

添付資料－1 調査団員・氏名

添付資料－2 調査工程

添付資料－3 関係者リスト

調査団員氏名

1. 協力準備調査

氏 名	担 当	所 属	派遣期間
佐々木 洋介	総 括	JICA 国際協力専門員	2010. 3. 2～ 2010. 3. 12
松崎 晃昌	計画管理	JICA 地球環境部	2010. 3. 2～ 2010. 3. 12
本間 真	業務主任/水道計画/維持管理計画	(株)東京設計事務所	2010. 3. 2～ 2010. 3. 31 2010. 5. 14～ 2010. 7. 12 2010. 8. 2～ 2010. 9. 30 2010. 11. 18～ 2010. 12. 24
尾崎 弘明	水理地質/地下水シミュレーション/施設計画 2	(株)東京設計事務所	2010. 3. 2～ 2010. 3. 31 2010. 5. 14～ 2010. 7. 12 2010. 8. 2～ 2010. 9. 30 2010. 11. 28～ 2010. 12. 17
石田 泰則	物理探査	(株)エイト日本技術開発	2010. 5. 15～ 2010. 7. 13
北 高穂	試掘調査/水質調査	OYO インターナショナル(株)	2010. 5. 14～ 2010. 9. 10
岩崎 克利	社会経済調査 1/環境社会配慮	(株)東京設計事務所	2010. 5. 14～ 2010. 7. 27 2010. 8. 16～ 2010. 9. 14 2010. 11. 28～ 2010. 12. 17
菅谷 真弘	経済・財務分析	(株)東京設計事務所	2010. 8. 17～ 2010. 9. 15
中武 俊一	施設計画 1	(株)東京設計事務所	2010. 5. 14～ 2010. 6. 28 2010. 8. 17～ 2010. 9. 15 2010. 12. 5～ 2010. 12. 24
河内 政廣	管路計画/GIS	(株)東京設計事務所	2010. 5. 14～ 2010. 7. 5 2010. 8. 17～ 2010. 9. 30 2010. 11. 18～ 2010. 12. 17

岩重 博人	施工計画 1/積算 1	(株)東京設計事務所	2010. 11. 18～ 2010. 12. 17
窪崎 喜方	業務調整/社会経済調査 2/施工計画 2/積算 2	(株)東京設計事務所	2010. 3. 2～ 2010. 3. 31 2010. 5. 14～ 2010. 7. 12 2010. 8. 8～ 2010. 9. 1

2. 概略設計概要説明調査 1

氏 名	担 当	所 属	派遣期間
佐々木 洋介	総 括	JICA 国際協力専門員	2010. 12. 10～ 2010. 12. 22
佐原 寿一郎	計画管理	JICA 地球環境部	2010. 12. 10～ 2010. 12. 22
本間 真	業務主任/水道計画/維持管理計画	(株)東京設計事務所	2010. 12. 14～ 2010. 12. 24
窪崎 喜方	施工計画 2/積算 2	(株)東京設計事務所	2010. 12. 10～ 2010. 12. 24

3. 概略設計概要説明調査 2

氏 名	担 当	所 属	派遣期間
佐々木 洋介	総 括	JICA 国際協力専門員	2011. 5. 13～ 2011. 5. 24
佐原 寿一郎	計画管理	JICA 地球環境部	2011. 5. 13～ 2011. 5. 24
本間 真	業務主任/水道計画/維持管理計画	(株)東京設計事務所	2011. 5. 13～ 2011. 5. 24
岩重 博人	施工計画 1/積算 1	(株)東京設計事務所	2011. 5. 13～ 2011. 5. 24

協力準備調査工程表 第1次調査（第1回）

工程日	日付 (2010年)	曜日	[1]	[2]	[3]	[4]	[5]
			JICA団員 (総括)	JICA団員 (計画管理)	業務主任/水道 計画/維持管理 計画	水理地質/地下 水シミュレー ション	業務調整/社会 経済調査2
1	3月2日	火	東京→ドバイ				
2	3月3日	水	ドバイ→ハルツーム				
3	3月4日	木	JICA事務所・大使館・PWC表敬				
4	3月5日	金	ハルツーム→カッサラ				
5	3月6日	土	SWC協議・既存施設調査				
6	3月7日	日	ミニッツ協議・カッサラ州知事表敬				
7	3月8日	月	ミニッツ協議・議事録署名（SWC）・給水施設仕様調査				
8	3月9日	火	既存浄水場調査・調査資機材調達調査				
9	3月10日	水	カッサラ→ハルツーム・ 議事録署名（PWC） 議事録署名（国際協力省） JICA事務所・大使館		要請施設用地調査 給水施設仕様調査 関連機関訪問調査		
10	3月11日	木					
11	3月12日	金	ドバイ→東京		再委託調査TOR作成		
12	3月13日	土			既存浄水場給水施設調査 テクニカルノート協議・交換		
13	3月14日	日					
14	3月15日	月			カッサラ→ハルツーム		
15	3月16日	火			PWC・JICA調査経過報告		
16	3月17日	水			ベースライン 調査準備（農 業井戸NGO 訪問、水質試 験ラボ調査、 地下水シミュ レーション大 学関係者との 協議）	試掘業者訪問 調査・試掘再 委託TOR作成	試掘再委託業 者訪問調査
17	3月18日	木					社会条件調査 再委託先NGO打 合せ
18	3月19日	金					団内協議 資 料整理
19	3月20日	土					
20	3月21日	日				試掘再委託業 者指名	建設資材調達 調査
21	3月22日	月				試掘再委託業 務（TORの配 布・関心表明 受付・質問の 受付対応）	試掘再委託 /TOR配布
22	3月23日	火					SSMO試験所農 薬試験打合せ
23	3月24日	水					機材調達調査
24	3月25日	木					PWC調査経過報 告
25	3月26日	金					
26	3月27日	土					団内協議 資 料整理
27	3月28日	日					
28	3月29日	月					
28	3月29日	月			JICA事務所・大使館・PWC表敬		
29	3月30日	火			ハルツーム→ドバイ		
30	3月31日	水			ドバイ→東京		

協力準備調査工程表 第1次調査（第2回）

査 工 程 表	日付 (2010年)	曜 日	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]				
			業務主任/ 水道計画/ 維持管理計 画	水理地質/ 地下水シ ミュレー ション	物理探査	試掘調査/ 水質調査	社会経済調 査1/環境社 会配慮	施設計画	管路計画 /GIS	業務調整/ 社会経済調 査2				
1	5月14日	金	東京→バンコク			東京→バンコク								
2	5月15日	土	バンコク→アジスアベ バ→ハルツーム		東京→ドバイ	バンコク→アジスアベバ→ハルツーム								
3	5月16日	日	JICA事務所・大使館・PWC表敬		ドバイ→ハ ルツーム	JICA, 大使館表敬訪問				業務調整、 滞在登録、 トラベル パーミッ ションの取 得				
4	5月17日	月	調査準備	試掘再委託 入札結果評 価	ハルツーム にて資材準備、滞在登録、トラベルパーミッ ションの取得	試錘業社選 定作業	社会経済調 査再委託業 務	ハルツーム →カッサラ	トラベル パーミッ ション申請					
5	5月18日	火				試掘再委託 契約交渉 資料収集	カッサラへ 移動							
6	5月19日	水	ハルツーム →カッサラ	試掘再委託 契約交渉 資料収集	ハルツーム にて資材準備、滞在登録、トラベルパーミッ ションの取得	試錘業社選 定作業	社会経済調 査再委託業 務	SWCとの協 議・現地調 査	ハルツーム →カッサラ	業務調整				
7	5月20日	木	SWCと協議			カッサラへ 移動	試錘業社選 定作業			SWCとの協 議		SWCとの協 議		
8	5月21日	金	調査準備	試掘再委託 契約業務 資料収集	現地確認	資料整理	休	団内協議 資料整理	団内協議 資料整理	管路調査				
9	5月22日	土	SWCと協議			SWCと打ち 合わせ	試錘業社選 定作業			社会経済調 査再委託業 務	・SWC全体 の財務資料 の要請 ・財務資料 一部収集整 理 ・維持管理 組織及び機 材の調査	管路調査	団内協議 資料整理	
10	5月23日	日	給水状況の 調査	ハルツーム →カッサラ	弾性波探査	カッサラに おいて資材 準備	試錘業社選 定作業	・SWC全体 の財務資料 の要請 ・財務資料 一部収集整 理 ・維持管理 組織及び機 材の調査	管路調査	社会条件調 査・農業用 井戸調査再 委託契約書 類作成				
11	5月24日	月				電気探査/ 解析	試錘業社契 約		管路調査					
12	5月25日	火				ハルツーム →カッサラ	ハルツーム →カッサラ		管路調査	上記契約立 会い・打ち 合わせ				
13	5月26日	水				既存農業井 戸再委託業 務・契約	カッサラ	社会経済調 査再委託業 務・契約	団内協議 資料整理	管路調査	業務調整			
14	5月27日	木				資料整理	団内会議 (休日)	社会経済調 査再委託業 務・契約		団内協議 資料整理	管路調査	団内協議 資料整理		
15	5月28日	金				試掘再委託 (調査予定地 踏査、SWCとの 協議・再委託 先への案内)、既存水源井戸調査	弾性波探査	試錘業社現 地案内	資料整理	管路調査	再委託契約 書類作成			
16	5月29日	土				弾性波探査 解析	試錘業社現 地案内	社会経済調 査予定地踏 査				管路調査		
17	5月30日	日				流量測定 (配水池、 ブースター ポンプ場、 既存井戸)	既存井戸調 査	カッサラ州 地域調整事 務所	洪水被害機 器一覧作成	管路調査	業務調整			
18	5月31日	月				既存水源井 戸の施設調 査	既存井戸調 査	UNDP		管路調査	業務調整			
19	6月1日	火				流量測定 (配水池、 ブースター ポンプ場、 既存井戸)	既存水源施設調査、 物理探査結果評価、 試掘用地確認作業、 水収支資料 収集	弾性波探査	用地内草刈 り	既存井戸調 査	閣議省統計 局	東事務所組 織調査及び 組織図作成 維持管理の 現状聴取	管路調査	業務調整
20	6月2日	水							資料整理	団内会議 (休日)	団内協議 資料整理		資料整理	管路調査
21	6月3日	木							弾性波探査	既存井戸調 査	WES	顧客台帳内 容調査 財務資料内 容確認	管路調査	業務調整
22	6月4日	金	団内ミー ティング	既存井戸調 査	閣議省統計 局					管路調査	業務調整			
23	6月5日	土	弾性波探査 解析	既存井戸調 査	CFCI				顧客台帳内 容調査 財務資料内 容確認	管路調査	業務調整			
24	6月6日	日		電気探査/ 解析	試錘資材搬 入立会い					社会経済調 査	管路調査	業務調整		
25	6月7日	月	弾性波探査	試錘資材搬 入立会い	社会経済調 査				顧客台帳内 容調査 財務資料内 容確認	管路調査	業務調整			
26	6月8日	火		資料整理								団内会議 (休日)	団内協議 資料整理	管路調査
27	6月9日	水	弾性波探査	試錘準備管 理	カッサラ州 財務省				州財務省訪 問・補助内 容調査	管路調査	業務調整			
28	6月10日	木		試錘準備管 理								管路調査	業務調整	
29	6月11日	金	水道メー ター設置の 需要家調査	地下水収支 資料解析、	弾性波探査 解析	試錘準備管 理	カッサラ州 財務省	州財務省訪 問・補助内 容調査	管路調査	業務調整				
30	6月12日	土									試錘準備管 理	管路調査	業務調整	
31	6月13日	日									試錘準備管 理	管路調査	業務調整	
32	6月14日	月												

