資　料

資料１　調査団員・氏名

資料 1　調査団員・氏名

(1) 第 1 次現地調査

	氏　名	業　務	所　属
1	望戸　昌観	総括	独立行政法人 国際協力機構 地球環境部 水資源第二チーム 課長
2	佐々木　洋介	地下水開発計画	独立行政法人 国際協力機構 地球環境部 インハウスコンサルタント
3	大村　真由	協力企画	独立行政法人 国際協力機構 地球環境部 水資源第一チーム
4	横木　昭一	業務主任／給水計画	日本テクノ株式会社
5	菅　真	水理地質	日本テクノ株式会社
6	遠藤　晋	物理探査 1	株式会社地球システム科学（補強）
7	出村　英紀	物理探査 2	株式会社地球システム科学
8	岡根　史佳	環境社会配慮／社会調査 ／運営・維持管理計画	日本テクノ株式会社

(2) 第 2 次現地調査

	氏　名	業　務	所　属
1	望戸　昌観	総括	独立行政法人 国際協力機構 地球環境部 水資源第二チーム 課長
2	佐々木　洋介	地下水開発計画	独立行政法人 国際協力機構 地球環境部 インハウスコンサルタント
3	大村　真由	協力企画	独立行政法人 国際協力機構 地球環境部 水資源第二チーム
4	横木　昭一	業務主任／給水計画	日本テクノ株式会社
5	高見沢　清子	給水施設設計	日本テクノ株式会社
6	菅　真	水理地質	日本テクノ株式会社
7	岡根　史佳	環境社会配慮／社会調査 ／運営・維持管理計画	日本テクノ株式会社
8	金野　俊太郎	施工・調達計画／積算	日本テクノ株式会社

(3) 第 3 次調査

	氏　名	業　務	所　属
1	服部　容子	総括	独立行政法人 国際協力機構 地球環境部 水資源第二チーム 課長
2	佐々木　洋介	地下水開発計画	独立行政法人 国際協力機構 地球環境部 インハウスコンサルタント
3	松永　朋子	協力企画	独立行政法人 国際協力機構 地球環境部 水資源第二チーム
4	横木　昭一	業務主任／給水計画	日本テクノ株式会社
5	高見沢　清子	給水施設設計	日本テクノ株式会社
6	岡根　史佳	環境社会配慮／社会調査 ／運営・維持管理計画	日本テクノ株式会社

資料２　調査行程

資料 2　調査行程

(1) 第 1 次現地調査

No.	月	日	曜日	官団員 総括：望戸昌観 協力企画：大村真由 地下水開発計画：佐々木洋介	業務主任／ 給水計画	水理地質	物理探査1	物理探査2	環境社会配慮／ 社会調査／ 運営・維持管理計画
					横木　昭一	菅　真	遠藤　晋	出村　英紀	岡根　史佳
1	3	09	土		東京発18:35(ET1411)				東京発18:35(ET1411)
2		10	日		経由地(エチオピア)				経由地(エチオピア)
3		11	月	東京発	マプト着13:25(ET0819)				マプト着13:25(ET0819)
4		12	火	マプト着(10:40)、JICA打合せ(13:00-14:00)、DNAAS(14:30-15:30)Inception Report+MD Draft)					業務主任と同じ
5		13	水	8:30-10:15： AIAS、10:30-11:40民間オペレータ(Agua da Regiao de Maputo)、14:00-18:30 DNAAS （IcR、MD Draft)					業務主任と同じ
6		14	木	移動：マプト発06:00（TM190)⇒リシンガ着(9:40)、DPOPHRH表敬・IcR協議					14:00 再委託打ち合わせ
7		15	金	対象サイト調査（Metangula市）、Malika村（リシンガ郡）民間オペレータ訪問					再委託選定業務
8		16	土	対象サイト調査（Marrupa市）					再委託選定業務
9		17	日	資料整理、団内会議		東京発18:35(ET1411)			書類整理
10		18	月	サイト調査： Muembe郡（郡都及び前回技プロサイト） Majune郡（郡都、前回技プロサイト及び新規要請サイト視察）		マプト着13:25(ET0819)			10:00 再委託打ち合わせ
11		19	火	移動： リシンガ⇒マプト		移動：マプト⇒リシンガ 協議：DPOPHRH			14:00DNAAS、SINAS打ち合わせ、15:00再委託打ち合わせ
12		20	水	9:30-10:30、DNAAS/AIAS： ミニッツ協議 団内打合せ 16:30-17:30 大使館報告		サイト調査準備、物探資機材調達			再委託契約交渉
13		21	木	8:00-8:40 国立保健局 （マルチセクトラルアプローチ） 15:00 ミニッツ協議・署名（DNAAS/AIAS）、 15:45 報告： JICA		サイト調査：Muembe郡、Majune郡			再委託契約交渉
14		22	金	モザンビーク発	再委託先と交渉	サイト調査：Muembe郡、Majune郡			再委託契約署名
15		23	土	東京着	資料整理	サイト調査：Muembe郡、Majune郡			再委託打ち合わせ、移動準備
16		24	日		移動：マプト⇒リシンガ	資料整理			マプト→リシンガ移動
17		25	月		DPOPHRH協議、CRA州エージェント	サイト調査：Mavago郡			社会条件調査、調査員トレーニング監理
18		26	火		Mavago郡SDPI協議	サイト調査：Mavago郡			同上
19		27	水		Ngauma郡SDPI協議	サイト調査：Mavago郡			同上
20		28	木		Mandimba郡SDPI、市役所協議	サイト調査：Ngauma郡			同上
21		29	金		物理探査資機材準備	サイト調査：Mandimba郡			同上
22		30	土		アシスタント契約書	サイト調査：Mandimba郡			社会条件調査、サイト調査準備
23		31	日		再委託選定経緯作成	サイト調査：Mandimba郡	東京発		資料整理
24	4	01	月		再委託監理、DPOPHRH打ち合わせ	データ整理	マプト着、準備作業		再委託監理、DPOPHRH打ち合わせ
25		02	火		物探チーム団内協議	データ整理	移動：マプト⇒リシンガ、協議： 団内/DPOPHRH		再委託監理、サイト調査準備
26		03	水		再委託先協議（物探）	DPOPHRH協議	再委託先と協議、サイト調査準備		再委託監理、サイト調査準備
27		04	木		物理探査：Majune郡	物探確認：Majune郡	物理探査：Majune郡	物理探査：Majune郡	Majune郡調査
28		05	金		試掘入札図書作成	サイト調査：Majune郡	物理探査：Majune郡	物理探査：Majune郡	Muembe郡調査
29		06	土		民間オペレーター協議（Malika村）	サイト調査：Majune郡	物理探査：Majune郡	物理探査：Majune郡	Muembe郡調査
30		07	日		資料整理	物探確認：Muembe郡	物探監理：Muembe郡	データ解析	資料整理

