua, Alto Benfica	9	4,500
Gile	Mamala, Moncia, Puri, Kaianc, Mulanc, Namihalc, Mujahoba, Muacotxaia, Nanhope	9	4,500
Total	150 villages	150	75,000

Nº DE ORDEM	ACTIVIDADE	TIPO DE BOMBA		OBRA	LOCAL	DISTRITO
16	Reabilitação total da bomba	"		1 poço	P.A.Chire p.Tengare II M'bone	D.Morrumbala
17	Colocação de uma nova bomba e tampa de poço.	"		1 poço	P.A.Chire Chilomo-Punde	D.Morrumbala
18	COLOCAÇÃO de uma nova bomba e tampa de poço	"		1 poço	P.A. de Chire Chi-lomo	D.Morrumbala
19	Reabilitação total	"		1 poço	Cumbaco	Morrumbala-Sede
20	Reabilitação total da bomba	"		1 poco	Aeroporto I	Morrumbala-Sede
21	Reabilitação total da bomba	"		1 furo man.	menduro.	Morrumbala-Sede
22	Reabilitação Total da bomba	"		1 poço	Muandiua semente	Morrumbala-Sede
23	Reabilitação total da bomba	"		1 furo mecanica	Mepinha sede	Morrumbala-Sede
24	Reabilitação total da bomba	"		1 poço	P.A.Chire sopulai	D.Morrumbala
25	Reabilitação total da bomba	"		1 poço	Libaarlade	Morrumbala-sede
26	Reabilitaçã total da bomba	"		1 poço	P.A.Megaza Camanga	D.de Morrumbala
27	Reabilitação la bomba	"		1 poço	P.A.Megaza Chingo	D. de Morrumbala
28	Reabilitação total da bomba	"		1 poço	Mepinha P.Muedumba	D.de Morrumbala
29	Reabilitação total la bomba	"		1 poço	P.A.Magaza-Tomo	D.de Morrumbala
30	Reabilitação total la bomba	"		1 furo mecanica	Localidade Sabe	Morrumbala sede

JAPAN'S GRANT AID

1. Japan's Grant Aid System

(1) Grant Aid Procedures

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

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

2) Firstly, the application or a 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 eligible for Japan's Grand 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 (hereafter referred to as "the Study") conducted by JICA on a requested project (hereafter 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:

i) 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,

ii) Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, social and economical point of view,

iii) Confirmation of items agreed on by both parties concerning the basic concept of the Project,

iv) Preparation of a basic design of the Project,
v) 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 and also to avoid any undue delay in implementation should the selection process be repeated.

(3) Japan's Grant Aid Scheme

1) What is Grant Aid?
The Grant Aid Program provides a recipient country with non-reimbursable funds to procure the 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. The 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 two 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 Japanese 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 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 at most 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, constructing, 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 the "Verification"
The Government of the 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 followings:

i) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction.

ii) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.

iii) To secure buildings prior to the procurement in case the installation of the equipment

iv) 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.

v) 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.

vi) 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.

vii) "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.

viii) "Re-export"

The products purchased under the Grant Aid should not be re-exported from the recipient country.

ix) 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 an authorized foreign exchange 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.

2. Grant Aid Procedure

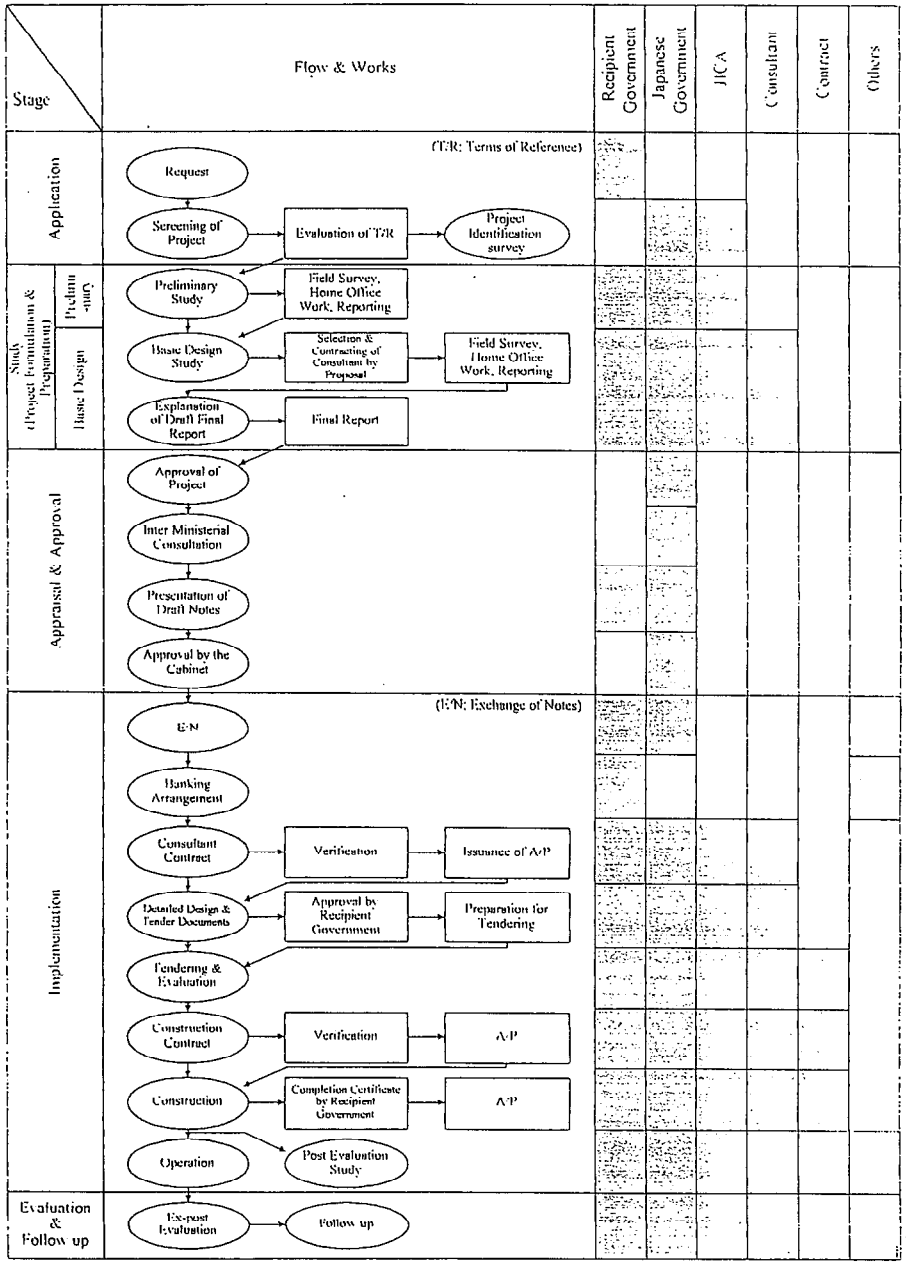
(1) Flowchart of Japan's Grant Aid Procedures

Refer to Attachment 1.