査 工 程 表	日付 (2010年)	曜 日	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]			
			業務主任/ 水道計画/ 維持管理計 画	水理地質/ 地下水シ ミュレー ション	物理探査	試掘調査/ 水質調査	社会経済調 査1/環境社 会配慮	施設計画	管路計画 /GIS	業務調整/ 社会経済調 査2			
33	6月15日	火		物理探査結果評価、 農業井戸再 委託調査サ ンプルサイ ト調査、 洪水調査	電気探査／ 解析	試錘準備管 理	計画省 SWCとの協 議	東事務所管 内全戸数・ 顧客数・料 金収集状況 調査	管路調査	業務調整			
34	6月16日	水			弾性波探査	試錘資材検 査			管路調査	業務調整			
35	6月17日	木				資材検査対 応	管路調査			業務調整			
36	6月18日	金			資料整理	団内会議 (休日)	団内協議 資料整理		団内協議 資料整理	管路調査	団内協議 資料整理		
37	6月19日	土	JICAとの打 合せ（技ブ ロ）		弾性波探査	資材検査対 応	環境社会配 慮調査	SWCの財務資 料再請求、 メールによ る送付依頼 のリスト引 続き	管路調査	業務調整			
38	6月20日	日			弾性波探査 解析	SWC打合せ			管路調査	業務調整			
39	6月21日	月			電気探査／ 解析	資材検査対 応					管路調査	業務調整	
40	6月22日	火				資材検査対 応			カッサラ→ ハルツーム	管路GIS作 成			業務調整
41	6月23日	水	水道メー ター測定 データの分 析	弾性波探査	資材検査対 応	カッサラ州 健康省	資料整理	管路GIS作 成			業務調整		
42	6月24日	木			試掘管理				管内協議 資料整理	砂嵐による飛 行停止・スケ ジュール変更 手続き		管路GIS作 成	業務調整
43	6月25日	金	弾性波探査 解析	団内会議 (休日)	管内協議 資料整理	砂嵐による飛 行停止・スケ ジュール変更 手続き	管路GIS作 成	業務調整					
44	6月26日	土	電気探査／ 解析	試掘管理					社会経済調 査	アジスア ベバ→バンコ ク	管路GIS作 成	業務調整	
45	6月27日	日	運営調査 (契約者、 水道料金)		弾性波探査	試掘管理	バンコク→ 東京	管路GIS作 成					業務調整
46	6月28日	月							試掘管理	社会経済調 査	アジスア ベバ→バンコ ク	管路GIS作 成	
47	6月29日	火			弾性波探査 解析	試掘管理	社会経済調 査	アジスア ベバ→バンコ ク	管路GIS作 成				業務調整
48	6月30日	水			電気探査／ 解析	試掘管理				社会経済調 査	アジスア ベバ→バンコ ク	管路GIS作 成	
49	7月1日	木	気象データ 収集、 試掘井戸周 辺の既存井 戸調査	報告書作成 帰国報告会 打ち合わせ 観測井(既 存井戸)状 況確認	試掘管理	管内協議 資料整理	カッサラ→ ハルツーム	管路GIS作 成	団内協議 資料整理				
50	7月2日	金			団内会議 (休日)					社会経済調 査	アジスア ベバ→バンコ ク	管路GIS作 成	業務調整
51	7月3日	土			試掘管理								
52	7月4日	日			試掘管理					社会経済調 査	アジスア ベバ→バンコ ク	管路GIS作 成	業務調整
53	7月5日	月	資料収集、 テクニカルノート協議		報告書作成	試掘管理	バンコク→ 東京	業務調整					
54	7月6日	火							ハルツーム へ移動	試掘管理		ハルツーム へ移動	
55	7月7日	水	カッサラ→ハルツーム		大使館 / JICA報告・ 帰国報告会 (電話会	試掘管理		大使館 / JICA報告・ 帰国報告会 (電話会					
56	7月8日	木	JICA事務所・大使館・PWC表 敬						団内会議 (休日)	管内協議 資料整理		資料整理	
57	7月9日	金	資料整理	資料解析	資料整理	管内協議 資料整理		ハルツーム →アジスア ベバ					
58	7月10日	土	ハルツーム→アジスア ベバ		報告書作成				試掘管理	社会経済調 査		アジスアベ バ→バンコ ク	
59	7月11日	日	アジスアベバ→バンコ ク			ハルツーム →ドバイ	試掘管理						バンコク→ 東京
60	7月12日	月	バンコク→東京		ドバイ→東 京				試掘管理				
61	7月13日	火					試掘管理						
62	7月14日	水							試掘管理				
63	7月15日	木					試掘管理						

査 工 程 表	日付 (2010年)	曜 日	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
			業務主任/ 水道計画/ 維持管理計 画	水理地質/ 地下水シ ミュレー ション	物理探査	試掘調査/ 水質調査	社会経済調 査1/環境社 会配慮	施設計画	管路計画 /GIS	業務調整/ 社会経済調 査2
64	7月16日	金				団内会議 (休日)	団内協議 資料整理			
65	7月17日	土				試掘管理				
66	7月18日	日				試掘管理	社会経済調 査資料解析			
67	7月19日	月				試掘管理				
68	7月20日	火				試掘管理				
69	7月21日	水				試掘管理				
70	7月22日	木				試掘管理	ハルツーム へ移動			
71	7月23日	金				休日	資料整理			
72	7月24日	土				試掘管理				
73	7月25日	日				試掘管理	ハルツーム →アジスア ベバ			
74	7月26日	月				試掘管理	アジスアベ バ→バンコ ク			
75	7月27日	火				試掘管理	バンコク→ 東京			
76	7月28日	水				試掘管理				
77	7月29日	木				試掘管理				
78	7月30日	金				休日				
79	7月31日	土				試掘管理				
80	8月1日	日				試掘管理				

協力準備調査工程表 第1次調査（第3回）

査 工 程 表	日付 (2010年)	曜 日	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
			業務主任/ 水道計画/ 維持管理計 画	水理地質/ 地下水シ ミュレー ション	試掘調査/ 水質調査	社会経済調 査1/環境社 会配慮	経済・財務 分析	施設計画	管路計画 /GIS	施工計画2 /積算2	
1	8月2日	月	東京→ドバイ		試掘管理						
2	8月3日	火	ドバイ→ハルツーム		試掘管理						
3	8月4日	水	JICA事務所 大使館表敬		試掘管理						
4	8月5日	木	調査準備 (旅行許可 証、再委託 業者調査)	通関手続き、 測量業者調査	試掘管理						
5	8月6日	金			測量 ボーリング業 者調査	休日					
6	8月7日	土				試掘管理					
7	8月8日	日		試掘管理						東京→ドバ イ	
8	8月9日	月		測量・地質 ボーリング 再委託契約 業務 資材通関手 続き	試掘管理					ドバイ→ハ ルツーム	
9	8月10日	火			ハルツーム →カッサラ 水道計画調 査（北部 住宅計画、 北部浄水場 用地）	試掘管理					建設資機材 単価調査
10	8月11日	水				試掘管理					
11	8月12日	木				試掘管理					
12	8月13日	金	休日								
13	8月14日	土	試掘管理								
14	8月15日	日	試掘管理								ハルツーム →カッサラ
15	8月16日	月	水道計画			ハルツーム →カッサラ 気象データ 他資料収 集、測量・ 地質ボー リング管理、 計画用地境 界確認作 業、単価報 告書作成	試掘管理	東京→ドバ イ			
16	8月17日	火		試掘管理			ドバイ→ハ ルツーム	東京→ドバイ			
17	8月18日	水		試掘管理	手続き（ハ ルツーム）		ドバイ→ハルツーム				
18	8月19日	木		試掘管理	PWC資料依 頼		PWC訪問	ハルツーム にて滞在許 可・移動許 可の取得	トラベル パーミッ ション申請		
19	8月20日	金		試掘管理	ハルツーム →カッサラ		資料整理				
20	8月21日	土		カッサラ→ ハルツーム	団内打合せ 調査準備		団内ミー ティング			カッサラ→ ハルツーム	
21	8月22日	日		気象データ 他資料収 集、測量・ 地質ボー リング管理、 計画用地境 界確認作 業、既存浄 水場施設調 査、単価報 告書作成	水質試験試 料搬入	西事務所資 料収集	PWC訪問	ハルツーム→カッサラ			建設資機材 単価調査
22	8月23日	月			ハルツーム →カッサラ	西事務所資 料収集	ハルツーム→カッサラ				
23	8月24日	火			試掘管理	西配水池周 辺現場踏査	経済・財務 現況調査	SWCの財務資 料収集継続 ・東事務所 関連資料収 集	給水計画		
24	8月25日	水			試掘管理	市役所（教 育関連）			給水計画		
25	8月26日	木			試掘管理	西事務所資 料収集			給水計画		
26	8月27日	金			試掘管理	団内会議 （休日）	団内ミー ティング	団内協議 資料整理	給水計画		
27	8月28日	土			試掘管理	南浄水場周 辺現場踏査	資料整理		給水計画		
28	8月29日	日			試掘管理	井戸試掘周 辺現場踏査	経済・財務 関連調査	・資材ヤー ド（西）視察 ・ラボ資料 収集	給水計画	ハルツーム →ドバイ	
29	8月30日	月			試掘管理	SSMO資料収 集			給水計画		
30	8月31日	火			試掘管理	東事務所資 料収集			給水計画	ERDP訪問	給水計画
31	9月1日	水		試掘・測 量・地質 ボーリング 管理、既存 浄水場施設 調査、資料 翻訳委託管 理、配水本 管ルート調	試掘管理	健康省資料 収集			団内ミー ティング	Mahta浄水 場管理状況 調査	給水計画
32	9月2日	木			試掘管理	健康専門学 校資料収集	給水計画				
33	9月3日	金			試掘管理	団内会議 （休日）	給水計画				
34	9月4日	土			試掘管理	南浄水場周 辺現場踏査	給水計画				