No.	月	日	曜日	官団員 総括： 望戸昌観 協力企画：大村真由 地下水開発計画：佐々木洋介	業務主任／ 給水計画	水理地質	物理探査1	物理探査2	環境社会配慮／ 社会調査／ 運営・維持管理計画
					横木 昭一	菅 真	遠藤 晋	出村 英紀	岡根 史佳
31		08	月		DPOPHRH協議	サイト調査：Muembe郡	物探監理：Muembe郡	物理探査：Majune郡	資料整理
32		09	火		VISA更新、資料整理	サイト調査：Muembe郡	物探監理：Muembe郡	物理探査：Majune郡	VISA更新、資料整理
33		10	水		新SINAS導入研修視察	サイト調査：Muembe郡	物探監理：Muembe郡	移動：Lichinga⇒ Mandimba	Mavago郡調査
34		11	木		GoTAS訪問、州環境局訪問	サイト調査：Mandimba郡	物探監理：Mavago郡	物理探査：Mandimba市	Mandimba郡へ移動
35		12	金		州保健局訪問	サイト調査：Mandimba郡	物探監理：Mavago郡	探査測線の確認	Mandimba郡調査
36		13	土		試掘入札図書作成	サイト調査：Mandimba郡	物探監理：Mavago郡	物理探査：Mandimba市	Nguma郡調査
37		14	日		資料整理	データ整理	物探監理：Mavago郡	物理探査：Mandimba市	資料整理
38		15	月		DPOPHRH協議	データ整理、報告書作成	物探監理：Mavago郡	物理探査：Mandimba市	再委託先監理
39		16	火		Maua郡民間オペレーター調査	水質ラボ訪問、気象観測局、水文観測局、統計局	物探監理：Muembe郡	物理探査：Mandimba市	Maua郡民間オペレーター調査
40		17	水		Irish Aid、DPOPHRH協議	水質ラボ訪問、気象観測局、水文観測局、統計局	データ解析・再委託先と協議	探査測線の確認・データ解析	Irish Aid、DPOPHRH協議
41		18	木		移動：リシンガ⇒マプト	水質ラボ訪問、気象観測局、水文観測局、統計局	物探監理：Massangulo	物理探査：Mandimba市	移動：リシンガ⇒マプト
42		19	金		JICAマルチセクターチームと打ち合わせ、報告書作成	水質ラボ訪問、気象観測局、水文観測局、統計局	物探監理：Massangulo	物理探査：Mandimba市	JICAマルチセクターチームと打ち合わせ、報告書作成
43		20	土		報告書作成	データ整理	物探監理：Massangulo	物理探査：Mandimba市	報告書作成
44		21	日		報告書作成	データ整理、報告書作成	物探監理：Massangulo	物理探査：Mandimba市	報告書作成
45		22	月		DNAAS、AIAS、民間オペレータと協議	水質ラボ訪問、気象観測局、水文観測局、統計局	データ解析	移動：Mandimba⇒ Lichinga	DNAAS、AIAS、民間オペレータと協議
46		23	火		DFID、CRA、AIAS訪問	移動：Lichinga⇒Maputo	物探監理：Majune郡	データ解析	DFID、CRA、AIAS訪問
47		24	水		JICA事務所へ帰国報告、SDC訪問	JICA帰国報告、SDC訪問	物探監理：Muembe郡	物理探査：Muembe郡	JICA帰国報告、SDC訪問
48		25	木		11:30 CFPAS ドナー訪問	マプト発	データ解析	データ解析	11:30 CFPAS ドナー訪問
49		26	金		9:00 DNAASテクニカルノート署名、帰国報告 UNICEF訪問、マプト発 14:30(ET818)	東京着	協議・報告： DPOPHRH		9:00 DNAASテクニカルノート署名、帰国報告 UNICEF訪問、マプト発 14:30(ET818)
50		27	土		経由地（バンコク）		移動：リシンガ⇒マプト		経由地（バンコク）
51		28	日		東京着		マプト発		東京着
52		29	月				東京着		
53		30	火						