(2) Major Undertaking to be taken by Each Government

Refer to Attachment 2.

Flowchart of Japan's Grant Aid Procedure



Attachment 2

Major Undertakings to be Taken by Each Governments

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 construct a 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 distributing 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 tanks)	●	
	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 to 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 foreign exchange bank for the backing 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 the 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 contact such facilities 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 facilities constructed and equipment 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		○

B/A : Banking Arrangement
A/P : Authorization to Pay

Necessary Measures to be Taken by Government of Republic of Mozambique on Condition that Japan's Grant Aid is Extended

1. To support prompt execution for customs clearance of the equipment imported to the country under the Grant Aid.

2. To accord Japanese nationals whose services may be required in connection with the supply of products and services under the verified contracts such facilities as may be necessary for their entry into the country and stay therein for the execution of their work.

3. To exempt Japanese nationals from custom duties, internal taxes and other fiscal levies which may be imposed in the country with respect to the supply of the products and services under the verified contracts.

4. To maintain and use the facilities constructed under the Grant Aid properly and effectively and to assign the staff necessary for operation and maintenance for the facilities.

5. To bear all the expenses other than those to be borne by the Grant Aid necessary for the execution of the Project.

6. To bear advising commissions for Authorization to Pay and payment commission to a Japanese bank for the banking services based upon the banking arrangement.

MINUTES OF DISCUSSIONS ON THE BASIC DESIGN STUDY ON THE PROJECT FOR GROUNDWATER DEVELOPMENT FOR RURAL WATER SUPPLY IN ZAMBEZIA PROVINCE IN THE REPUBLIC OF MOZAMBIQUE (CONSULTATION ON DRAFT REPORT)

In October 2000, the Japan International Cooperation Agency (JICA) dispatched the Basic Design Study Team on the Project for Groundwater Development for Rural Water Supply in Zambezia Province (hereinafter referred to as "the Project") to the Republic of Mozambique (hereinafter referred to as "Mozambique"), and through discussions, field survey and technical examination of the results in Japan, JICA has prepared the draft report of the Study.

In order to explain and to consult for the Mozambique side on the components of the draft report, JICA sent to Mozambique the Draft Report Explanation Team, which is headed by Dr. Yuji MARUO, Technical Advisor for the Implementation of Grant Aid Project, JICA, (hereinafter referred to as "the Team") from 18th February to 23rd February 2001.

In the course of discussions, both sides confirmed the main items described on the attached sheet.

Maputo, February 2001

丸尾祐治

Dr. Yuji Maruo
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Américo Mulanga

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Government of Republic of Mozambique

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ATTACHMENT

1. Contents of the Draft Report

The Mozambique side has agreed and accepted in principle the contents of the draft report with some comments that will be incorporated in the Final Report.

2. Japan's Grant Aid Scheme

The Mozambique side has understood the system of the Japan's Grant Aid Scheme described in Annex-1, and the necessary measures to be taken by the Government of Mozambique described in Annex-2.

3. Schedule of the Study

JICA will complete the Final Report after further study in accordance with the items described below and send it to the Government of Mozambique around April 2001.

4. Other Relevant Issues

4-1 Component of the Project

Both sides agreed on that the Project would be composed of following components when Japanese Government finally decides to implement the Project.

- The construction of 148 tubewells in the villages listed in Annex-3
- The implementation of replacing handpumps of the 13 existing wells listed in Annex-4.
- The provision of the equipment and materials listed in Annex-5.
- Capacity building of PEC.

4-2 Criteria for successful boreholes

The Mozambique side agreed that the following criteria would be applied for the successful boreholes in the Project.

Water Quality : WHO guideline will be applied(Except for saline content)
Minimum Yield: 0.76 m^3/hr
Dynamic Water Level: Less than 50m

As for the saline content, WHO standard must be flexibly applied according to the availability of alternative water source in the site.

In case of that a certain borohole with the safe yield of more than 1.00 m^3/hr, but with dynamic water level of more than 50m, the borehole would be sealed and would

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not be equipped with handpump in the Project.

4-3 Two unsuccessful borehole at a site

In case of that the first borehole at a certain site is proved to be unsuccessful, the second borehole will be drilled at an appropriate locality in the same site. However, the third drilling would not be conducted, if the second one is also proved to be unsuccessful.

4-4 Alternative villages list

List of alternative village with due priority is attached in Annex-6. Borehole construction would be conducted in some of those alternative villages, if no successful boreholes were drilled at any of villages in the Annex-3.

4-5 Formulation of drilling crew and recruitment of 6 drivers.

The Mozambique side agreed to formulate two drilling crews for new drilling machines and to recruit six drivers for newly procured supporting vehicles by June 2002 in order to execute the Project most efficient way.

4-6 Provision of garage and workshop for the procured equipment

The Mozambique side agreed to provide a facility of garage and workshop for the equipment to be procured under the Project at an appropriate site around Mocuba by May 2002.

4-7 21 personnel for PEC activity

The Mozambique side has already recruited 21 personnel who are listed in Annex-7 for PEC activities of the Project. They are to be trained in the capacity building program of PEC and they are to be mobilized for the PEC activities during the Project at full time basis. Upon the completion of the Project, they are to be posted either at PEC/EPAR or at District Administration Office.

4-8 Capacity Building of PEC

There are two components in the Capacity Building Program, i.e. training in class room / workshop and training in the field (On-The Job-Training) which were explained by Japanese side during the discussion and which will be described in the Final Report. Mozambique side agreed to the Capacity Building Program of PEC.