査 工 程 表	日付 (2010年)	曜 日	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
			業務主任/ 水道計画/ 維持管理計 画	水理地質/ 地下水シ ミュレー ション	試掘調査/ 水質調査	社会経済調 査1/環境社 会配慮	経済・財務 分析	施設計画	管路計画 /GIS	施工計画2 /積算2
35	9月5日	日		査	試掘管理	南浄水場周 辺現場踏査	経済・財務 関連調査	Mahta浄水 場管理状況 調査	給水計画	
36	9月6日	月			試掘管理	配水管ルー ト周辺調査			給水計画	
37	9月7日	火			試掘管理	導水管ルー ト周辺調査		資材ヤード (東)視察	給水計画	
38	9月8日	水	SWC計画説明協議		ハルツーム →アジスア ベバ	SWC協議	SWC協議	ラボ水質検 査状況調査	給水計画	
39	9月9日	木	維持管理・ 運用計画・ 施工実績調 査	資料収集、 測量・ボー リング成果 品作成管 理、試掘管 理、資料翻 訳委託管理	アジスアベ バ→バンコ ク	宿泊先にお いて作業	経済・財務 補足調査	東事務所資 料内容確認	給水計画	
40	9月10日	金			バンコク→ 関空	宿泊先にお いて作業		団内協議 資料整理	給水計画	
41	9月11日	土				カッサラ→ ハルツーム			給水計画	
42	9月12日	日				資料整理等			給水計画	
43	9月13日	月	テクニカル ノートのドラ フト準備	試掘・測 量・ボーリ ング再委託 業務、ス テークホル ダー会議準 備		ハルツーム →ドバイ	カッサラ→ハルツーム	給水計画		
44	9月14日	火				ドバイ→東 京	ハルツーム→ドバイ	給水計画		
45	9月15日	水					ドバイ→東京	給水計画		
46	9月16日	木						給水計画		
47	9月17日	金						給水計画		
48	9月18日	土						給水計画		
49	9月19日	日	テクニカルノート協議						給水計画	
50	9月20日	月	ステークホルダー会議 の準備						給水計画	
51	9月21日	火							給水計画	
52	9月22日	水	ステークホルダー会議						給水計画	
53	9月23日	木	SWCと協議	SWCと協 議、測量調 査管理					給水計画	
54	9月24日	金	資料整理						給水計画	
55	9月25日	土	カッサラ→ハルツーム						カッサラ→ ハルツーム	
56	9月26日	日	JICA事務所・大使館						JICA訪問	
57	9月27日	月	資料整理	試掘・測 量・地質 ボーリ ング成 果品回 収					給水計画	
58	9月28日	火							給水計画	
59	9月29日	水	ハルツーム→ドバイ						ハルツーム →ドバイ	
60	9月30日	木	ドバイ→東京						ドバイ→東 京	

協力準備調査工程表 第2次調査

工程日	日付 (2010年)	曜日	[1]	[2]	[3]	[4]	[5]	[6]
			業務主任/水道計画/維持管理計画	管路計画/GIS	施工計画1/積算1	水理地質/施設計画2	施設計画1	社会経済調査1/環境社会配慮
1	11月18日	木	東京→ドバイ					
2	11月19日	金	ドバイ→ハルツーム					
3	11月20日	土	PWC、JICA事務所、大使館表敬					
4	11月21日	日						
5	11月22日	月	調査準備 (旅行許可証、再委託調査)					
6	11月23日	火	ハルツーム→カッサラ					
7	11月24日	水	協力コンポーネント協議 導水管ルート調査 維持管理計画調査			既存施設・計画管路他踏査		
8	11月25日	木				カッサラ→ハルツーム		
9	11月26日	金						
10	11月27日	土						
11	11月28日	日					東京→ドバイ	
12	11月29日	月	維持管理計画調査	導水管ルート調査	建設資機材単価調査 ハルツーム	ドバイ→ハルツーム		
13	11月30日	火				調査準備 (旅行許可証他)		
14	12月1日	水	導水管ルート調査			試掘成果品回収 測量再委託	ハルツーム→カッサラ	
15	12月2日	木				ハルツーム→カッサラ	水質検査項目協議	
16	12月3日	金					技プロとの情報交換	
17	12月4日	土						
18	12月5日	日	受電計画調査	既存配水管路調査 (管網計算現地確認)	試掘井戸完工検査 揚水試験結果回収 既存井戸施設仕様調査	水質検査体制の協議	東京→ドバイ	
19	12月6日	月						ドバイ→ハルツーム
20	12月7日	火	ステークホルダー会議の準備			ステークホルダー会議の準備		調査準備 (旅行許可証他)
21	12月8日	水	ステークホルダー会議			ステークホルダー会議		
22	12月9日	木	受電計画調査	管路確認	導水管・既設配水管の管路踏査	在庫資材調査		
23	12月10日	金		GIS技術移転 (PC・プロッター)	カッサラ→ハルツーム	既存井戸施設仕様調査 カッサラ→ハルツーム	供与機材仕様調査	SHM結果とりまとめ
24	12月11日	土		カッサラ→ハルツーム	建設資機材単価調査 ハルツーム			井戸・物探見積調査
25	12月12日	日						
26	12月13日	月	供与機材調査	管材調査		試掘成果品回収	資料整理	既存配管路環境影響調査
27	12月14日	火	DBD協議 (単価)					
28	12月15日	水		ハルツーム→ドバイ				SHM報告書作成
29	12月16日	木		ドバイ→東京				
30	12月17日	金	供与機材調査					
31	12月18日	土						
32	12月19日	日	技プロとの協議					
33	12月20日	月	テクニカルノート協議				テクニカルノート協議	
34	12月21日	火	カッサラ→ハルツーム				カッサラ→ハルツーム	
35	12月22日	水	JICA、PWC報告				JICA、PWC報告	
36	12月23日	木	ハルツーム→ドバイ				ハルツーム→ドバイ	
37	12月24日	金	ドバイ→東京				ドバイ→東京	

カッサラ市緊急給水改善計画 概略設計概要説明調査工程表(改修事業)

工程日	日付 (2010年)	曜日	[1]	[2]	[3]	[4]
			JICA団員 (総括)	JICA団員 (計画管理)	業務主任/水道計画/維持管理計画	施工計画 2 /積算 2
1	12月10日	金	東京→ドバイ			東京→ドバイ
2	12月11日	土	ドバイ→ハルツーム			ドバイ→ハルツーム
3	12月12日	日	JICA・EOJ・PWC表敬			資料整理
4	12月13日	月	ハルツーム→カッサラ			ハルツーム→カッサラ
5	12月14日	火	SWC表敬・協議			
6	12月15日	水	現地調査・協議			
7	12月16日	木	協議・議事録署名 (SWC)			
8	12月17日	金	カッサラ→ハルツーム		供与機材調査	
9	12月18日	土	団内打合せ			
10	12月19日	日	議事録署名 (国際協力省・PWC) ・大使館		技プロとの協議	
11	12月20日	月	JICA事務所		テクニカルノート協議	
12	12月21日	火	ハルツーム→ドバイ		カッサラ→ハルツーム	
13	12月22日	水	ドバイ→東京		JICA、 PWC報告	
14	12月23日	木			ハルツーム→ドバイ	
15	12月24日	金			ドバイ→東京	

カッサラ市給水改善計画 概略設計概要説明調査工程表 (拡張事業)

工程日	日付 (2011年)	曜日	[1] JICA団員 (総括)	[2] JICA団員 (計画管理)	[3] 業務主任/水道計画/維持管理計画	[4] 施工計画 /積算
1	5月13日	金	東京→ドーハ			
2	5月14日	土	ドーハ→ハルツーム			
3	5月15日	日	JICA・EOJ・PWC・MIC表敬			
4	5月16日	月	ハルツーム→カッサラ			
5	5月17日	火	SWC表敬・協議			
6	5月18日	水	協議・議事録署名 (SWC)			
7	5月19日	木	カッサラ→ハルツーム		SWC協議	
8	5月20日	金	団内打合せ		団内打合せ	
9	5月21日	土	団内打合せ		団内打合せ	
10	5月22日	日	議事録署名 (国際協力省・PWC) ・大使館		カッサラ→ハルツーム	
11	5月23日	月	JICA事務所 ハルツーム→ドーハ	JICA事務所	JICA事務所	ハルツーム→ドーハ
12	5月24日	火	ドバイ→東京	ハルツーム→ナイロビ	ドバイ→東京	

関係者リスト

1. スーダン国関係者

スーダン国政府

国家給水局（PWC）

Mr. Mohamed Hassan Amar, Director General
Mr. Mohamed Hassab-Elrasal Ahmed, Planning Director
Mr. Hamad Abdallah, Civil Engineer
Mr. Mohamed Widaa, Civil Engineer
Mr. Hassan Babiker, Consultants (former D.G.)

国際協力省（MIC）

Mr. Mekki Merghani, Acting Undersecretary
Mr. Mahmoud Haroun, Director. F. B. Cooperation

灌漑水資源省（MIWR）カッサラ州支局

Mr. Eltayb Mohamed Yousif, Executive Director
Mr. Saied Magzoub Saied, Research Engineer GASH River Training Unit
Mr. Habim Abdelgadir M. Toam, Research Engineer GASH River Training Unit
Mr. Rahamed, Survey Unit

Static Department of Central Government Kassala Branch

Mr. Yosef Hassan, Director of Branch Office
Mr. Bokhary, Static Officer

Kassala Meteorological Station

Mr. El Khazin Ahmed, Station Chief

Sudanese Standards & Metrology Organization (SSMO)

Mr. Ahmed Ebd El-Magid, Chief of Division in Kassala SSMO
Dr. Omer Abdalla Ibrahim, Laboratories Manager
Mr. Elkhatab Osman, Engineer

Humanitarian Aid Commission

Mr. Hafis, Director General

CBS (Central Bureau of Statistics, Kassala)

Mr. Yousif Hussein, Director General of CBS in Kassala

KMOH (Ministry of Health in Kassala)

Dr. Al Gadir Artoli, Deputy Director General

Mr. Mansour Hoshim, Staff of Information Department of KMOH

カッサラ州政府

Governor Office

Mr. Ali Awad. M. Musa, Kassala Govern State

Mr. Mohamed Osman Mohamed, State government Sec.