MOPHRH： 公共事業住宅水資源省； DPOPHRH： 州公共事業住宅水資源局 （現SPI）； DNAAS：国家給水衛生局； AIAS：給水衛生インフラ管理局

(2) 第 2 次現地調査

No.	月	日	曜日	総括	協力企画	業務主任／給水計画	給水施設計画	水理地質／試掘	環境社会配慮／社会調査／運営・維持管理計画	施工・調達計画／積算
				望戸昌観	大村真由	横木昭一	高見沢清子	菅真	岡根史佳	金野俊太郎
1	6	09	Sun			東京発				
2		10	Mon			マプト着、JICA打合せ				
3		11	Tue			移動：マプト⇒リシンガ 協議： DPOPHRHへ第1次調査結果を報告・説明				
4		12	Wed			対象郡へサイト数、優先順位について説明。 環境局：Pre-Evaluation申請			東京発	
5		13	Thu			移動：リシンガ⇒マプト 試掘業者と契約交渉			マプト着	
6		14	Fri			試掘業者契約締結、 環境社会配慮プロポーザル評価			環境社会配慮プロポーザル評価	
7		15	Sat	東京発		環境社会配慮プロポーザル評価			環境社会配慮プロポーザル評価	
8		16	Sun	マプト着、調査団協議		資料整理、調査団協議			環境社会配慮プロポーザル評価、調査団協議	
9		17	Mon	JICA事務所： 調査団打合せ、水に係る最新動向共有、MD案修正、DNAAS・AIASへ第1次調査結果報告書の説明およびMD案協議		同左			同左	
10		18	Tue	調査団協議、DNAAS・AIASとMD案協議		同左			同左	
11		19	Wed	MD最終案作成・協議、DNAAS局長とのMD署名 JICA事務所： 調査結果報告		同左			同左	
12		20	Thu	マプト出発		再委託契約交渉			再委託契約交渉	
13		21	Fri	東京着		AIAS協議、再委託契約交渉			AIAS協議、再委託契約交渉	
14		22	Sat			資料整理			再委託契約交渉	
15		23	Sun			移動：マプト⇒リシンガ			移動：マプト⇒リシンガ	
16		24	Mon			DPOPHRH挨拶、DPTADER協議			DPOPHRH挨拶、DPTADER協議	
17		25	Tue			マジュネ郡（第1次調査結果報告）			マジュネ郡	
18		26	Wed			マヴァゴ郡(同上）			マヴァゴ郡	
19		27	Thu			ムエンベ郡(同上）		東京発	ムエンベ郡	
20		28	Fri			ンガウマ郡、マンディンバ郡（同上）		マプト着	ンガウマ郡、マンディンバ郡	
21		29	Sat			試掘業者ヤード(マルーパ市）において掘さく資機材の確認		移動：マプト⇒リシンガ 団内協議	資料整理	
22		30	Sun			再委託業者とマジュネ郡都試掘地点確認		再委託業者とマジュネ郡都試掘地点確認	資料整理	
23	7	01	Mon			環境事前評価（マジュネ郡）		試掘監理（マジュネ）	環境影響評価の事前評価（マジュネ郡）	
24		02	Tue			環境事前評価（ムエンベ郡）		試掘監理（マジュネ）	環境影響評価の事前評価（ムエンベ郡）	
25		03	Wed			環境事前評価（マヴァゴ郡）		試掘監理（マジュネ）	環境影響評価の事前評価（マヴァゴ郡）	
26		04	Thu			環境事前評価（マサングロ郡都、マンディンバ市）		試掘監理（マジュネ）	環境影響評価の事前評価（ンガウマ郡、マンディンバ市）	
27		05	Fri			Water Aid訪問（クアンバ事務所）、メカニェラス郡インクルジーブトイレ視察		試掘監理（マジュネ）	Water Aid訪問（クアンバ事務所）、メカニェラス郡インクルジーブトイレ視察	
28		06	Sat			移動： クアンバ⇒リシンガ		試掘監理（マジュネ）	移動： クアンバ⇒リシンガ	
29		07	Sun			試掘現場確認：マジュネ郡		サイトトランスファー（マヴァゴ、ムエンベ）	書類整理	
30		08	Mon			協議：DPOPHRH、ビザ延長、測量・地盤調査再委託選定図書作成		サイトトランスファー（マサングロ、マンディンバ）	ビザ延長申請、	
31		09	Tue			ビザ延長申請、リシンガ郡マリカ村管路給水施設訪問		移民局への滞在届等の手続き、資料整理	ビザ延長申請、リシンガ郡マリカ村管路給水施設訪問	
32		10	Wed			測量・地盤調査再委託選定図書作成、配布、ビザ延長業務		試掘監理（マジュネ）	DPOPHRH協議	
33		11	Thu			DPOPHRH協議		試掘監理（マジュネ）	事務所作業	
34		12	Fri			資料収集		試掘監理（マジュネ）	ADEMO協議	
35		13	Sat			移動：リシンガ⇒マプト		試掘監理（マジュネ）	移動：リシンガ→マプト	
36		14	Sun			試掘再委託業者と遅延対策協議		試掘監理（マジュネ）、予備サイト確認	書類整理	
37		15	Mon			試掘再委託業者と遅延対策協議、DNAAS、AIASと協議		試掘監理（マジュネ）、予備サイト確認	社会条件調査再委託先協議、AIAS協議	
38		16	Tue			移動： マプト⇒リシンガ、 民間水販売業者訪問		試掘監理（マジュネ）	AURA協議	
39		17	Wed			INGC訪問（ニアッサ州の自然災害確認）		試掘監理（マジュネ）	マプト発	
40		18	Thu			協議： DOPOHRH		試掘監理（マジュネ）	移動	
41		19	Fri			試掘監理（マジュネ）		試掘監理（マジュネ）	東京着	
42		20	Sat			試掘監理（マジュネ）		試掘監理（マジュネ）		
43		21	Sun			資料整理		試掘監理（マジュネ）		
44		22	Mon			DPOPHRH協議		試掘監理（マジュネ、およびムエンベ）		
45		23	Tue			ビザ延長手続き		ビザ延長手続き		
46		24	Wed			リシンガ市場調査		ムエンベで試掘監理と追加電気探査		
47		25	Thu			移動：リシンガ⇒マプト 15:00 We Consult		ムエンベで試掘監理と追加電気探査		
48		26	Fri			DNAASへタブレット引渡し、 全国GAS会議出席、地形図購入		ムエンベで試掘監理と追加電気探査		
49		27	Sat			報告書作成	ラオス、ビエンチャン発	ムエンベで試掘監理と追加電気探査		東京発
50		28	Sun			団内協議、試掘業者訪問	13:25 マプト着、 団内協議、試掘業者訪問	ムエンベで試掘監理と追加電気探査		13:25 マプト着、 団内協議、試掘業者訪問