Accordingly item 2.1.4 of the Draft Final Report will be totally rewritten in the Final Report.

4-9 Borehole Logging Equipment.

Among the geophysical exploration equipment which are expected to be provided by the Project, Borehole Logging Equipment should belong to Zambezia province and to be utilized by Zambezia-EPAR drilling crew together with other drilling equipment.

4-10 Budgetary arrangement of Mozambique side

The Mozambique side agreed to make necessary budgetary arrangement for covering required amount of costs shown in the Annex-8.

4-11 Rehabilitation of two existing bridges

DNA(National Directorate of Water) will confirm with the provincial authority the possibility of rehabilitation of two bridges in the Milange and Lugela districts. If the repairing works will not be completed by April 2002, those candidate villages across the bridges will be replaced with villages from alternative village list for implementation.

4-12 Necessary arrangement for spareparts circulation

The Mozambique side agreed to make necessary institutional, budgetary and logistic arrangement for establishing spareparts circulation system of handpump through Zambezia EPAR to respective district administration office.

4-13 Hydro-fracturing Unit

The Mozambique side requested to Japanese side that proper ways of usage, application criteria and expected result e.t.c. should be described in the final report.

4-14 IVA(Imposto Sobre Valor Acrescentado)

The Mozambique side assured that the Mozambique side would cover the IVA portion at every local transaction of procurement and at every local contract.

Annex-1 Japan's Grant Aid Programme

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 (hereafter 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:

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

b) Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, social and economic point of view.

c) Confirmation of items agreed on by both parties concerning the basic concept of the Project.

d) Preparation of a basic design of the Project.

e) 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 consultant firm(s) used for the Study is(are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchanges 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 the "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 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 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 Grand 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.

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Annex-2 Necessary Measures to be taken by the Mozambique Side

The following necessary measures should be taken by Mozambique side on condition that the Grant Aid by the Government of Japan is extended to the Project:

1. To secure land and transportation route for the construction and installed equipment

2. To secure spaces for the disposition of drilling rigs and related equipment

3. To provide necessary assistance in the consultant services to retrain animadors and to establish the system for providing spare-parts at the project area.

4. To pay for banking charges to a foreign exchange bank authorized by the Japanese Government.

5. To obtain approval and permit related to landing and customs clearance of imported equipment.

6. To provide necessary assistance in entry, exit and stay of Japanese engineers and other personnel related to the project, including issuance of a certificate and other documents.

7. To bear all other works and services required to the implementation of the Project.

8. To provide free of charge the selected Japanese contractor all the equipment and materials procured under the Project with the necessary operators and drillers for construction of tubewells as well as on-the-job training on operation and maintenance of those provided equipment.

9. To provide free of charge the Consultant the available data and information required for their execution of works.

Annex-3 List of Villages Selected for Tubewell Construction (1/2)

District	Post Administrative	Localidade	Aldeia	Latitude	Longitude	Number of Wells to be Constructed
Lugela	Munhamade	Munhamade	Sede	16 35 52	36 58 22	1
	Munhamade	Cuba	Sede	16 33 19	36 51 75	1
	Munhamade	Mulide	Sede	16 22 50	37 0 66	1
	Munhamade	Tenede	Sede	16 18 82	36 59 36	1
	Tacuane	Ebide	Sede(Namirine)	16 24 14	36 34 58	1
	Tacuane	Tacuane	Sede	16 22 11	36 30 91	1
	Munhamade	AltoLugela	Sede	16 43 23	36 56 11	2
	Munhamade	Tenede	RumulaAlto	16 18 46	37 1 53	2
	Lugela	Mobede	Mulageia	16 24 28	36 42 54	2
	Sub-total	Villages	9	Number of Wells:		12
Gurue	Lioma	Lioma	Sede	15 10 39	36 48 2	2
	Lioma	Lioma	Missagula	15 9 29	36 47 11	2
	Lioma	Magige	Sede	15 19 59	36 44 42	2
	Mepuagiua	Mepuagiua	Sede	15 32 39	37 11 54	1
	Lioma	Tetete	Maharal	15 27 8	36 37 37	2
	Mepuagiua	Nipive	Sede	15 52 92	37 5 99	2
	Mepuagiua	Nicoropale	Sede	15 49 19	37 5 47	1
	Mepuagiua	Incize	Sede	15 41 55	37 6 14	2
	Gurue	Murrimo	Sede	15 22 43	36 49 19	1
	Gurue	Murrimo	Govela	15 20 57	36 49 16	2
	Gurue	Murrimo	Nanzua	15 23 27	36 50 53	1
	Lioma	Lioma	Nihoma	15 8 2	36 49 0	2
	Sub-total	Villages	12	Number of Wells:		20
AltoMolocue	AltoMolocue	AltoMolocue	Nipaia	15 42 50	37 43 17	1
	AltoMolocue	Ecole	Vacha	15 27 37	37 39 4	2
	AltoMolocue	Nivava	Nacutxo	15 39 18	37 32 2	2
	Naucla	Mohiua	Inagu	15 14 60	37 25 8	2
	Naucla	Naucla	Nepo	15 21 82	37 24 17	2
	AltoMolocue	Chapala	Natelaca	15 48 48	37 34 31	2
	Naucla	Mohiua	Carmano	15 16 79	37 20 82	2
	AltoMolocue	Chapala	Sede	15 51 81	37 38 37	2
	AltoMolocue	Nacuaca	Murepueteia	15 53 34	37 55 35	1
	AltoMolocue	Mutala	Muchampua	15 56 12	37 50 37	2
	Naucla	Naucla	Narice	15 22 28	37 32 11	2
	Naucla	Naucla	Sede	15 26 26	37 26 14	2
	AltoMolocue	Mutala	Sede	15 56 3	37 49 58	2
	AltoMolocue	Mutala	Muhirro	15 55 18	37 52 21	2
	AltoMolocue	Mutala	Uelela	16 0 20	37 58 23	2
	Sub-total	Villages	15	Number of Wells:		28
Namarroi	Namarroi	Lipale	Sede(Ucde)	16 5 37	36 57 54	1
	Namarroi	Mudine	Sede(Herema)	16 9 49	37 4 0	1
	Namarroi	Muemue	Sede(Mutepua)	16 4 60	37 1 1	2
	Namarroi	Lipale	Tomeia	15 54 91	36 50 51	1
	Namarroi	Mudine	Inlugo	16 8 1	37 2 58	1
	Namarroi	Mudine	Niaga	16 12 52	37 5 24	1
	Namarroi	Namarri	Namurauane	15 56 3	36 50 57	1
	Regone	Regone	Mutuela	15 52 57	36 37 49	2
	Regone	Regone	Liasse/Erramua	15 48 20	36 48 4	1
	Sub-total	Villages	9	Number of Wells:		11