Ministry of Finance

Mr. Musa M.Oshaik, General director for Planning &Development

Ministry of Physical Planning & Public Utilities

Ms. Basumul El iman, Director General

Mr. Abuzaid Moh Ali, Technical Adviser

Mr. Isam Gnder Hassim, Director of Planning Department

SWC

Mr. Mustafa Mohameddin Lduis, Director General

Mr. Hasim Mohamed Ab Dladef, Director General

Mr. ohamed Armed Yousif, D. Manager Engineering and Operation

Mr. Abd Algadir Ohaj Mohamed, Technical Department

Mr. Yousif Mohd Ali, Chief Engineer East-P

Mr. Isam Eldin Khogali, Project Engineer

Ms. Amal Osman, Manager of Water Analysis

East Office of SWC

Mr. Ali Hassab Alla, Director General

Mr. Mehammed Haroon, Mechanical and Electrical Engineer

West Office of SWC

Mr. Ali, Director General

Mr. Ismail Alzibaidy, Pipeline

Survey Department

Mr. Da Abd Elahliem Balla, Survey Engineer

その他

Groundwater Research Kassala

Mr. Mohammed Abd El Hai Ali, Director General

Mr. Abdelgadir Mohamed Ahmed, Information center manager of water research

Ministry of Agriculture, Forestry and Irrigation

Mr. Abdel Hakeem Ahmed Elhassan, Director General

Mr. Abd Elhafeez, Agriculture Engineer TTEA

Commissioner For refugees (COR)

Mr. Hamad Elgizouli Morowa, Project manager

AL-Neelain University Khartoum

Dr. Adil Balla Elkrail, Professor Hydrology & Water resources

Dr. Abdalla Elhag Ibrahim, Professor Exploration Geophysicist

WASH Program

Mr. Fatouma Mahmoud Ismael, Manager

WES (Water, Environment and Sanitation)

Ms. Fatima Mahmoud Ismael, Project Manager of WES

Ms. Sara Mohammed, Staff of WES project

UNDP Resident Coordinator's Office

Mr. Hayder Hamadnalla, Coordinator in Kassala State

CFCI (The Child-Friendly Community Initiative)

Mr. Haj Osman, Staff of CFCI Project

Kassala Town Locality Office

Mr. Shmmy El deen mustaf, Locality Engineer

Eng. Omera Al Aziz, Locality Engineer

2. 日本側関係者

在スーダン日本大使館

石井祐一 特命全権大使

和田明範 特命全権大使

村上裕公 一等書記官

杉野知恵 二等書記官

中嶋陽一 Counselor and Deputy Chief of Mission

山崎遥 経済協力調整員

JICA スーダン事務所

宍戸健一 所長

森裕之 所長

阿部幸生 次長

今井史夫 次長

村川太志朗 主任

松岡秀明 企画調整員

山田幸 企画調整員

技術協力プロジェクト「水供給人材育成計画」関係者

上村三郎 (株)地球システム科学

斉藤正和 (株)地球システム科学

小野寺純 (株)地球システム科学

技術協力プロジェクト「カッサラ州基本行政サービス向上による復興支援プロジェクト」関係者

田中清文 団長

七条寛 給水施設担当

添付資料 - 4 討議議事録 (M/D)

- (1) インセプション協議 (2010 年 3 月 10 日)**
- (2) 調査対象地域の変更協議 (2010 年 8 月 15 日)**
- (3) 協力対象事業の選定協議 (2010 年 11 月 28 日)**
- (4) 概略設計概要説明協議(改修事業)(2010 年 12 月 16 日)**
- (5) 概略設計概要説明協議(拡張事業)(2011 年 5 月 18 日)**

MINUTES OF DISCUSSIONS
ON
THE PREPARATORY SURVEY
ON
THE PROJECT FOR IMPROVEMENT OF WATER SUPPLY FACILITIES
AT
KASSALA CITY
IN
SUDAN

In response to the request from the Government of Sudan (hereinafter referred to as "Sudan"), the Government of Japan (hereinafter referred to as "Japan") decided to conduct a Preparatory Survey (hereinafter referred to as "the Survey") on the Project for Improvement of Water Supply Facilities in Kassala City (hereinafter referred to as "the Project") and entrusted the Study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

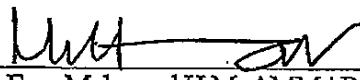
JICA sent to Sudan the Second Preparatory Survey Team (hereinafter referred to as "the Team"), which is headed by Eng. Yosuke SASAKI, Senior Advisor of JICA, and is scheduled to stay in the country from 3rd March 2010 to 30th March 2010.

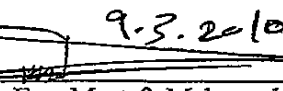
The Team held the series of discussions with the officials concerned of the Sudan and conducted a field survey in the Project area.

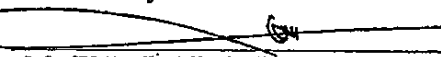
In the course of discussions and field survey, both parties have confirmed the main items described in the attached sheets. The Team will proceed to further works and prepare the Preparatory Survey Report.

Khartoum, 10th March 2010


Eng. Yosuke SASAKI
Leader
Preparatory Survey Team
Japan International Cooperation Agency


Eng. Mohamed H.M. AMMAR
Director General
Public Water Corporation
Government of National Unity
Sudan


9.3.2010
Eng. Mustafa Mohamaddin Idris
Director General
Kassala State Water Corporation
Kassala State
Government of National Unity
Sudan

Witnessed by

Mr. El-Fatih Ali Siddiq
Undersecretary
Ministry of International Cooperation
Government of National Unity
Sudan

ATTACHMENT

1. Objective of the Project

The objective of the Project is to provide and improve drinking water services in Kassala City.

2. Project Site

The site of the Project is located at the east bank of Gash River in Kassala city. Site map is shown in Annex-1.

3 Responsible and Implementing Agency

The Responsible Agency is Public Water Corporation (PWC) in Sudan. The Implementing Agency in the implementing stage is Kassala State Water Corporation (SWC). Organization chart is shown in Annex-2.

4. Objective of the Second Preparatory Survey

The Team explained that the objective of the Second Preparatory Survey (hereinafter referred to as "the Survey") is collecting information to confirm the appropriateness of the requested components, and the enforcement of the components is not guaranteed by Japanese side in this stage. Sudanese side understood that. If all or some of the components are found feasible as a result of the Survey, JICA will continue the Survey for the Outline Design of the Project.

5. Items requested by the Government of Sudan

After discussions with the Team, the items described in Annex-3 were finally requested by the Government of Sudan. JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval after the Study.

6. Japan's Grant Aid Scheme

6-1. The Sudanese side understood the Japan's Grant Aid Scheme explained by the Team, as described in Annex-4 and 5.

6-2. The Sudanese side promised to take the necessary measures, as described in Annex-6, for smooth implementation of the Project, as a condition for the Japanese Grant Aid to be implemented.

6-3. JICA will report to the Sudanese side if there are any other undertakings based on the result of the Survey.

7. Schedule of the Survey

- 7-1. Consultant members will proceed to further studies in Sudan by 30th March 2010. They will resume the Survey Phase I from May 2010 after the completion of the general election of the Sudan and continue until the end of September 2010.
- 7-2. JICA will send the Survey Phase II Team for the outline design of the Project based on the result of the Survey from the middle of November to the end of December 2010.
- 7-3. JICA will prepare the draft report in English and dispatch another mission in order to explain its contents at around the early May 2011.
- 7-4. In case of that the contents of the report is accepted in principle by the Government of Sudan, JICA will complete the final report and send it to the Government of Sudan in around June 2011.
- 7-5. The Team explained that implementation of the Preparatory Survey is not a commitment of the approval of the Project

8. Other relevant issues

8-1. Priority of the Project

The Sudanese side explained that provision of safe water supply is one of the top priority projects based on the first stage of "Development of Plan on Strategies, Targets and Investment for Water and Sanitation & Hygiene (2010-2016)."

8-2. Scope of the Project

The Team explained that the Project will be expected to complete on the end of 2014, if its implementation is approved by the Government of Japan. Sudanese side explained that the year 2016 is the target year of the National Strategies which above mentioned. Both sides agreed that the target year of the Project will be set as the year 2016 and, therefore, water supply facilities of the Project will be planned so as to meet the water demand in 2016. Both sides confirmed that the water demand should be examined in detail through the Survey.

8-3. Components of the Project

Both sides agreed that the water supply plan will be proposed by the Team and the project components and demarcation between Sudanese side and Japanese side will be discussed on the basis of the result of the Survey Phase I at the end of September 2010. The Team explained and Sudanese side understood that the draft of project components to be proposed by both sides will be discussed by the Government of Japan and JICA, and project components may be changed according to the result of the discussion.

8-4. Priority Components of the Project

Both sides agreed that the construction of water supply facilities for new service areas (IDP's, refugees and new extensions) has higher priority than the rehabilitation of the existing service areas because the target of the Project is to increase the coverage of water supply in conformity to the national water policy in Sudan.

8-5. Quantity of Water Supply

Both sides agreed that the quantity of water supply will be decided on the basis of the groundwater potential which is examined during the Survey Phase I in the end of September 2010. Both sides also agreed that it may be less than standard water supply amount per capita stipulated in Sudanese water policy in case that groundwater potential is not enough to supply for all beneficiaries.

8-6. Location of new boreholes

Both sides confirmed that the location of the boreholes will be decided during the Survey Phase I based on the results of geophysical survey, test drilling and so on.

8-7 Installation of Water Meters

Both sides agreed that the Team will prepare 30 water meters (1/2 inch*10, 3/4 inch*10, 1.0 inch*10) . SWC shall install those meters for 30 customers to measure and grasp the quantity of water consumption of households.

8-8. Specific Undertakings by the Sudanese Side

The Team requested to the Sudanese side to allocate necessary budget and to abide by the following undertakings if needed in addition to major understandings described in Annex-6.

- (1) Additional land acquisition to construct new water supply facilities, such as boreholes, pipelines, reservoir and so on by April 2011, if necessary
- (2) Secure the permission for entering survey sites from landowners to implement geophysical survey, test drilling and others by the end of April 2010
- (3) Demolition of existing facilities to construct new water supply facilities, if necessary
- (4) Assign counterpart personnel for each Study member
- (5) Assign counterpart personnel in addition to above mentioned such as a person in charge of GIS, mechanics and electricians for measuring flow rate and a person who has information of existing pipe network
- (6) Provide necessary information such as Housing plan in Northern district and IDP/refugee area
- (7) Secure the permission to take picture in the survey sites
- (8) Provide office space for the Team in SWC
- (9) Protect flow meters to be installed in some household connection pipes
- (10) Construct water supply facilities such as the distribution pipes to be undertaken by the Sudanese side by 2016

The Sudanese side understood and accepted.

8-9. Tax Exemption

Both sides confirmed that import tax, customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the products and the services will be exempted. Both sides agreed that the Sudanese side will take necessary measures to exempt taxes.