No.	月	日	曜日	総括	協力企画	業務主任／給水計画	給水施設計画	水理地質／試掘	環境社会配慮／社会調査／運営・維持管理計画	施工・調達計画／積算
				望戸昌観	大村真由	横木昭一	高見沢清子	菅真	岡根史佳	金野俊太郎
51		29	Mon			測量会社と交渉、協議、AIAS、DNAAS、JICA水中ポンプ代理店訪問	測量会社と交渉、協議、AIAS、DNAAS、JICA水中ポンプ代理店訪問	試掘監理（マジュネ）（揚水試験及び電気探査）		測量会社と交渉、協議、AIAS、DNAAS、JICA水中ポンプ代理店訪問
52		30	Tue			移動：マプト⇒リシンガDPOPHRH挨拶、協議	移動：マプト⇒リシンガDPOPHRH挨拶、協議	試掘監理（マジュネ）		移動：マプト⇒リシンガDPOPHRH挨拶、協議
53		31	Wed			サイト調査： ムエンベ、マジュネ	サイト調査： ムエンベ、マジュネ	試掘監理（マジュネ）		サイト調査： ムエンベ、マジュネ
54	8	01	Thu			サイト調査： マヴァゴ郡	サイト調査： マヴァゴ郡	試掘監理（マジュネ）		サイト調査： マヴァゴ郡
55		02	Fri			サイト調査：マサングロ郡、マンディンバ郡	サイト調査：マサングロ郡、マンディンバ郡	試掘監理（マジュネ）		サイト調査：マサングロ郡、マンディンバ郡
56		03	Sat			PRONASAR施設視察（Mussa村）	PRONASAR施設視察（Mussa村）	電気探査（マヴァゴ）		PRONASAR施設視察（Mussa村）
57		04	Sun			資料整理	資料整理	揚水試験監理（ムエンベ）		資料整理
58		05	Mon			マサングロへ移動、試掘監理	サイト調査 Muembe	揚水試験監理（ムエンベ）		建設会社、FIPAG、建築資材供給業者訪問
59		06	Tue			試掘監理（マサングロ）	サイト調査 Mavago	揚水試験監理（ムエンベ）		移動： リシンガ⇒マプト
60		07	Wed			試掘監理（マサングロ）	サイト調査 Majune	電気探査（マヴァゴ）		建設会社、車両販売店訪問
61		08	Thu			試掘監理（マサングロ）	サイト調査 Massangulo	揚水試験監理（ムエンベ）		建設会社、鋼材工場訪問
62		09	Fri			試掘監理（マサングロ）	サイト調査 Mandimba	揚水試験監理（ムエンベ）		レンタカー、管材工場訪問
63		10	Sat			マンディンバへ移動、試掘監理	サイトトランスファー（測量）Majune	試掘監理と電気探査（マヴァゴ）		鋼材工場訪問
64		11	Sun			試掘監理（マンディンバ）	資料整理	試掘監理と電気探査（マヴァゴ）		資料整理
65		12	Mon			試掘監理（マンディンバ）	サイト調査・再委託監理 Majune	試掘監理と電気探査（マヴァゴ）		輸送会社、建具、塗料メーカー、鋼材工場訪問
66		13	Tue			試掘監理（マンディンバ）、リシンガへ移動、森林技プロチームと協議	サイト調査Muembe、森林技プロチームと協議	試掘監理（マンディンバ）		塗料メーカー、車両保険訪問
67		14	Wed			DPOPHRH局長報告、州労働局訪問、資料整理	DPOPHRH局長報告、資料整理	試掘監理（マンディンバ）、追加電気探査		建具、ポンプ販売店、屋根材、建築資材販売店訪問
68		15	Thu			移動： リシンガ⇒マプト	サイト調査 Muembe	試掘監理（マンディンバ）		塗料、建具メーカー訪問
69		16	Fri			地盤調査コンサルと協議	サイト調査 Massangulo	試掘監理＋電気探査（マンディンバ）		DNAAS、AIAS、電気資材店訪問
70		17	Sat			報告書作成	サイトトランスファー（測量）Muembe	試掘監理（マンディンバ）		建設会社、掘さく業者面会
71		18	Sun			報告書作成	資料整理	試掘監理（マンディンバ）		資料整理
72		19	Mon			JICA、DNAAS帰国報告、モザンビーク出国	サイト調査・再委託監理	試掘監理（マンディンバ）		JICA、DNAAS帰国報告、ポンプ販売店訪問
73		20	Tue			成田着	サイト調査・再委託監理	ビザ延長手続き		建設資材販売店、建設会社訪問
74		21	Wed				サイト調査・再委託監理	試掘監理（マンディンバ）、マサングロで追加電気探査		地盤調査会社、ポンプ販売店訪問
75		22	Thu				サイト調査・再委託監理	試掘監理（マンディンバ）		ポンプ販売店面会、資料整理
76		23	Fri				サイト調査・再委託監理	試掘監理（マンディンバ）、マサングロで追加電気探査		測量会社訪問、報告：DNAAS／AIAS
77		24	Sat				サイト調査・再委託監理	試掘監理（マンディンバ）		マプト発
78		25	Sun				資料整理	試掘監理（マンディンバ）		東京着
79		26	Mon				サイト調査・再委託監理	試掘監理（マンディンバ）		
80		27	Tue				サイト調査・再委託監理	試掘監理（マンディンバ）		
81		28	Wed				サイト調査・再委託監理	試掘監理（マンディンバ）		
82		29	Thu				サイト調査・再委託監理	試掘監理（マンディンバ）		
83		30	Fri				サイト調査・再委託監理	試掘監理（マンディンバ）		
84		31	Sat				サイト調査・再委託監理	試掘監理（マンディンバ）		
85	9	01	Sun				資料整理	試掘監理（マンディンバ）		
86		02	Mon				サイト調査・再委託監理	試掘監理及び揚水試験監理（マンディンバ）		
87		03	Tue				サイト調査・再委託監理	試掘監理及び揚水試験監理（マンディンバ）		
88		04	Wed				サイト調査・再委託監理	試掘監理及び揚水試験監理（マンディンバ）		
89		05	Thu				サイト調査・再委託監理	試掘監理（マンディンバ）		
90		06	Fri				DPOPHRH報告、再委託監理	試掘監理（マンディンバ）		
91		07	Sat				資料整理	試掘監理（マンディンバ）		
92		08	Sun				移動：リシンガ⇒マプト	試掘監理（マンディンバ）		
93		09	Mon				管材、ポンプ代理店調査、再委託地盤調査会社訪問	試掘監理（マンディンバ）		
94		10	Tue				DNAAS／AIASテクニカルノート協議	試掘監理（マンディンバ）		
95		11	Wed				JICA報告,マプト発	試掘監理（マンディンバ）		
96		12	Thu				ラオス着	試掘監理（マンディンバ）		
97		13	Fri					試掘監理（マンディンバ）		
98		14	Sat					試掘監理（マンディンバ）		
99		15	Sun					データ整理		
100		16	Mon					試掘監理（マンディンバ）		
101		17	Tue					試掘監理（マンディンバ）		
102		18	Wed					試掘監理（マンディンバ）		
103		19	Thu					試掘監理（マンディンバ）		
104		20	Fri					揚水試験監理（マンディンバ）移動：マンディンバ⇒リシンガ		
105		21	Sat					移動：リシンガ⇒マプト		
106		22	Sun					マプト発		
107		23	Mon					東京着		

（3）第 2 次現地調査：　マサングロ町の湧水調査

No.	月	日	曜日	業務主任／給水計画 横木昭一
1	10	15	Tue	東京発
2		16	Wed	マプト着、打合せ：DNAAS、JICA
3		17	Thu	移動：マプト⇒リシンガ 協議：　DPOPHRH 移動：リシンガ⇒マサングロ
4		18	Fri	協議： 1)ンガウマ郡：湧水利用について合意 2)湧水利用について地域リーダー及びカトリック ミッションの合意を得る 3)湧水の調査
5		19	Sat	湧水及び送水管ルート調査
6		20	Sun	移動：リシンガ⇒マプト
7		21	Mon	報告：　DNAAS、JICA
8		22	Tue	テクニカルノート署名、モザンビーク出国
9		23	Wed	東京着