List of Villages Selected for Tubewell Construction (2/2)

District	Post Administrative	Localidade	Aldeia	Latitude	Longitude	Number of Wells to be Constructed
Ile	Ile	Namanda	Errupe	16 8 58	37 8 8	2
	Ile	Namanda	Sede	16 13 39	37 9 41	2
	Ile	Nampevo	Sede	16 19 0	37 12 36	2
	Ile	Nipiode	Sede(Nanoua)	16 8 52	37 22 42	2
	Ile	Vieriua	Sede	15 59 43	37 21 35	2
	Ile	Vieriua	Muaziua	15 56 47	37 30 9	2
	Ile	Ile	Muliqucla	15 57 20	37 8 63	2
	Mulevala	Mulevala	Melalcia	16 21 68	37 36 53	2
	Mulevala	Mulevala	Impido	16 23 83	37 35 48	2
	Ile	Ile	Muquituna	15 57 28	37 12 1	2
	Ile	Nampevo	Napara	16 15 31	37 17 59	2
	Mulevala	Mulevala	Sede	16 26 7	37 35 35	2
	Mulevala	Mulevala	Merca	16 29 30	37 28 83	2
	Mulevala	Chiraco	Sede	16 21 53	37 45 7	2
	Mulevala	Micalane	Inturro	16 18 3	37 38 72	2
	Mulevala	Mulevala	Nadala	16 22 91	37 38 99	2
	Socone	Socone	Sede	15 47 21	37 9 84	2
	Mulevala	Chiraco	Murrua	16 17 58	37 51 0	2
	Sub-total	Villages	18	Number of Wells:		36
Milange	Milange	Milange	Caombe	16 9 4	35 43 22	2
	Milange	Chitambo	Intocota	15 57 33	35 51 1	2
	Molumbo	Molumbo	Nehia	15 40 25	36 18 4	2
	Molumbo	Molumbo	Malico	15 34 7	36 17 44	2
	Molumbo	Molumbo	Mogoliua	15 37 9	36 8 9	2
	Molumbo	Molumbo	Mucla	15 33 35	36 12 40	1
	Milange	LipaleSede	Lipale	15 50 31	35 55 6	2
	Milange	Liciro	Sede	16 26 80	36 2 80	1
	Milange	Tengua	Belua	16 18 0	35 55 6	2
	Molumbo	Molumbo	Chinangua	15 40 0	36 12 17	2
	Sub-total	Villages	10	Number of Wells:		18
Mocuba	Namanjavira	AltoBenfica	Murramba	16 43 32	36 28 61	2
	Namanjavira	Namanjavira	Tonga	16 56 43	36 38 6	2
	Namanjavira	Namanjavira	Mebudana	16 51 11	36 38 26	2
	Mugeba	Muaquiua	Niguane	16 46 27	37 23 63	2
	Mugeba	Muaquiua	Sede	16 43 49	37 24 73	1
	Namanjavira	AltoBenfica	Sede	16 39 9	36 18 59	2
	Sub-total	Villages	6	Number of Wells:		11
Gile	Gile	Mamala	Sede (Inlepa)	15 58 47	38 32 37	1
	Gile	Moneia	Sede	15 58 7	38 26 14	2
	Gile	Pury	Sede	15 59 11	38 19 39	2
	Gile	Kaiane	Sede	16 17 5	37 55 27	2
	AltoLigonha	Namihale	Sede	15 49 49	38 20 25	2
	AltoLigonha	AltoLigonha	Sede	15 31 7	38 15 10	1
	Gile	Nhanhope	Sede	16 13 28	38 12 35	2
	Sub-total	Villages	7	Number of Wells:		12
	Total	Villages	86	Total of Wells:		148

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Annex-4 List of the Existing Wells for Handpump Replacement

Location (Admin. Div.)	No.	Location (Admin. Div.)	No.
1. MOCUBA District		2. LUGELA District	
1.1 P.A. MOCUBA		2.1 P.A. MUNHAMADE	
(1) CIDADE DE MOCUBA		(1) LOC. ALTO LUGELA	
Aldeia Matebe 1	1(F)	EP1. Namagona	1(F)
Posto Agricola, Escola Básia	1(F)	Sede	1(F)
Bive, Cruzamento	1(F)		
Mangolamelo (A)	1(F)		
Mangolamelo (B)	1(F)		
Mugonda	1(F)		
Murraba	1(F)		
Socondinho	1(F)		
1.2 P.A. MUGEBA		LUGELA Sub-total	2
(1) LOC. MUGEBA			
Nigula	1(F)		
Centro de Saúde de Muaquiua	1(F)		
1.3 P.A. NAMANJAVIRA			
(1) LOC. de Alto Benfica			
Sede	1(F)		
MOCUBA Sub-total	11	Total	13