8-10. Operation and Maintenance of the Facilities

The Japanese side will propose necessary operation and maintenance plan based on the results of the Survey. The Sudanese side agreed to take any necessary measures and to allocate necessary budget to operate and maintain the facilities in response to Japanese proposal. In addition, the Sudanese side promised to secure necessary personnel for the Operation and Maintenance of facilities to be constructed by the completion of the Project.

8-11. Overlapping with Other Project

The Sudanese side explained that this project would not be overlapped with any other projects extended by the other donor agencies, NGOs and Sudanese official organizations.

8-12. Environmental and Social Considerations

Both sides agreed that the Sudanese side will take necessary measures regarding Environmental Impact Assessment (EIA) for implementation of the Project according to the relative laws and acts in Sudan by middle of November 2010, and the Team will assist Sudanese side to prepare the documents, if necessary.

8-13. Rehabilitation of the Existing Reservoir

Sudanese side explained that the existing reservoirs on eastern and western sides of the Gash River are in deteriorated condition and requested emergency repairs to the Team apart from the Project as soon as possible. Both sides agreed that the Team will survey the existing reservoirs during Step 1 of the Survey Phase I and will report the current situation of the reservoirs to the Government of Japan. Both sides also agreed that JICA will discuss countermeasures for the problem with the Government of Japan and inform Sudanese side the results of the discussion in the beginning of May 2010 when the Team will resume the Survey.