（4）第 3 次調査（準備調査報告書(案)説明）

No.	月	日	曜日	官団員 総括：　服部容子 協力企画：松永朋子 地下水開発計画：　佐々木洋介	業務主任／給水計画	給水施設計画	環境社会配慮／ 社会調査／ 運営・維持管理計画
					横木昭一	高見沢清子	岡根史佳
1	2020／	08	Tue		準備調査報告書(案)説明、DNAAS		
2	9	09	Wed		準備調査報告書(案)説明、AIAS		
3		10	Thu	ミニッツ協議、署名			

資料３　関係者（面会者）リスト

資料 3　関係者（面会者）リスト

在モザンビーク日本国大使館

庄司　義明	一等書記官
木原　弘一	一等書記官
浦島　勝輝	三等書記官

JICA モザンビーク事務所

遠藤　浩明	所長
青木　英剛	次長
西野入　裕美子	次長
Mr. Benedito da Silva	Program Officer
Mr. Gabriel Devesse	通訳

マルチセクトラルアプローチチーム関連

Mr. Mussagy Mahomed	Instituto Nacional de Saúde　国立保健局
相賀　裕嗣	JICA 国際協力専門員　人間開発部課題アドバイザー
野村　真利香	JICA 国際協力専門員　人間開発部保険第二グループ
木村　真也	JICA モザンビーク事務所　企画調査員（社会開発）
Ms. Hannah Danzinger	Ipsos　Research Manager
Mr. Maxwell Odhiambo	Ipsos

DNAAS（国家給水衛生局）

Mr. Nilton S. R. Trindade	局長
Ms. Julieta Felicidade Paulo	給水部　部長
Mr. Arlindo Correia	給水部　都市給水ユニット長
Mr. Renato Solomone	給水部　技師
Mr. Rodrigues Macuacua	プロジェクトマネージャー

AIAS（給水衛生インフラ管理局）

Ms. Rute Nhamucho	局長
Mr. Mr. Valdemiro Matavela	技術支援・運営部　部長
Mr. Frederico Martins	プロジェクトコーディネーター
Mr. Pedro Gaspar Maujate	法務部　アドバイザー
Mr. Eurico Macuacua	技術支援・運営部　技師
Ms. Laurinda Foliche	計画・技術部　技師

AURA（Water Regulatory Authority）（水規制局）

Mr. Magalhães Miguel	AURA、IP

DPOPHRH（ニアッサ州公共事業・住宅・水資源局）

Mr. Americo Chivale	局長
Mr. Celestino Maria Domingos	財務・運営部　部長
Mr. João Alberto M. Sitoe	給水衛生部　部長
Mr. Domingos Zuber	給水衛生部　衛生ユニット
Ms. Rosa Jaime	給水衛生部　計画調査技師
Mr. João Matsinhe	給水衛生部　計画調査技師
Mr. Zeca Carlos	給水衛生部　SINAS 担当

調査対象地域（市・郡）

Mr. Matias Ncalala	Metangula 市役所　市会議員
Mr. Lidonio M. Adriano	SDPI-Lago 郡　課長
Mr. Feliz Sebastião Mtene	Metangula 市役所　テクニシャン
Mr. Clemente Maloa	Metangula 市役所　テクニシャン
Mr. A. Momade	Metangula 市役所　テクニシャン
Mr. Nelson Martins Alimo	Metangula 市役所　技師
Mr. Alberto Mina Massangano	Marrupa 郡　次官
Mr. Avelino Valentim	SDPI-Marrupa 郡　課長
Mr. Locádio M. Felisberto	SDPI-Marrupa 郡　テクニシャン
Mr. Salemani Felipe	PEC コンサルタント　アニメータ
Mr. Félix Kazula	Marrupa 市役所　テクニシャン
Mr. Bernardo A. Paum	Marrupa 市役所　市会議員
Mr. Antonio Benabé Cajica	Muembe 郡　郡庁
Mr. Elves Hilário Romão	SDPI-Muembe 郡　テクニシャン
Mr. Isac Henriques Pio	SDPI-Muembe 郡　テクニシャン
Mr. António José Guido	Majune 郡　郡庁
Mr. Horácio Felisberto Malai	Majune 郡　次官
Mr. Gabriel Leonardo	SDPI-Majune 郡　課長
Mr. Antonio Issufo Candulo	SDPI-Majune 郡　テクニシャン

他ドナー

Mr. Edgar Ussen	Irish Aid-Niassa　Results Officer
Mr. Estevão Combe	Irish Aid-Niassa　Accountant
Ms. Lisa Rudge	DFID　Basic Services Delivery Advisor
Ms. Angelina Xavier	UNICEF　WES Specialist
Mr. Jesus Trelles	UNICEF　WES Specialist
Mr. Fernando Pililão	SDC　Senior Program Officer for Governance, WatSan and Health

民間オペレータ

1）マプト首都圏水道会社／Água da Região de Maputo

Mr. Afonso Mahumane	財務計画部　部長
Mr. Henry Cossa	財務計画部　生産管理担当
Mr. José Barata Henriques	プロジェクト及び技術セクション　部長

Mr. Arane Tivane	アセット部　マネージャー

2）Collins Sistema de Água Lda.

Mr. Pedro Cardoso	Director General

3）PB Construções Lda.

Mr. Pedro Bambo	Director

資料４　討議議事録（M/D）

MINUTES OF DISCUSSIONS
ON
THE PREPARATORY SURVEY
FOR
THE PROJECT FOR CONSTRUCTION OF RURAL WATER SUPPLY FACILITY IN NIASSA PROVINCE, REPUBLIC OF MOZAMBIQUE

Based on the several preliminary discussions between the Government of Republic of Mozambique (hereinafter referred to as "Government of Mozambique") and JICA Mozambique Office, Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Survey Team for the Outline Design (hereinafter referred to as "the Team") of the Project for Construction of Rural Water Supply Facility in Niassa Province, Republic of Mozambique (hereinafter referred to as "the Project") to Mozambique. The Team held a series of discussions with the officials of the Government of Mozambique and conducted a field survey. In the course of the discussions, both sides have confirmed the main items described in the attached sheets.

Maputo, 21st March, 2019

望戸昌観

Mr. Masami Moko
Team Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan

Nilton Trindade

Mr. Nilton Sérgio Rebelo TRINDADE
National Director,
National Directorate of Water Supply and Sanitation, DNAAS
Ministry of Public Works, Housing and Water Resources
The Republic of Mozambique

ATTACHMENT

1. Objective of the Project

   The objective of the Project is to improve the access to safe water in Niassa Province by/through installing water supply facilities thereby contributing to better quality of life environment of people living in Nacala corridor.