(Note) F: Deep tubewell

Annex-5 List of Equipment and Materials to be Procured under the Project

No.		Item	Quantity
1.		Truck Mounted Drilling Rig: Drilling Capacity with 4-3/4" O.D. Drill Pipes: >200m, 4x4 Drive, 200ps	2 units
2.		Standard Accessories and Tools for Rig: Drilling Tools, Casing & Tools, Fishing Tools, DTH Tools, Air-Lifting Tools	2 lots
3.		Truck Mounted High Pressure Compressor: For DTH Drilling, Air Supply 25.5 m^3/min 21 kgf/cm^2, 4x4 Drive, 170ps	2 units
4.		Pumping Test Appurtenances	
	(1)	High Capacity Submersible Pump: 50 liter/min x 100m Head, 1.5kw	2 units
	(2)	Low Capacity Submersible Pump 30 liter/min x 60m Head, 0.75kw	2 units
	(3)	Diesel Engine Generator: 380V, 50Hz, 3phase, 6.5KW	2 units
	(4)	Testing Equipment: Notch Tank, Lifting Pipe, Water Level Meter, etc.	2 sets
5.		Motor Vehicles	
	(1)	Crane Mounted Cargo Truck, Large Size: 4ton Crane, 4x4 Drive, 200ps, GVW16ton	2 units
	(2)	Crane Mounted Cargo Truck, Medium Size: 3ton Crane, 4x4 Drive, 170ps, GVW10ton	2 units
	(3)	Water Tank Trailer: Tank Capacity 5,000L, Trailer mounted	2 units
	(4)	Small Size Truck: Single Cabin, 4x4 Drive, 110ps, Loading Capacity 1ton	6 units
	(5)	Motorcycle: Semi-off-road Type, 100cc, 7.5ps	8 units
6.	(1)	Fuel Tank Lorry: Tank Capacity 4,000 liter, 4x4 Drive, 170ps, GVW10ton	1 unit
	(2)	Fuel Tank: Tank Capacity 1,000 liter, Manual Pump	4 sets
7.		Pump Unit (VLOM Type): Afridev Type, Capacity 0.2 liter/sec, 60m Head	1 lot
8.		Casing & Screen Pipes	
	(1)	Casing Pipe: PVC (113mm O.D., 112mm I.D. 2.9m)	1 lot
	(2)	Screen Pipe: PVC (113mm O.D., 112mm I.D. 2.9m)	1 lot
	(3)	Centralizer: For 4" PVC Pipe	1 lot
	(4)	Bottom Cap: For 4" PVC Pipe	1 lot
9.		Water Quality Analyses Equipment: Cl, NO3, NO2, SO4, F, Ca, Mg, Na, Mn, Fe, PH, Color, Hardness, Conductivity	9 sets
10.		Truck Mounted Mobile Workshop: 4x4 Drive, 170ps, Hand Tools, Electric Tools, Generator, Welding Equip, etc.	1 unit
11.		Truck Mounted Hydro-fracturing Unit: 4x4 Drive, 170ps, Pump Capacity 240liter/min, 190bar	1 unit
12.		Personal Computer: CPU800MHz, Windows98, Monitor & Printer	1 set
13.		Copy Machine: A4 - A3, Pedestal, etc.	1 set
14.		Geophysical and Topographical Research Equipment	
	(1)	Electrical Receptivity Survey Equipment	2 sets
	(2)	Electromagnetic Survey Equipment	2 sets
	(3)	Electrical Well Logging Equipment	2 sets
	(4)	GPS	2 units
	(5)	Topographical Survey Equipment	1 set
15.		Spare Parts: Spare parts for the above items are included on each main unit.	1 lot

Annex-6

List of 20 Alternative Villages

District	No.	Administration Post	Localidade	Local	Population
Gurue	1	Mepuagiua	Mepuagiua	Macuaro	-
	2	Mepuagiua	Mepuagiua	Mococha	2,726
	3	Mepuagiua	Mepuagiua	Mogeia	891
	4	Mepuagiua	Mepuagiua	Invacula	1,359
	5	Mepuagiua	Mepuagiua	Impira	286
Ile	6	Ile	Sede	Mucuara	3,559
	7	Ile	Sede	Nmoela	4,190
	8	Mulevala	Chiraco	Malolo	1,572
Milange	9	Molumbo	Molumbo	Nipujho	-
	10	Molumbo	Molumbo	Curucuru	-
Mocuba	11	Mocuba	Munhiba	Mucacata	-
	12	Mocuba	Munhiba	Sassamanja	-
	13	Namanjavira	Namanjavira	Eramba	-
Gile	14	Gile/Sede	Nanhope	Namahica	684
	15	Gire/Sede	Nanhope	Nicacala	679
	16	Gire/Sede	Nanhope	Noria	835
	17	Gire/Sede	Nanhope	Inchipia	772
	18	Gire/Sede	Nanhope	Pilima	680
	19	Gire/Sede	Nanhope	Niame	778
	20	Gire/Sede	Nanhope	Vassele	756

Annex-7

List of Animators for the Project for Groundwater Development for Rural Water Supply in Zambezia Province (DPOPH/EPAR - Zambezia)

No.	District	No. of Person	Name of Animador	Sex	Remarks
1	Lugela	2	Filomena Fernando	F	Not trained
			Atija Atumane Alberto Mussa	F	Not trained
2	Gurue	3	Beatriz Estonquene	F	Not trained
			Hortencia Francisco Luis Supinho	F	Not trained
			Eufrasio Antonio Abuque	M	PEC Training for 3 years
3	Alto Molocue	2	Tereza Lopes	F	CFPAS Training for 3 years
			Francisca E. Munequele	F	Not trained
4	Ile	3	Maria Manuela Pinto	F	PEC Training for 3 years
			Moises Sebstiao Ngomane	M	Not trained
			Michelina Amade Jorge	F	Not trained
5	Milange	3	Helena Martinho Jofre	F	Not trained
			Isabel Adamo Ussene	F	Not trained
			Nunes Bernardo Mualamo	M	Not trained
6	Mocuba	3	Regina Maria Chulo	F	CFPAS Training for 3 years
			Martins Varela Martins	M	CFPAS Training for 3 years
			Atija Rajabo Carimo	F	PEC Training for 1 year
7	Gile	2	Ines Miguel P. Naciaia	F	Not trained
			Mansur A. Gafur Tayobo	M	Not trained
8	Namarroi	3	Helena Bernardo Mugema	F	Not trained
			Rosaria Alcolele suludane	F	Not trained
			Isabel Carimo	F	Not trained

Annex-8 Project Costs Borne by Mozambique Side

(Unit: 1,000 US$)