Annex-1 Project Site

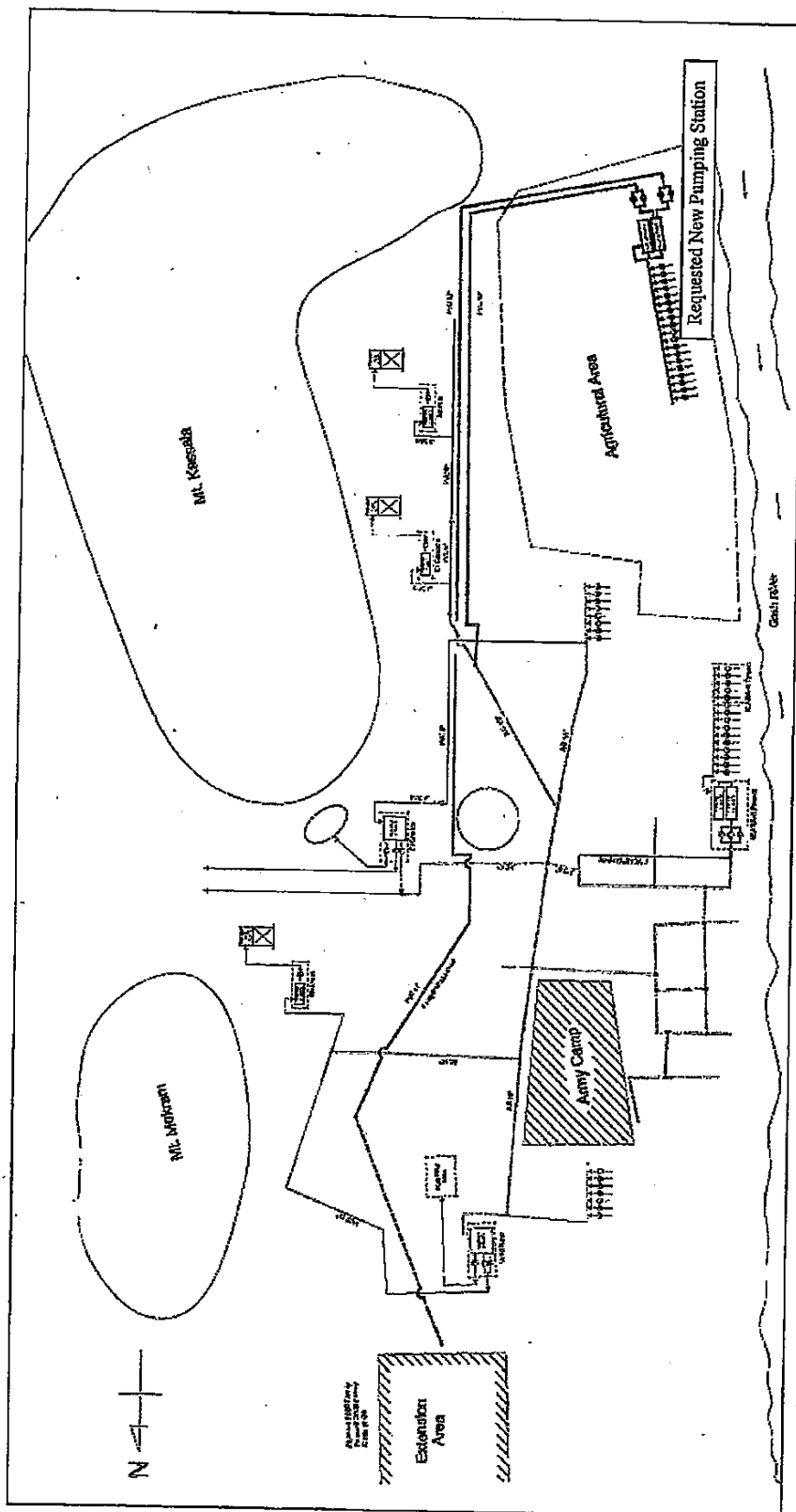
Annex-2 Organization Chart

Annex-3 Contents of the Request

Annex-4 Japan's Grant Aid Scheme

Annex-5 Flow Chart of Japan's Grant Aid Procedures

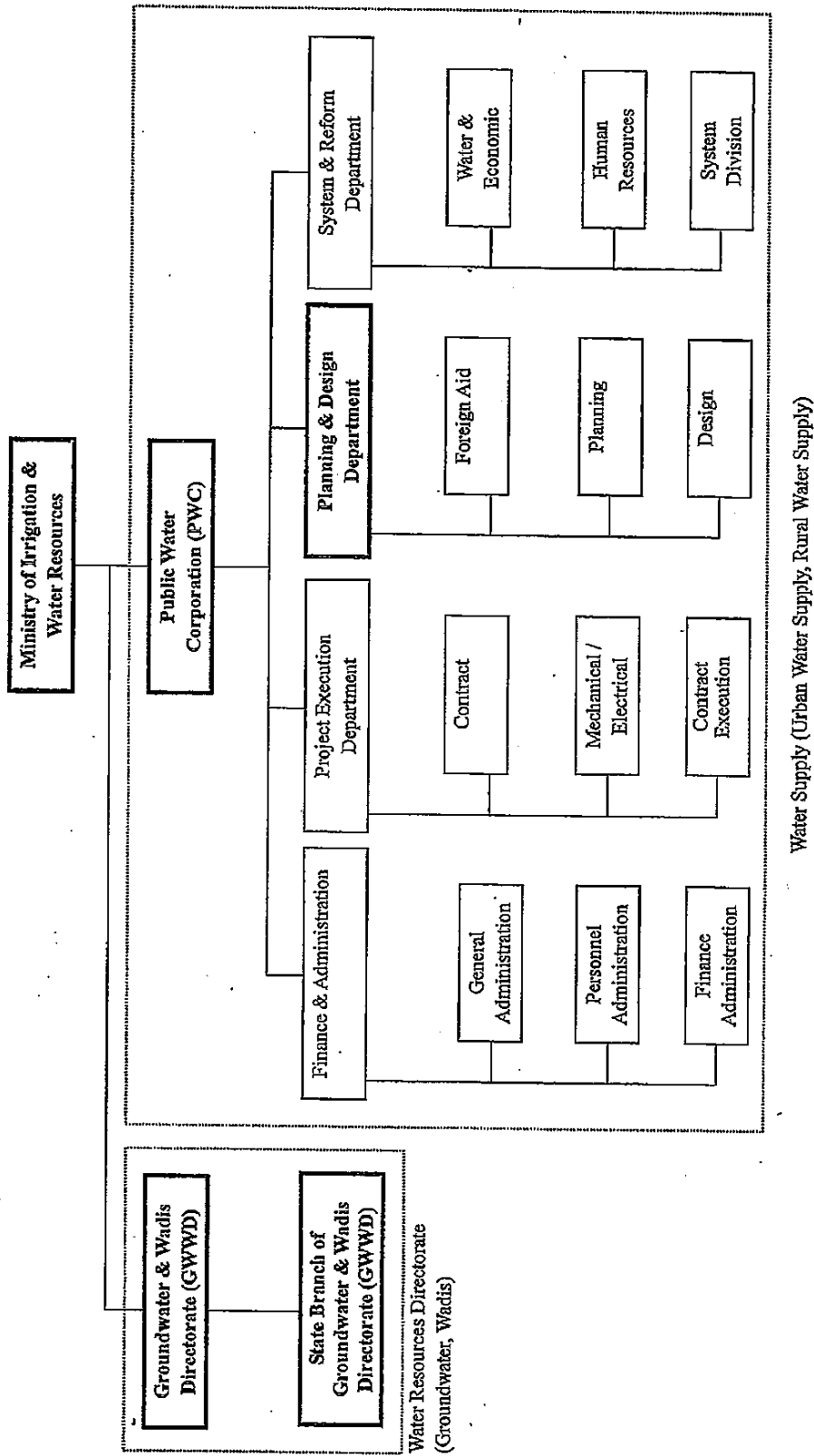
Annex-6 Undertakings by Each Government



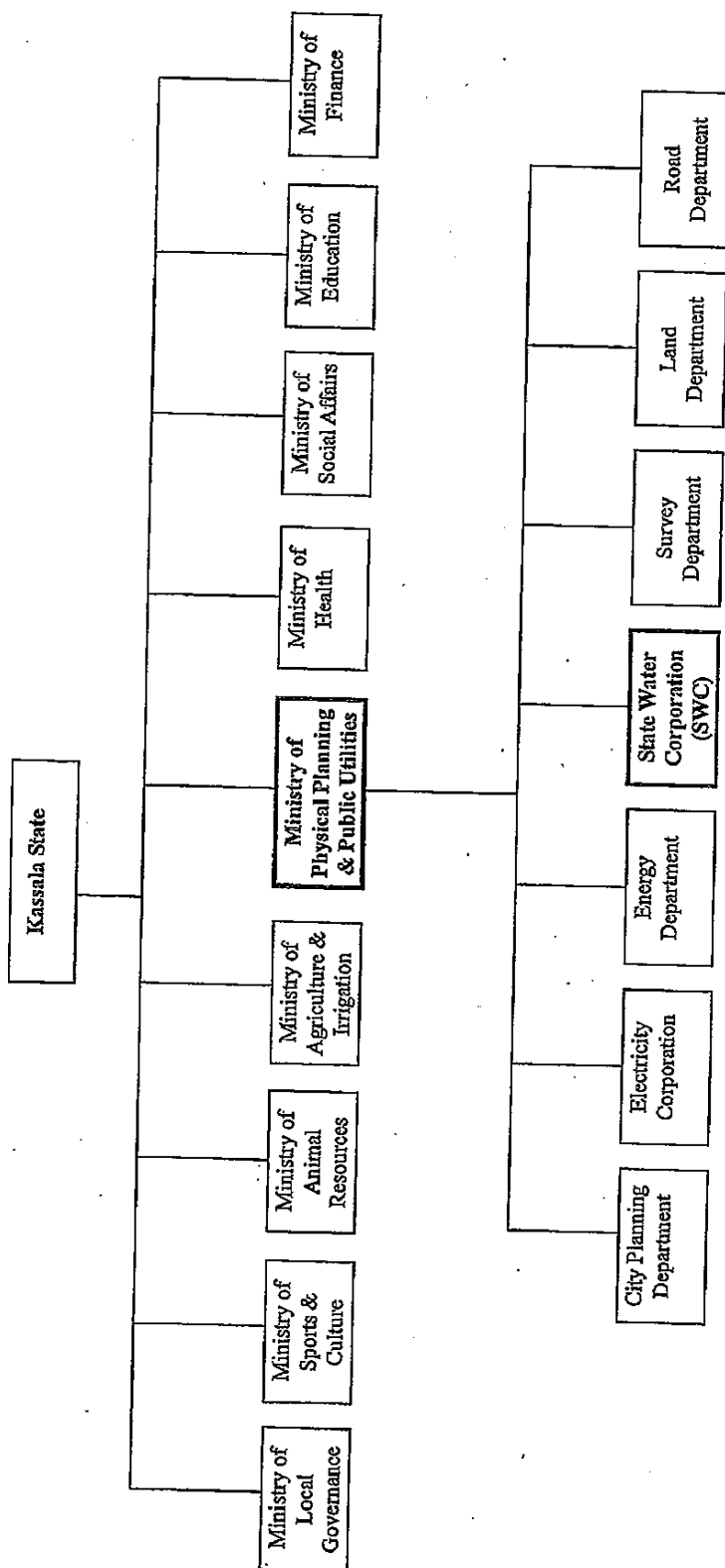
Project Site

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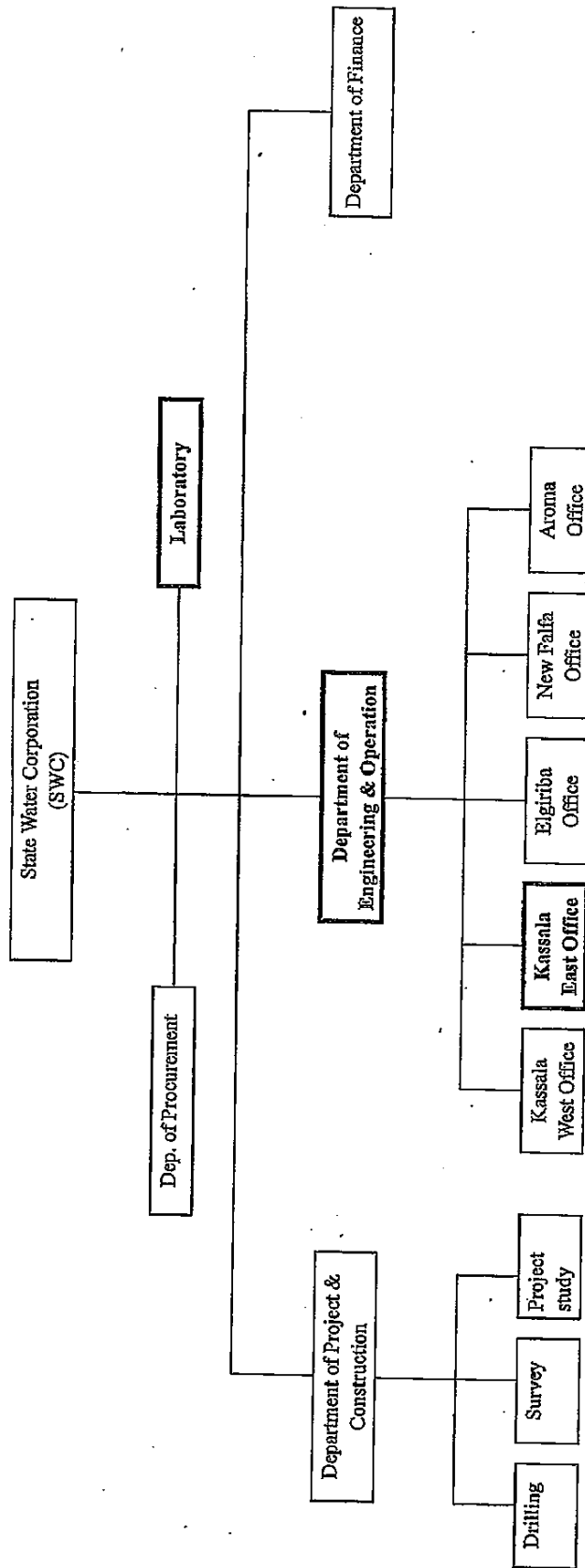
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Organization Chart of Public Water Corporation



Organization Chart of Kassala State



Organization Chart of State Water Corporation

Contents of the Request

i. Construction of Source Wells and Sheds	
- Source Well (750m ³ /day) with a Flow Meter	20 nos.
- Well Shed	20 nos.
ii. Construction of Conveyance Pipe and Water Distribution Facility	
- Conveyance Pipe (Wells to Reservoir)	1 lot
- Reservoir (1000m ³)	2 nos.
- Water Distribution Pump (350m ³ /h)	4 units
- Chlorinator	1 no
- Electrical Panels	1 lot
- Piping and Instruments	1 lot
- Administration Building	1 no
- Incidental Facility	1 lot
iii. Supply Materials and Construction of Distribution Main	
- Distribution Main (water distribution pumps to terminal points of zones in new service area)	1 lot
iv. Rehabilitation of Existing Water Supply Facility	
- Source Wells	1 lot
- Water Distribution Pump (350m ³ /h)	3 units
- Chlorinator	1 no
- Electrical Panels	1 no
- Installation of New Flow Meter	1 no
v. Piping Material	
- Piping Materials for replacement of main or major asbestos pipes in the existing service area	1 lot
vi. Maintenance Equipment	
- Construction Machine	1 lot
- Machine Tools for Piping	1 lot
vii. Technical Assistance for Development of Piping Database using GIS	1 lot
viii. Technical Assistances for capacity building of operation and maintenance of the State Water Corporation of Kassala State, if necessary	1 lot

JAPAN'S GRANT AID

The Government of Japan (hereinafter referred to as "the GOJ") is implementing the organizational reforms to improve the quality of ODA operations, and as a part of this realignment, a new JICA law was entered into effect on October 1, 2008. Based on this law and the decision of the GOJ, JICA has become the executing agency of the Grant Aid for General Projects, for Fisheries and for Cultural Cooperation, etc.

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

1. Grant Aid Procedures

The Japanese Grant Aid is supplied through following procedures:

- Preparatory Survey
 - The Survey conducted by JICA
- Appraisal & Approval
 - Appraisal by the GOJ and JICA, and Approval by the Japanese Cabinet
- Authority for Determining Implementation
 - The Notes exchanged between the GOJ and a recipient country
- Grant Agreement (hereinafter referred to as "the G/A")
 - Agreement concluded between JICA and a recipient country
- Implementation
 - Implementation of the Project on the basis of the G/A

2. Preparatory Survey

(1) Contents of the Survey

The aim of the preparatory Survey is to provide a basic document necessary for the appraisal of the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the recipient country necessary for the implementation of the Project.

- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of an outline design of the Project.
- Estimation of costs of the Project.

The contents of the original request by the recipient country are not necessarily approved in their initial form as the contents of the Grant Aid project. The Outline Design of the Project is confirmed based on the guidelines of the Japan's Grant Aid scheme.

JICA requests the Government of the recipient country to take whatever measures necessary to achieve 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 of the recipient country which actually implements the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA employs (a) registered consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the Report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the appropriateness of the Project.

3. Japan's Grant Aid Scheme

(1) The E/N and the G/A

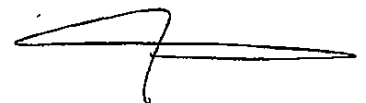
After the Project is approved by the Cabinet of Japan, the Exchange of Notes(hereinafter referred to as "the E/N") will be signed between the GOJ and the Government of the recipient country to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Government of the recipient country to define the necessary articles to implement the Project, such as payment conditions, responsibilities of the Government of the recipient country, and procurement conditions.

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(2) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the recipient country to continue to work on the Project's implementation after the E/N and G/A.

(3) Eligible source country

Under the Japanese Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. When JICA and the Government of the recipient country or its designated authority 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, constructing and procurement firms, and the prime consulting firm are limited to "Japanese nationals".

(4) Necessity of "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 JICA. This "Verification" is deemed necessary to fulfill accountability to Japanese taxpayers.

(5) Major undertakings to be taken by 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 Annex.

(6) "Proper Use"

The Government of the recipient country is required to maintain and use properly and effectively the facilities constructed and the equipment purchased under the Grant Aid, to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Grant Aid.

(7) "Export and Re-export"

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

(8) Banking Arrangements (B/A)

- a) The Government of the recipient country or its designated authority should open an account under the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). JICA 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 JICA under an Authorization to Pay (A/P) issued by the Government of the recipient country or its designated authority.

(9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions paid to the Bank.

(10) Social and Environmental Considerations

A recipient country must carefully consider social and environmental impacts by the Project and must comply with the environmental regulations of the recipient country and JICA socio-environmental guidelines.