2. Title of the Preparatory Survey

   Both sides confirmed the title of the Preparatory Survey as "the Preparatory Survey for the Project for Construction of Rural Water Supply Facility in Niassa Province, Republic of Mozambique".

3. Project Survey Sites

   Both sides confirmed that the candidate sites of the Project are as follows and shown in Annex 1;

   1) Piped water scheme

      Mandimba Municipality in Mandimba District, Malanga Town in Majune District, Muembe Town in Muembe District, Mavago Town in Mavago District, and Massangulo Town in N'gauma District.

      Marrupa Municipality in Marrupa District and Metangula Municipality in Lago District are out of the survey target due to existing ongoing piped water scheme project funded by the Government of Mozambique.

   2) Boreholes with hand pump

      Mandimba District, Majune District, Muembe District and Mavago District.

      Sites will be selected from one hundred forty two (142) candidate sites (communities) in accordance with the list submitted by the Provincial Directorate of Public Works, Housing and Water Resources of Niassa (herinafter referred to as "DPOPHRH-Niassa") on March 19th, 2019 shown in Annex 6.

4. Responsible Authority for the Project

   Both sides confirmed the authorities responsible for the Project are as follows:

4-1. The National Directorate of Water Supply and Sanitation (hereinafter referred to as "DNAAS") of Ministry of Public Works, Housing and Water Resources will be the executing agency for the Project (hereinafter referred to as "the Executing Agency"). The Executing Agency shall coordinate with all the relevant authorities to ensure smooth implementation of the Project and ensure that the undertakings

for the Project shall be managed by relevant authorities properly and on time. The implementing organization structure of the Project is shown in Annex 2.

4-2. The Administration of Infrastructure for Water Supply and Sanitation (hereinafter referred to as "AIAS") is responsible for piped water schemes under the Project.

5. Items requested by the Government of Mozambique

5-1. As a result of discussions, both sides confirmed that the items requested by the Government of Mozambique are as follows:

a) piped water schemes and their related facilities (such as wells, reservoirs, water distribution facilities, public taps, and water pipes)

b) construction of boreholes with hand pump

5-2. JICA will assess the feasibility of the above requested items through the survey and will report the findings to the Government of Japan. The final scope of the Project will be decided by the Government of Japan.

5-3. The Government of Mozambique shall submit an official request to the Government of Japan through a diplomatic channel before the appraisal of the Project, which is scheduled in September 2019.

6. Procedures and Basic Principles of Japanese Grant

6-1. The Mozambican side agreed that the procedures and basic principles of Japanese Grant as described in Annex 3 shall be applied to the Project.

As for the monitoring of the implementation of the Project, JICA requires Mozambican side to submit the Project Monitoring Report, the form of which is attached as Annex 4.

6-2. The Mozambican side agreed to take the necessary measures, as described in Annex 5, for smooth implementation of the Project. The contents of the Annex 5 will be elaborated and refined during the Preparatory Survey and be agreed in the mission dispatched for explanation of the Draft Preparatory Survey Report.

The contents of Annex 5 will be updated as the Preparatory Survey progresses, and eventually, will be used as an attachment to the Grant Agreement.

7. Schedule of the Survey

7-1. The Team will proceed with further survey in Mozambique until February 2020.

7-2. An official request to the Government of Japan will be submitted before September 2019.

7-3. JICA will prepare a draft Preparatory Survey Report in Portuguese and dispatch a

mission to Mozambique in order to explain its contents around January to February 2020.

7-4. If the contents of the draft Preparatory Survey Report is accepted and the undertakings for the Project are fully agreed by the Mozambican side, JICA will finalize the Preparatory Survey Report and send it to Mozambique around June 2020.

7-5. The schedule above is tentative and subject to change.

8. Environmental and Social Considerations

8-1. The Mozambican side confirmed to give due environmental and social considerations before and during implementation, and after completion of the Project, in accordance with the JICA Guidelines for Environmental and Social Considerations (April, 2010).

8-2. The Project is categorized as "B" from the following considerations:

The project is not located in a sensitive area, nor has sensitive characteristics, nor falls into sensitive sectors under the JICA guidelines for environmental and social considerations (April 2010), and its potential adverse impacts on the environment are not likely to be significant.

The Mozambican side confirmed to conduct the necessary procedures concerning the environmental assessment (including stakeholder meetings, Environmental Impact Assessment (EIA) /Initial Environmental Examination (IEE) and information disclosure, etc.) and make EIA/IEE report of the Project. The EIA/IEE approval shall be received from the responsible authorities and submitted to JICA by December 2019.

8-3. For the Project that will result in involuntary resettlement, the Mozambican side confirmed to prepare a Resettlement Action Plan (RAP)/Abbreviated Resettlement Action Plan (ARAP) and make it available to the public. In addition, the Mozambican side confirmed to provide the affected people with sufficient compensation and/or support in accordance with RAP/ARAP, which is consistent with JICA Guidelines for Environmental and Social Considerations (April, 2010), in a timely manner.

9. Other Relevant Issues

9-1. Both sides confirmed the following matters relevant to the Project.

1) Construction of water supply facilities, which were supposed to be built by the Technical Cooperation Project named Project on Promoting Sustainability of Water Supply System and Sanitation in Niassa Province, of which Minutes of Meeting for the detail planning survey was signed on July 6th 2017, will be implemented by the Project.
2) The Project includes software component, which will establish operation and maintenance system for the water supply facilities to be constructed by the Project.

9-2. Both sides confirmed the responsibility of implementation of the Project by type of water supply scheme as follows:

1) AIAS is responsible for the execution of the piped water schemes under the Project.
2) DPOPHRH-Niassa is responsible for the execution of boreholes with hand pump facility under the Project. DPOPHRH-Niassa and SDPIs will support AIAS at Provincial level when necessary.

9-3. Operation and Maintenance Structure for facilities constructed by the Project will be as follows:

1) Piped water schemes
   AIAS owns the facilities and under its responsibility, private operators will manage and operate the piped water schemes according to Water Policy (Resolution No. 42/2016 of 30/December/2016) and Organic Statute of AIAS (Resolution No. 34/2009 of 31/December/2009).
2) Boreholes with hand pump
   Water and Sanitation Committees, which will be established through software component of the Project, and SDPIs shall be responsible for operation and maintenance of the boreholes with hand pump.