Description	Amount
1. Improvement of Mocuba Workshop (Earth works (excavation and fill), land preparation, garages, etc.)	63.48
2. Repairing of the Existing Bridges	90.69
- Lugela district	13.60
- Milange district	77.09
3. Salary and Allowances of Epar Staff for Drilling Works (Chief and assistant drillers, mechanics, etc.)	97.81
- 1st Term	0.00
- 2nd Term	42.17
- 3rd Term	37.64
4. Expenses for Animadors and District Water and Sanitation Officers (About four (4) years operation including monitoring)	47.88
4.1 Salary for Animadors and district Water and Sanitation Officers (Additional animadors will be employed temporarily as the case may requires.)	*36.80*
- 1st Term	8.00
- 2nd Term	9.60
- 3rd Term including one (1) year operation for monitoring	19.20
4.2 Operation and Maintenance Expenses for eight (8) Motorcycles (Fuel, spareparts, insurance, etc.)	*12.11*
- 1st Term	2.63
- 2nd Term	3.16
- 3rd Term including one (1) year operation for monitoring	6.32
5. Preparation of Access Roads by Villagers	0.00
6. Construction of Protection Fences by Villagers	0.00
Total Amount	**282.89**
Estimated Amount of Tax Borne by Mozambique Side	
A. Value Added Tax (VAT)	1,555.00
A.1 Equipment and Materials	*1,230.00*
A.2 Sub-contracts with Local Drilling Firms	*325.00*
- 1st Term	65.00
- 2nd Term	145.00
- 3rd Term	115.00
B. Import Tax The prices of each equipment and material on which the import tax is imposed will be informed to Mozambique side immediately after the shipping documents are prepared in order to facilitate customs clearance procedures to be taken by Mozambique side.	-

TECHNICAL NOTES
ON
THE BASIC DESIGN STUDY ON THE PROJECT
FOR
GROUNDWATER DEVELOPMENT FOR RURAL WATER SUPPLY
IN
THE ZAMBEZIA PROVINCE,
THE REPUBLIC OF MOZAMBIQUE

Based on the Minutes of Discussions signed on November 1, 2000 between the Basic Design Study Team (hereinafter referred to as "the Team") of Japan International Cooperation Agency (hereinafter referred to as "JICA") and National Directorate of Water Affairs of the Government of the Republic of Mozambique (hereinafter referred to as "GOM"), the consultant members of the Team had a series of discussions and conducted field surveys from November 2 to December 8, 2000.

As a result of the discussions and the surveys, both sides confirmed the technical conditions described as per the attached.

Maputo, December 6, 2000

Soichiro Yumoto
Chief Consultant,
JICA Basic Design Study Team for
the Project for Groundwater Development
for Rural Water Supply
in the Zambezia Province

Mr. Americo Muianga
National Director,
National Directorate of Water Affairs,
Ministry of Public Works and Housing,
Government of Republic of Mozambique

ATTACHMENT

The both parties agreed upon and confirmed the following items.

1. Spaces and facilities of the workshop in the EPAR-Mocuba
The both sides agreed that the spaces and facilities of the workshop in the EPAR-Mocuba should be prepared by the Mozambican side in order to enable the implementation of the Poject. The costs and preliminary design for this preparation should be presented in the draft report.

2. Assurance of employment of the resigned animadors
DAR/DNA shall instruct the EPAR-Zambezia to assure the employment of the required number of animadors in order to facilitate the community mobilization. At least one (1) animador shall be employed for one (1) district.

3. Rehabilitation and repair of the bridges
According to the field survey having been conducted, the following two (2) bridges are considered to be repaired, and the required repair works shall be conducted under the responsibility of GOM before the commencement of the construction works in order to enable the heavy equipment to access the construction sites smoothly.

- The approach of the existing concrete bridge located on the road from Namarroi to Lugela
- The existing timber bridge between Molombo and Milange

4. Arrangement of a flat yard for the contractor's base camp
It is agreed that GOM should arrange a float yard of about 10,000 m^2 in or around Mocuba town for the establishment of the contractor's base camp.

5. Modification of the numbers and specifications of the requested equipment
The Mozambican side requested the following modifications to the numbers and specifications of the requested equipment, because the access to the sites are considered but and the DTH method of drilling has to be applied to the substantial extent.

- The type of high pressure compressor should be changed to track-mounted from trailer.
- Number of pick up vehicles should be changed to four (4) from (3) considering the use of PEC for installation of handpump.
- The type of mobile workshop should be changed to track-mounted from trailer.
- Tractors of 110 HP should be deleted.
- One (1) unit of track-mounted fuel tank (4,000 L) should be added to efficiently serve the necessary fuel to each drilling site from the limited available fuel sources in the study area.

It is agreed that the numbers and specifications of the equipment requested by GOM based on the rotary drilling method would be modified depending upon the results of hydrogeological survey in order to introduce DTH drilling method.

6. Villages requested for construction of new tubewells

It is confirmed that the villages requested for construction of new tubewell are those listed in Table - 1 attached hereto. These villages will be examined from the viewpoints of access conditions, hydrogeological potential and socio-economical situations. As a result, some of them will be omitted from the prospective villages for tubewell constructions, and added to the villages which have more necessity of tubewell construction.

7. Villages requested for replacement of handpumps

It is confirmed that the villages requested for replacement of handpumps are those listed in Table - 2 attached hereto.