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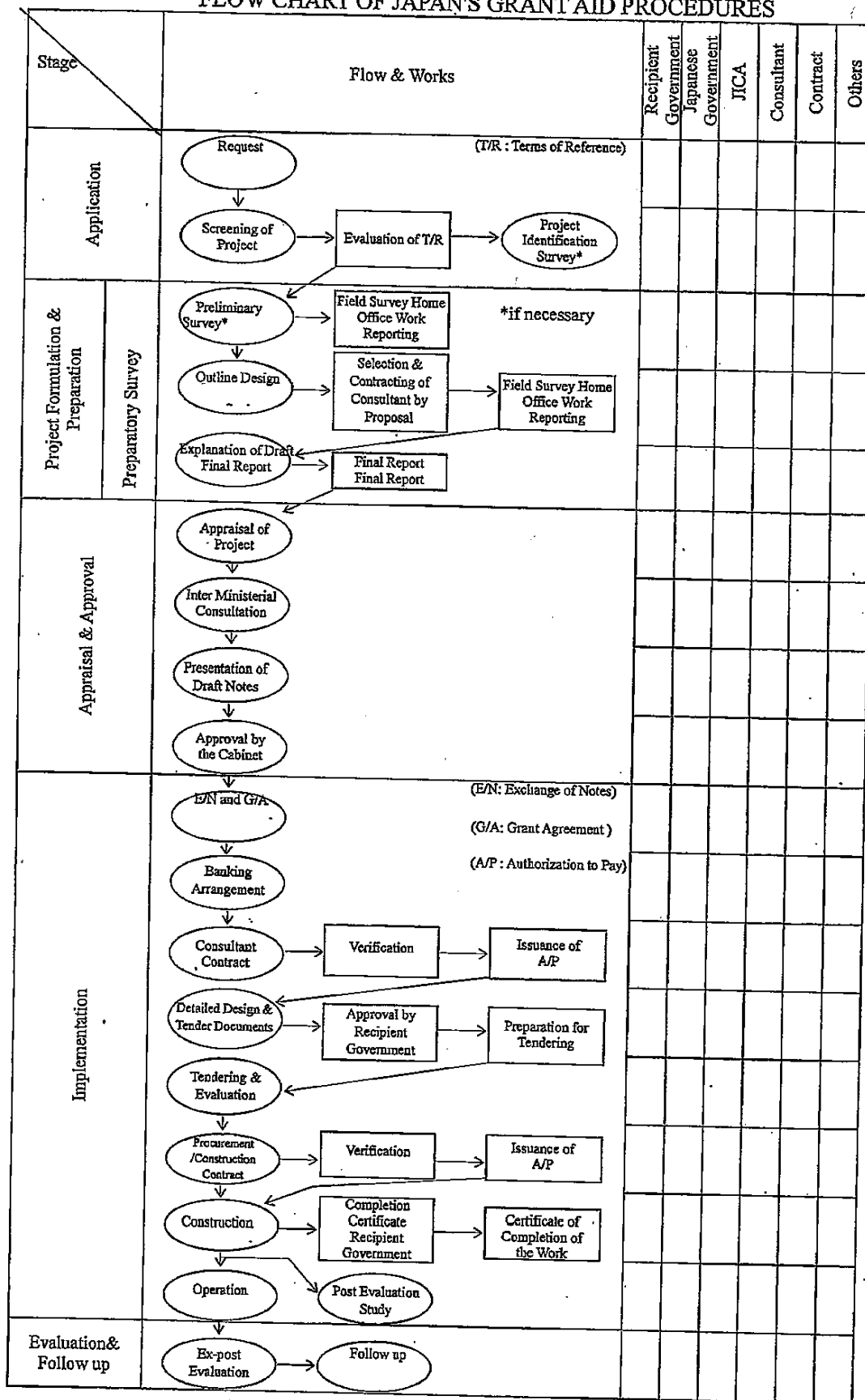
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FLOW CHART OF JAPAN'S GRANT AID PROCEDURES



Major Undertakings to be taken by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	to secure lots of land necessary for the implementation of the Project and to clear the sites;		•
2	To construct the following facilities		
	1) The building	•	
	2) The gates and fences in and around the site		•
	3) The parking lot	•	
	4) The road within the site	•	
	5) The road outside the site		•
3	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the sites		
	1) Electricity		
	a. The distributing power 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, common 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	•	
4	To ensure prompt unloading and customs clearance of the products at ports of disembarkation in the recipient country and to assist internal transportation of the products.		
	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	(•)	(•)

5	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the products and the services are exempted		•
6	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		•
7	To ensure that the Facilities and the products are maintained and used properly and effectively for the implementation of the Project		•
8	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project		•
9	To bear the following commissions paid to the Japanese bank for banking services based upon the B/A		
	1) Advising commission of A/P		•
	2) Payment commission		•
10	To give due environmental and social consideration in the implementation of the Project.		•

(B/A : Banking Arrangement, A/P : Authorization to pay)

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MINUTES OF DISCUSSIONS
ON
THE PREPARATORY SURVEY
ON
THE PROJECT FOR IMPROVEMENT OF WATER SUPPLY FACILITIES
AT
KASSALA CITY

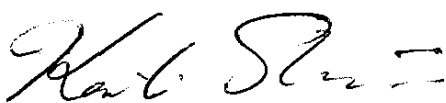
In response to the request from the Government of Sudan (hereinafter referred to as "Sudan"), the Government of Japan (hereinafter referred to as "Japan") decided to conduct a Preparatory Survey (hereinafter referred to as "the Survey") on the Project for Improvement of Water Supply Facilities in Kassala City (hereinafter referred to as "the Project") and entrusted the Study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").


JICA sent to Sudan the Second Preparatory Survey Team (hereinafter referred to as "the Team"), which is supervised by Mr. Kenichi SHISHIDO, Resident Representative of JICA Sudan Office, and is scheduled to stay in the country from 3rd August 2010 to 30th September 2010.

The Team held the series of discussions with the officials concerned of the Sudan and conducted a field survey in the Project area.

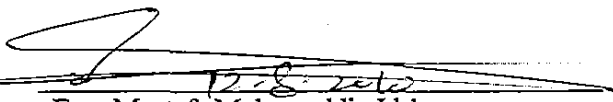
In the course of discussions and field survey, both parties have confirmed the main items described in the attached sheets, while other items are in accordance with Minutes of Discussions dated 10th March 2010 (hereinafter referred to as "the Original M/D"). The Team will proceed to further works and prepare the Preparatory Survey Report.

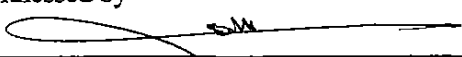
Khartoum, 15th August 2010


Mr. Kenichi SHISHIDO
Resident Representative
Sudan Office
Japan International Cooperation Agency


Eng. Mohamed H.M. AMMAR
Director General
Public Water Corporation
Government of National Unity
Sudan

Witnessed by


Eng. Mustafa Mohamaddin Idris
Director General
Kassala State Water Corporation
Kassala State
Government of National Unity
Sudan


Mr. Mekki Mirghani Osman
Acting Undersecretary
Ministry of International Cooperation
Government of National Unity
Sudan

ATTACHMENT

1. Survey Site


The site of the Survey is expanded to include the existing reservoirs at both east and west banks of Gash River in Kassala City.

2. Scope of the Survey


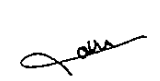

In response to the request from the Sudanese side, the Japanese side intended to include the existing reservoirs at both banks of Gash River in the scope of the Survey. These newly included components will be examined and conducted separately from the other components. However, same as the other components mentioned in the Original M/D, the enforcement of the new components is not guaranteed by Japanese side during the Survey Phase.

3. Schedule of the Survey

- 3-1. The Team will proceed to further studies in Sudan by 30th September 2010.
- 3-2. JICA will send a mission at the beginning of November to agree with the Sudanese side on the scope of the Survey Phase II, which is aimed for the outline design of the Project.
- 3-3. JICA will prepare the draft report on the newly included components in English and dispatch another mission in order to explain it in the first half of December 2010.
- 3-4. Same as item 3-3, JICA will prepare the draft final report on the other components and dispatch another mission in the first half of May 2011.
- 3-5. In case of that the contents of the reports are accepted in principle by the Government of Sudan, JICA will complete the final reports respectively and send them to the Government of Sudan one month later.



15.8.2010



MINUTES OF DISCUSSIONS
ON
THE PREPARATORY SURVEY
ON
THE PROJECT FOR IMPROVEMENT OF WATER SUPPLY FACILITIES
AT
KASSALA CITY
IN
SUDAN

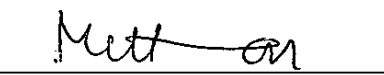
In response to the request from the Government of Sudan (hereinafter referred to as "Sudan"), the Government of Japan (hereinafter referred to as "Japan") decided to conduct a Preparatory Survey (hereinafter referred to as "the Survey") on the Project for Improvement of Water Supply Facilities in Kassala City (hereinafter referred to as "the Project") and entrusted the Survey to the Japan International Cooperation Agency (hereinafter referred to as "JICA").


JICA sent to Sudan the Third Preparatory Survey Team (hereinafter referred to as "the Team"), which is supervised by Mr. Kenichi SHISHIDO, Resident Representative of JICA Sudan Office, and is scheduled to stay in the country from 19th November 2010 to 23rd December 2010.

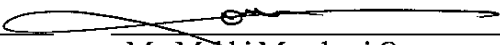
The Team held series of discussions with the officials concerned of the Sudan and in the course of discussions, both parties have confirmed the main items described in the attached sheet, while other items are in accordance with Minutes of Discussions dated 10th March 2010 (hereinafter referred to as "the Original M/D") and Minutes of Discussions dated 15th August 2010 (hereinafter referred to as "the Second M/D"). The Team will proceed to further works and prepare the Basic Design Study Report.

Khartoum, 28th November 2010


Mr. Kenichi SHISHIDO
Resident Representative
Sudan Office
Japan International Cooperation Agency


Eng. Mohamed H.M. AMMAR
Director General
Public Water Corporation
Government of National Unity
Sudan
Witnessed by


Eng. Hashim Mohamed Abdulatief
Acting Director General
Kassala State Water Corporation
Kassala State
Government of National Unity
Sudan


Mr. Mekki Merghani Osnan
Undersecretary
Ministry of International Cooperation
Government of National Unity
Sudan

ATTACHMENT

1. Objective of the Project

The objective of the Project is to provide and improve drinking water services in Kassala City.

2. Project Site

The site of the Project is located at the east bank of Gash River in Kassala City.

3. Components of the Project

Based on the discussions and information gathered from the Survey, the components of the project were considered by the Japanese side. The Team explained that the result of the consideration of the components as listed below, which were selected from the basic plan of the improvement of the water supply facilities at east bank of Gash River in Kassala City (hereinafter referred to as "the Basic Plan") presented by the Team at the end of last survey, and that the rehabilitation of the existing asbestos pipes is not included in the components. Both sides agreed on the project components and for the Team to continue to work on the preparation of the Basic Design Study Report based on the agreed components.

Components of the Project selected from the Basic Plan

1. Construction of new source wells in South; necessary numbers of source wells for required groundwater development amount
2. Construction of a new water treatment plant in South
3. Construction of new conveyance pipes from source wells (incl. existing and newly constructed ones) to reservoirs in South
4. Construction of distribution main from new water treatment plant in South to the existing water supply network

In addition to the above components, both sides agreed that the Team will conduct further survey on the necessity and justification for possible realization of the following components including their demarcation of both sides as well as with other existing projects and discuss it after the survey.