9-4. Maximum number of sites are as follows;

1) The maximum number of sites of piped water schemes is five (5) cities in Niassa Province.
2) The maximum number of borehole with hand pump is one hundred (100).
3) The maximum number of sites shall also depend on the budget of the Project.

9-5. The Team explained the following main criteria to select the sites of both piped water scheme and borehole with hand pump.

1) Piped water schemes
   a) To avoid duplication of new water supply project implemented by other donors and the Government of Mozambique.
   b) Adequate groundwater resources to supply stably and safely
   c) Residents' willingness and affordability to pay water fee.

2) Boreholes with hand pump
   a) To avoid duplication of new water supply project implemented by other donors and the Government of Mozambique.
   b) Adequate groundwater resources to supply stably and safely.
   c) Residents' demand for new borehole with hand pump and their willingness and affordability to pay water fee.
   d) Willingness to establish the Water and Sanitation Committees.

9-6. Sites of piped water schemes will be selected and the facilities will be constructed through the following procedures:

1) Implement geophysical prospecting to survey hydrogeological conditions.
2) Test-drill at the sites with the good result of geophysical prospecting
3) Check the water volume, water quality, sand contents, and so on.
4) Discuss the result of the test drilling and make final decision of the sites to construct.
5) Construct the five (5) facilities according to the final decision.

9-7. The team explained, that test wells for the piped water scheme which will be drilled during the preparatory survey, will be dealt with as follows, and the Mozambican side understood it.

1) Test wells, of which both water volume and quality are adequate as drinking water, will be used as production wells.
2) Test wells, of which water quality does not meet the Mozambican water quality standard, will be filled back.
3) Test wells, of which water volume is not adequate for piped water scheme while water quality meets the Mozambican water quality standard, can be dealt with as follows;

a) filling back.
b) handing over to Mozambican side to utilize for boreholes with hand pumps. Mozambican side covers all the cost and responsibility after handover.

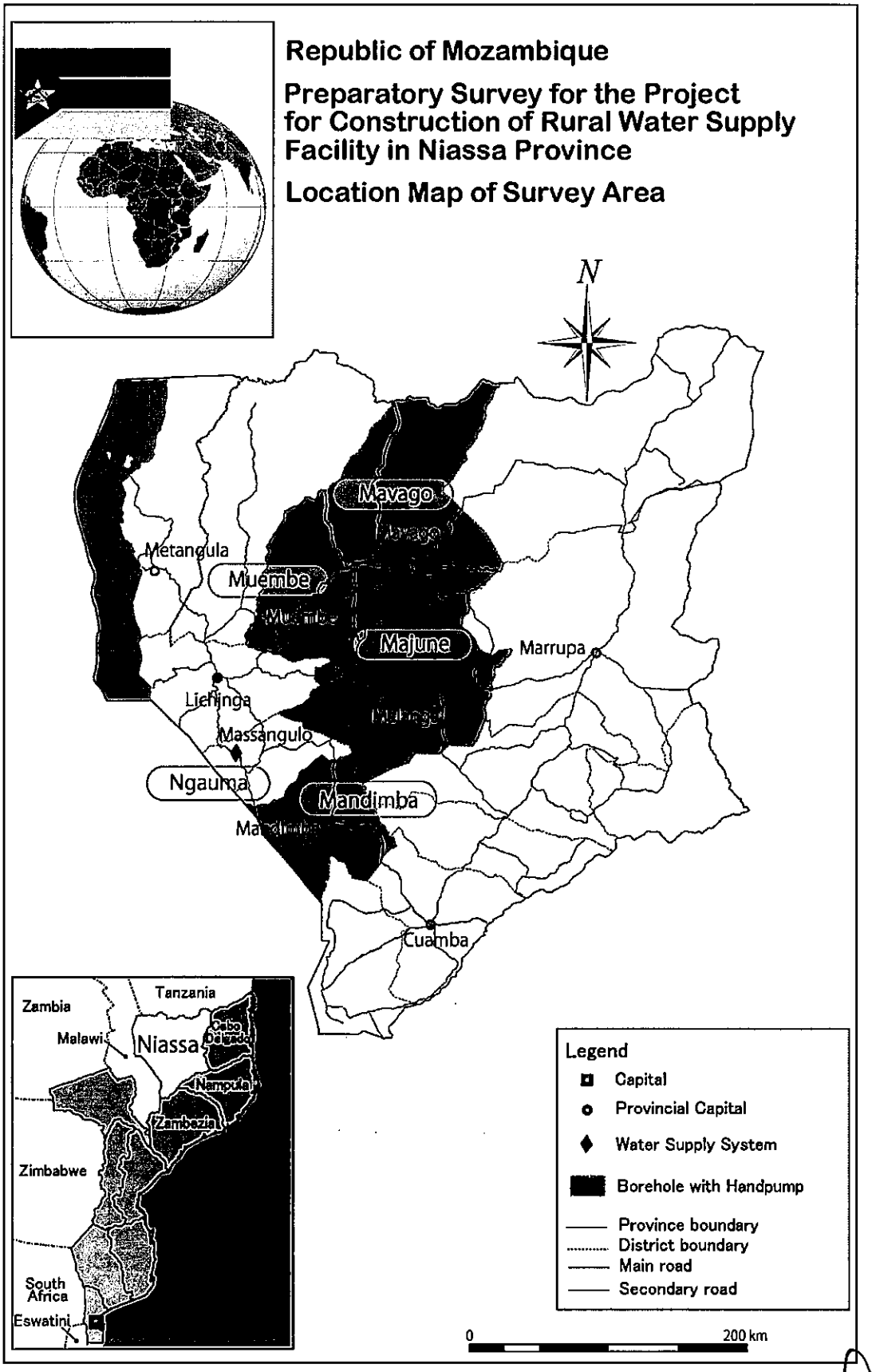
4) JICA will transfer responsibility for conservation of production wells to Mozambican side before the end of the preparatory survey. Mozambican side will transfer the responsibility to Japanese contractor during the implementation stage.
5) In the case that the production wells were inadequate to use for piped water scheme e.g. due to changing condition of aquifer and seasonal change by spontaneous and inevitable accident and/or force majeure, Mozambican side and Japanese side will discuss counter action to take for each case.
6) In the case that the production wells were damaged or become unavailable e.g. due to intentional damaging action by residents and it results in re-drilling or rehabilitating wells during the period Mozambican side has responsibility for conservation of production wells, Mozambican side takes all the responsibility for counter action.