Table - 1 List of Villages Requested for Construction of New Tubelwells

District	No.	Requested Villages	Posto Administrativo	LOCALIDADE	ALDEIA	Remarks
Lugela	1	Muabanama	MUABANAMA	MUABANAMA-Sede		Bad Access
(20)	2	Comone	MUABANAMA	COMONE-Sede		Bad Access
	3	Mpemuma	MUABANAMA	MUPEMULA-Sede		Bad Access
	4	Munhamade	MUNHAMADE	MUNHAMADE-Sede		
	5	Cuba	MUNHAMADE	CUBA-Sede		
	6	Mulide	MUNHAMADE	MULIDE-Sede		
	7	Mussenga	LUGELA	MUSSENGANE-Sede		Bad Access
	8	Putine	LUGELA	PUTINE-Sede		
	9	Nagobo	LUGELA	NAGOBO-Sede		Bad Access
	10	Ira	LUGELA	IABA -Sede		Bad Access
	11	Mucule	TACUANE	Tacuane Sede	MUCULA	Bad Access
	12	Muramula	TACUANE	Ebide	MURIAMUANDO	Bad Access
	13	Comoe	MUABANAMA	Comone	NIPEVONE	Bad Access
	14	Tenede	MUNHAMADE	TENEDE-Sede		
	15	Eblde	TACUANE	EBIDE-Sede		
	16	Mahu	TACUANE	MABO IST-Sede		Bad Access
	17	Tacuane	TACUANE	TACUANE-Sede		
	18	Alto Lugera	MUABANAMA	ALTO LUGELA-Sede		
	19	Mucuecuela	MUNHAMADE	Munhamade	MUCUMELA	
	20	Monteiro	LUGELA	Lugela	MULAGELA	
Sub-total			20	15	5	
Gurue	21	Lioma	LIOMA	LIOMA-Sede		
(20)	22	Nanivacha	MEPUAGIUA	NAMIVACHA-Sede		
	23	Egomoli	TETETE	GOMOLI-Sede		
	24	Nintulo	LIOMA	NINTULO-Sede		Bad Access
	25	Chicopera	LIOMA	Lioma	CHICOPERA	Bad Access
	26					Move to ILE District
	27	Massangula	LIOMA	Lioma	MUSSANGULA	
	28	Mualljane	LIOMA	MUALIJANE-Sede		
	29	Naprotela	CIDADE DE GURUE	Muxiuma	NAPROTELA	
	30	Magige	LIOMA	MAGIGE-Sede		
	31	Muapuagiua	MEPUAGIUA	MEPUAGIUA-Sede		
	32	Injabo -	MEPUAGIUA	Sede-Mepuagiua	INJABO	
	33	Vehiua	CIDADE DE GURUE	VEHIUA-Sede		
	34	Sacarra	LIOMA	Tetete	MAHARA	
	35	Nipive	MEPUAGIUA	NIPIVE-Sede		
	36	Nicoropale	MEPUAGIUA	NICOROPALE-Sede		
	37	Incise	MEPUAGIUA	INCIZE-Sede		
	38	Murimo	CIDADE DE GURUE	MURRIMO-Sede		
	39	Govela	CIDADE DE GURUE	Morrimo	GOVELA	
	40	Nanzai	CIDADE DE GURUE	Morrimo	NANZUA	
	41	Nahumo	LIOMA	Lioma-Sede	NIHOMA	
Sub-total			20	12	8	
Alto	42	Naparia	ALTO MOLOCUE	Vila Alto Molocue	NIPALA	
Molocue	43	Cherea	ALTO MOLOCUE	Chapala	NATELACA-1	
(23)	44	Rucula	NAUELA	Nauela	RUGULA	
	45	Vacha	NAUELA	Ecole	VACHA	
	46	Guiva	ALTO MOLOCUE	Chapala	CUITXO	
	47	Tatu	NAUELA	Nauela	TATU	
	48	Munacu	NAUELA	Mohiua	INAGU	
	49	Mucpa	NAUELA	Nauela	NEPO	
	50	Natulo	NAUELA	Nauela	ELEBE	Bad Access
	51	Murucha	ALTO MOLOCUE	Chapala	NATELACA-2	
	52	Coronlano	NAUELA	Mohiua	CARMANO	
	53	Chapala	ALTO MOLOCUE	CHAPALA-Sede		
	54	Campira	ALTO MOLOCUE	Nacuaca	MUREPUETEA	
	55	Nicara	ALTO MOLOCUE	Nivava	NACARARI	Bad Access
	56	Nachapa	NAUELA	Nauela	INYAPA	
	57	Namucuma	ALTO MOLOCUE	Ecole	NAMUGOMA	Bad Access

District	No.	Requested Villages	Posto Administrativo	LOCALIDADE	ALDEIA	Remarks
	58	Nerece	NAUELA	Nauela	NARSSE	
	59	Napala	ALTO MOLOCUE	Caiaia	NAPALA	
	60	Nauela	NAUELA	NAUELA-Sede		
	61	Malua	ALTO MOLOCUE	Vila Alto Molocue	MALUA	
	62	Mutala	ALTO MOLOCUE	MUTALA-Sede		
	63	Muhiro	ALTO MOLOCUE	Mutala	MUIRO	
	64	Uelela	ALTO MOLOCUE	Mutala	UELELA	
Sub-total			23	3	20	
Namarroi	65	Lipale	NAMARROI	LIPALE-Sede		
(17)	66	Marcia	NAMARROI	MARRIA-Sede		
	67	Sagura	NAMARROI	Marria	SAGURA	
	68	Mundine	NAMARROI	MUDINE-Sede		
	69	Muemue	NAMARROI	MUEMUE-Sede		Bad Access
	70	Tomeia	~~NAMARROI~~	~~Lipale~~	~~Tomeia~~	
	71	Mocone	NAMARROI	Lipale	MUCUNA	
	72	Namarua	NAMARROI	Lipale	NAMARIA	
	73	Cacatiua	NAMARROI	Namarroi	CATATIUA	Bad Access
	74	Inlogo	NAMARROI	Mudine	INLUGO	
	75	Munhenhere	REGONE	Regone	MUNHENHERE	Bad Access
	76	Munhere	REGONE	Marcia	MUHERE	
	77	Niago	NAMARROI	Mudine	NIAGO	
	78	Mutepua	~~NAMARROI~~	~~Muemue~~	~~Mutepua~~	same as 69.MUEMUE
	79	Namurauane	NAMARROI	Namarroi	NAMURAUANE	
	80	Mutatala	REGONE	MUTATALA-Sede		Bad Access
	81	Mutuela	REGONE	Regone	MUTUELA	
	82	Liasse	REGONE	Regone	ERAMUA	
	83	Rumula	REGONE	Regone	RUMALA	
Sub-total			17	5	12	
Ile	84	Erupue	ILE/SEDE	Namanda	ERUPUE	
(25)	85	Namanda	ILE/SEDE	NAMANDA-Sede		
	86	Nampevo	ILE/SEDE	NAMPEVO-Sede		
	87	Nipiode	ILE/SEDE	NIPIODE-Sede		
	88	Vieriua	ILE/SEDE	VIERIUA-Sede		
	89	Muaziua	ILE/SEDE	Vieriua	MUAZIUA	
	90	Muliquela	ILE/SEDE	Ile/Sede	MULIQUELA	
	91	Manla	ILE/SEDE	Ile/Sede	MANLA	
	92	Melaleia	MULEVALA	Namigonha	MELALEIA	
	93	Tipiua	MULEVALA	Namigonha	TIPIUA	
	94	Ejabo	MULEVALA	RUGE-Sede		
	95	Muquituna	ILE/SEDE	Ile/Sede	MUQUITUNA	
	96	Napara	ILE/SEDE	Nampevo	NAPALA	
	97	Mulevala	MULEVALA	NAMIGONHA-Ssede		
	98	Namijonha	MULEVALA	Namigonha	MERCA	
	99	Chraco	MULEVALA	CHIRACO-Sede		
	100	Micalane	MULEVALA	INTURRO-Sede-1		100, 101 are same place
	101	Intura	MULEVALA	INTURRO-Sede-2		2 wells
	102	Namudura	MULEVALA	Micalane	NAMUDUMA	
	103	*Ejabo*	- delite -	-	-	same as No.94
	104	Macuco	MULEVALA	Namigonha	NADALA	
	105	Socone	SOCONE	SOCONE-Sede		
	106	Coruane	SOCONE	CURRUANE-Sede		Bad Access
	107	Melalela	- delite -	-	-	
	108	Murua	MULEVALA	Chiraco	MORUA	
	109	Lasva	SOCONE	Socone-Sede	LAVA	
	26	Walasse	SOCONE	Socone-Sede	WALASSE	
Sub-total			25	11	14	
Milange	110	Mbilima	MOLUMBO	Corromane	MEBIRIMA	
(21)	111	Nsassa	MOLUMBO	Molumbo	MESSASSA	Bad Access
	112	Nututu	MOLUMBO	Molumbo	NANTUTO	
	113	Cadonte	MILANGE/SEDE	Chitambo	JDUMBE	
	114	Picuni	MOLUMBO	Molumbo	PICUNI	
	115	Chitambo	MOLUMBO	Corromane	PINDULA	