5. Construction of distribution pipes where required for keeping adequate water supply service based on the pipe network analysis
6. Procurement of necessary and justifiable construction equipment and machines and tools for workshop with rehabilitation of the workshop
7. Technical Assistance for capacity building of operation and maintenance of the State Water Cooperation of Kassala State

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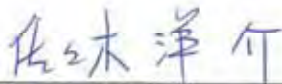
MINUTES OF DISCUSSIONS
ON THE PREPARATORY SURVEY
ON
THE PROJECT FOR URGENT REHABILITATION OF WATER SUPPLY FACILITIES
AT KASSALA CITY,
IN THE REPUBLIC OF THE SUDAN
(EXPLANATION ON DRAFT REPORT)


In March 2010, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Preparatory Survey Team on the Project for Improvement of Water Supply Facilities in Kassala City (now the relevant components mentioned here is referred to as "the Project for Urgent Rehabilitation of Water Supply Facilities at Kassala City" and hereinafter referred to as "the Project") to the Government of the Republic of the Sudan (hereinafter referred to as "Sudan") 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 consult with the Government of Sudan on the components of the draft report, JICA sent to Sudan the Draft Report Explanation Team (hereinafter referred to as "the Team"), which was headed by Eng. Yosuke Sasaki, Senior Advisor, JICA, from 12th to 21st December 2010.

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


Kassala, 16th December, 2010


Eng. Yosuke SASAKI
Leader
Preparatory Survey Team
Japan International Cooperation Agency


Eng. Mohamed H.M. AMMAR
Director General
Public Water Corporation
Government of National Unity
Sudan


Eng. Hashim Mohamed Abdulatif
Acting Director General
Kassala State Water Corporation
Kassala State
Government of National Unity
Sudan

Witnessed by


Mr. Mekki Merghani Osnan
Undersecretary
Ministry of International Cooperation
Government of National Unity
Sudan

ATTACHMENT

1 Components of the Draft Report

The Sudan side agreed and accepted in principle the components of the draft outline design explained by the Team. The components of the project are shown in Annex-1.

2 Japan's Grant Aid Scheme

The Sudan side understood the Japan's Grant Aid Scheme and would take the necessary measures and allocate budget properly for smooth implementation of the Project, as a condition for the Japanese Grant Aid to be implemented. The Grant Aid Scheme and necessary measures mentioned above are described in the Annex-4 and Annex-6 of the Minutes of Discussions signed by both parties on 10th March 2010 (hereinafter referred to as "the previous minute").

3 Responsible and Implementing Agency

3.1 The Responsible Agency is the Public Water Corporation (hereinafter referred to as "PWC").

3.2 The Implementing Agency is Kassala State Water Corporation (hereinafter referred to as "SWC").

4 Schedule of the Study

JICA will complete the final report in accordance with the confirmed item and send it to the Government of Sudan by the end of June 2011.

5 Other Relevant Issues

The following issuers were discussed and confirmed by the both sides.

5.1 Component of the Project

Both sides agreed that draft technical specification of equipment listed in Annex-1 is strictly confidential and should never be duplicated or released to other parties.

5.2 Project Cost Estimate and Budgetary Arrangement

The Team explained to the Sudan side the estimated project cost as attached in Annex-1. Both side confirmed that this estimated cost was provisional and would be examined further by the Government of Japan for its final approval.

The Sudan side reconfirmed to secure necessary counterpart budget for the project timely and adequately to cover the required amount of the cost, as promised in the previous minutes.

Furthermore, both sides confirmed that this estimated project cost is strictly confidential, and should

never be duplicated or released to other parties.

5.3 Other undertaking of the Sudan side

The Team explained to the Sudan side its obligations and their timelines and the costs to be covered by the Sudan side as listed in Annex-2 and Annex-3, and the Sudan side understood and promised to execute them by the date mentioned in the Annex-3.

The Sudan side promised that PWC and SWC shall take necessary measures to facilitate project implementation, such as exemption of Value Added Tax, custom duties, and any other taxes and fiscal levy charges in Sudan arising from the Project activities.

Both sides confirmed that the procured equipment and materials for construction should be kept in adequate storage and SWC shall be responsible for the operation and maintenance. Both sides confirmed that equipment and materials shall be stored in warehouse in the premises of the headquarters office of SWC in Kassala City.

5.4 Operation & Maintenance (O&M) Issues

The Team explained to the Sudan side the obligations during operation and maintenance, as listed below, and the Sudan side understood and promised to execute them and facilitate necessary measures to enforce them.

- Perform periodic water quality tests.
- Regarding water intake volume, distribution volume, reservoir water level, consumed electricity volume, chlorine use volume, and etc, record the data and make weekly, monthly, and annual reports.
- Based on the O&M manual, perform daily and periodic inspections.
- (for Mahta WTP) After completion, it should operate continuously for 24 hrs, instead of 20hrs.
- (for Mahta WTP) Secure budget for cost of chlorine and electricity.
- (for Garb WTP) As specified in Annex-1, JICA will only assist receiving well, reservoirs, and piping at Garb WTP. Any further renewals of distribution pump, Chlorine dosing facility, and power supply and instrumentation facilities are the responsibilities of the Sudan side.
- (for Garb WTP) Chlorine should be placed in receiving well, instead of reservoir.

5.5 Safety and Security

The Sudan side will ensure that necessary measures are taken for the safety and security of the Japanese national involved in the Project.

5.6 Submission of Official Request

The Team requested for the Official Request for the Project to be submitted before the end of December, 2010 to the Embassy of Japan. The Sudan side agreed to this and ensured that it will be submitted without delay.

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5.7 Tentative Schedule

The team explained the tentative schedule as shown below.

December, 2010	Agreement on the outline design and submission of Official Request
February, 2011	A cabinet approval by the Government of Japan on the Project
In case the Project is officially approved as above	
March, 2011	Signing of the agreements on the project implementation -Exchange of Notes: Agreement between both governments -Grant Agreement: Agreement between Authority of the Sudan and JICA
April, 2011	Service contract between the Government of Sudan and Japanese consulting firm, referring to the recommendation by JICA
May, 2011	Detailed design work by the Consultant
November, 2011	Tendering and Contracting with a Japanese construction firm
December, 2011	Commencement of the construction work
February, 2013	Completion of the construction work

The Sudan side understood the above basic schedule, but requested for faster implementation whenever possible, as the Project is an urgent rehabilitation. The Team took note of this of request for future consideration.

Annex-1 Components of the Project

Annex-2 Obligations of the Sudan Side

Annex-3 Project Cost Estimation of the Sudan Side

CONFIDENTIAL

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OBLIGATIONS OF THE SUDAN SIDE

The obligations required for the Government of Sudan for the project implementation are as follows:

- ① Provision of necessary data and materials for this project.
- ② Security at the project sites.
- ③ Payment of commissions for Banking Arrangements (B/A) and Authorization to Pay (A/P)
- ④ Quick loading and unloading, and customs clearance procedures for the equipment and materials for construction use.
- ⑤ Make action of exemption from taxation for the equipment and materials to be brought in Sudan by the Japanese personnel and taxes of subcontracts for the procurement of the equipment and materials, and the execution of services based on the approved contracts.
- ⑥ Appropriate use and maintenance of constructed facilities in this project.
- ⑦ Other provisions, as listed below, such as the expenses for the engineers and technical staff necessary for the Project and the use of lands and spaces belonging to the SWC, which will not be financed by the Japanese Grant Aid.

Obligations of the Sudan Side

Items	Remarks
(1) Provision of temporary yard (partial area of construction land for south WTP)	The spaces belong to SWC, and they will be free of charge.
(2) Secure lands for facilities including construction lands and access roads.	The land acquisition will be necessary only for the construction of water supply facilities for the areas, but all the facilities are planned to be constructed in the public lands. It is not difficult to acquire such lands.
(3) Land leveling and removal of the trees and existing facilities inside the construction area	SWC will carry out by dispatching engineers and technical staff of SWC.
(4) Preparation of a disposal site for the surplus soil generated at construction work	The disposal site is appropriate area instructed by SWC.
(5) Provision of the electric power line to the project area (415V)	The existing transformer of Mahta WTP is required to be upgraded due to lack in capacity. In contrast, the existing transformer of Garb WTP can be used.
(6) Removal and disposal of existing facilities after changeover of the existing and renewal constructed facilities	Existing facilities do not affect on renewal facilities. SWC will carry out this work if necessary.
(7) Cooperation for connection work between the existing facilities and renewal facilities (witness during the connection work and coordination for the stop of water supply, if required)	SWC will dispatch engineers and technical staffs for this.
(8) Construction of the fence and gate (Mahta WTP)	SWC will dispatch engineers and technical staffs for this.
(9) Water supply for leakage test	Water for leakage test will be supplied from the existing WTP.
(10) Personnel Assignment for Project Implementation	SWC will dispatch engineers and technical staffs for this.

PROJECT COST ESTIMATION OF THE SUDAN SIDE

Costs to be Covered by the Sudan Side

(Unit: Thousand SDG)

Items	Completion Date(Plan)	Costs	Remarks
1. Mahta WTP			
(1) Provision of temporary yard (partial area of construction land for south WTP)	Nov, 2011	-	The spaces belong to SWC, and they will be free of charge.
(2) Secure lands for facilities including construction lands and access roads.	Nov, 2011	-	As construction lands belong to SWC, it is not necessary to acquire new land.
(3) Land leveling inside the construction area	Nov, 2011	168.3	
(4) Slope protection	Nov, 2011	121.5	
(5) Moving work of trees	Nov, 2011	0.9	
(6) Provision of the electric power line to the project area (415V)	Nov, 2011	55.8	Upgrading existing transformer
(7) Construction of the fence and gate	Nov, 2012	87.0	
(8) Water supply for leakage test	Jan, 2013	17.3	
(9) Personnel and other expenses (incl. chlorine)	-	19.6	
Sub total		470.4	
2. Garb WTP			
(1) Provision of temporary yard (partial area of construction land for south WTP)	Nov, 2011	-	The spaces belong to SWC, and they will be free of charge.
(2) Secure lands for facilities including construction lands and access roads.	Nov, 2011	-	As construction lands belong to SWC, it is not necessary to acquire new land.
(3) Moving work of trees	Nov, 2011	1.6	
(4) Provision of the electric power line to the project area (415V)	Nov, 2011	-	The existing transformer is available
(5) Water supply for leakage test	Jan, 2013	7.7	
(6) Personnel and other expenses (incl. chlorine)	-	-	Including that of Mahta WTP
Sub total		9.3	
3. Charge of B/A		7.5	
Total		487.2	-

Conditions of Cost Estimate

<Time of Cost Estimate>

The project cost estimate is based on prices and exchange rates as of September 2010.

<Exchange Rates>

The exchange rate of the average from March 2010 to August 2010 is applied for the cost estimate.

- 1 USD = 90.90 JPY
- 1 USD = 2.28 SDG
- 1 SDG = 39.8684 JPY