District	No.	Requested Villages	Posto Administrativo	LOCALIDADE	ALDEIA	Remarks
	116	Intocola	MOLUMBO	Chitambo	INTOCOTA	
	117	Caria	MOLUMBO	Molumbo	CARIA	Bad Access
	118	Nahia	MOLUMBO	Molumbo	NEHIRA	
	119	Malico	MOLUMBO	Molumbo	MALICO	
	120	Mogolina	MOLUMBO	Molumbo	MOGOLIUA	
	121	Muela	MOLUMBO	Molumbo	MUELA	
	122	Miciassa	MOLUMBO	Molumbo	MICIASSE	
	123	Nacupa	MOLUMBO	Dualo-Nangoma	CHICAPA	Bad Access
	124	Lipale	MILANGE/SEDE	Chitambo	LIPALE	
	125	Mangue	MONGUE	Mongue	MONGUE	
	126	Corico	MILANGE/SEDE	LICHIRO-Sede		
	127	Tundo	MILANGE/SEDE	Tengua	BELUA	
	128	Juliua	MOLUMBO	Dualo-Nangoma	JULIUA	Bad Access
	129	Chinangua	MOLUMBO	Molumbo	CHINANGUA	
	130	Namaja	MILANGE/SEDE	Milange	NAMAJA	
Sub-total			21	1	20	
Mocuba	131	Rumba	NAMANJAVIRA	Alto Benfica	TAMBONE	Milange District ?
(9)	132	Murramba	NAMANJAVIRA	Alto Benfica	MURRAMBA	
	133	Chimbua	NAMANJAVIRA	Namanjavira	CHIMBUA	
	134	Arucoma	NAMANJAVIRA	Namanjavira	MALAVA	Bad Access
	135	Tonga	NAMANJAVIRA	Namanjavira	TONGA	
	136	Mebudana	NAMANJAVIRA	Namanjavira	MEBUDANA	
	137	Niguane	MUGEBA	Muaquiua	NIGUANE	
	138	Mtugiua	MUGEBA	MUAQUIUA-Sede		
	139	Alto Benefica	NAMANJAVIRA	ALTO BENFICA-Sede		
Sub-total			9	2	7	
Gile	140	Mamala	GILE/SEDE	MAMALA-Sede		
(9)	141	Moneia	GILE/SEDE	MONEIA-Sede		
	142	Puri	GILE/SEDE	PURY-Sede		
	143	Kaiane	GILE/SEDE	KAIANE-Sede		
	144	Molane	ALTO LIGONHA	Mirali	MUCARARA	Bad Access
	145	Namihale	ALTO LIGONHA	NAMIHALI		
	146	Muijahoba	ALTO LIGONHA	Mirali	MUHALA/INTIRA	Bad Access
	147	Muacotxaia	ALTO LIGONHA	ALTO LINGONHA-Sede		
	148	Nanhope	GILE/SEDE	NANHOPE-Sede		
Sub-total			9	7	2	
Total		Community	144	56	88	

Table - 2 List of Villages Requested for Replacement of Handpumps

Loaction	No. of Rehabilitation	Loaction	No. of Rehabilitation
MOCUBA District		ILE District	
P.A. MOCUBA		P.A. de ILE	
CIDA DE MOCUBA		LOC. M, BAUANE	
Bairro Toma de Água	1	EP1 Namacala	2
Bairro Aeroporto	1	Intutulo	1
Bairro Marmanelo	1	LOC. MUGULAMA	
Aldeia Matebe I	1	Centro Mugulama	1
Aldeia Nacala	1	LOC. VIERIUA	
Posto Agricola, ESC.		Aldeia de MUAZIUA	1
Escola Básia	1	LOC. de NAMPEVO	
Bive, Cruzamento	1	Aldeia de Phevere	1
Mangolamelo (A)	1	LOC. de ILE	
Mangolamelo (B)	1	Aldeia Nhowela	1
Mugonda	1	P.A. de SOCONE	
Murraba	1	LOC. de SOCONE	
Socondinho	1	Aldeia de LAVA, EP1	1
P.A. MUGEBA		ILE Sub-total	8
LOC. MUGEBA			
Posto de Saúde de Mugeba	1		
Nigula	1		
Centro de Saúde de Muaquiua	1		
P.A. NAMANJAVIRA		LUGELA District	
LOC. NAMANJAVIRA		P.A. MUNHAMADE	
Namajavira-sede	2	LOC. ALTO LUGELA	
Aldeia Chimbua	2	EP1. Namagona	1
LOC. de Alto Benfica		Sede	1
Sede de Alto Benfica	1		
MOCUBA Sub-total	20	LUGELA Sub-total	2
		TOTAL	30

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