9-8. In the scheme of Japanese Grant, the government of the recipient shall ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient with respect to the purchase of the products and/or the services be exempted or be borne by its designated authority without using the grant and its accrued interest, since the grant fund comes from the Japanese taxpayers.
Thus, the details of taxes, e.g. names, tax rates, calculation methods, relevant laws/regulations, etc., and the processes for the exemption and/or for a designated authority to bear them will be confirmed during the Project. DNAAS will obtain necessary information from relevant Ministries and provide the Team with necessary supports such as provision and access to relevant information, arrangement of meeting with relevant organizations on time manner.

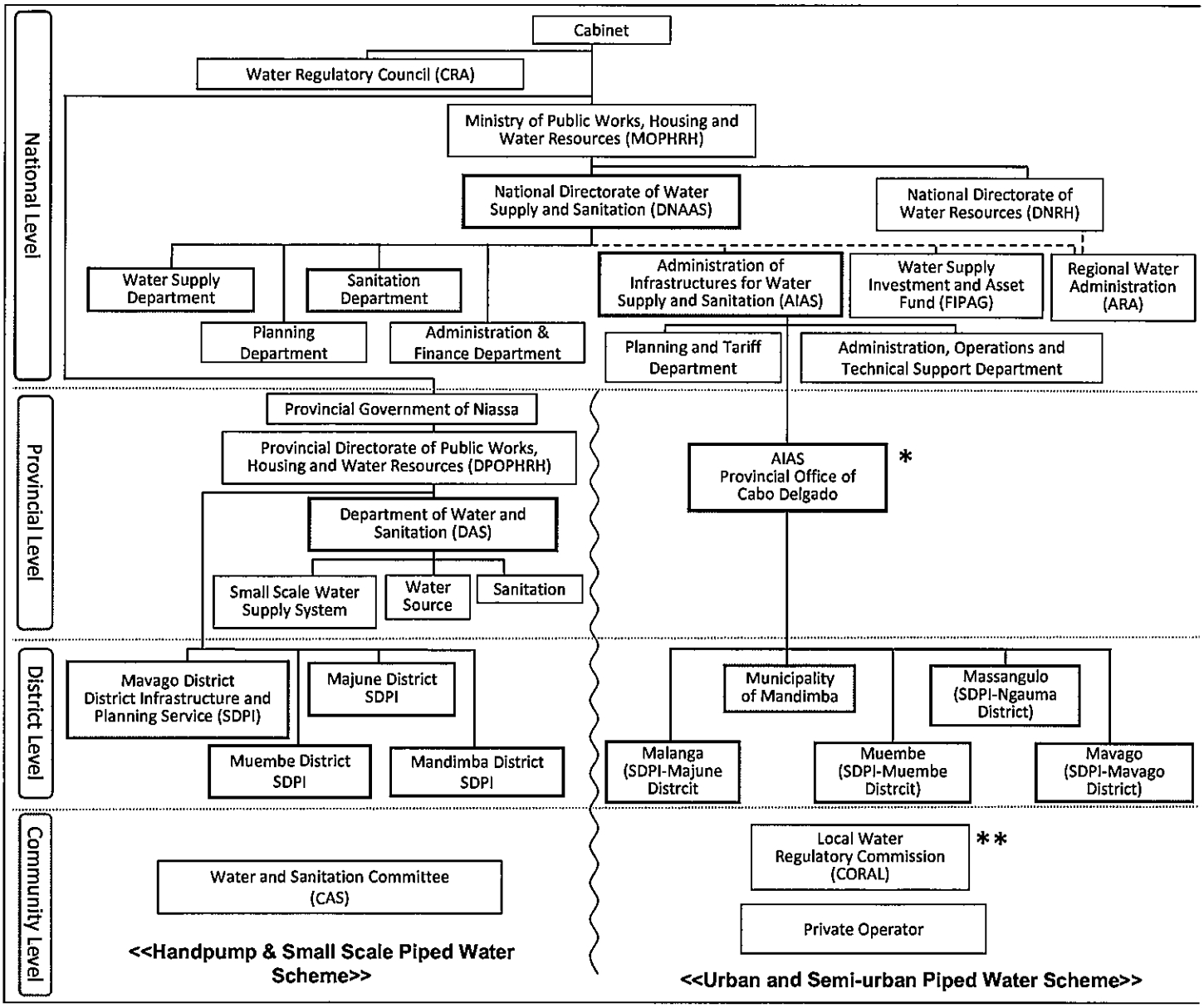
9-9. In Niassa Province, JICA is planning to implement projects, one in health and the other in agriculture besides the Project. These two projects will contribute to improvement of nutrition state in Niassa Province. To formulate these two projects, a baseline survey is to be conducted in Muembe and Majune District in Niassa Province. It will not affect site selection on the Project. The Government of Mozambique is encouraged to cooperate the survey to expect the further improvement of nutrition

state.

Annex 1 Project Site
Annex 2 Implementing Organization Structure
Annex 3 Japanese Grant
Annex 4 Project Monitoring Report (template)
Annex 5 Major Undertakings to be taken by the Government of Mozambique
Annex 6 List of the Project Candidate Sites for Boreholes with Hand Pump


Republic of Mozambique
Preparatory Survey for the Project for Construction of Rural Water Supply Facility in Niassa Province
Location Map of Survey Area
N
Mavago
Metangula
Muembe
Majune
Marrupa
Lichinga
Massangulo
Ngauma
Mandimba
Cuamba
Zambia
Tanzania
Malawi
Niassa
Cabo Delgado
Nampula
Zambezia
Zimbabwe
South Africa
Eswatini
Legend
Capital
Provincial Capital
Water Supply System
Borehole with Handpump
Province boundary
District boundary
Main road
Secondary road
0
200 km

Implementing Organization Structure



* There is no office of AIAS in Niassa Province.

**A Committee composed of local residents for each water point and plays the role as an agent of CRA.

Remarks:

a) The ones highlighted in Blue are the organizations directly related to this project.

b) The structure maybe will change according to the expected new decentralization rule.

Annex 3

JAPANESE GRANT

The Japanese Grant is non-reimbursable fund provided to a recipient country (hereinafter referred to as "the Recipient") to purchase the products and/or 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. Followings are the basic features of the project grants operated by JICA (hereinafter referred to as "Project Grants").

1. Procedures of Project Grants

Project Grants are conducted through following procedures (See "PROCEDURES OF JAPANESE GRANT" for details):

(1) Preparation

- The Preparatory Survey (hereinafter referred to as "the Survey") conducted by JICA

(2) Appraisal

-Appraisal by the government of Japan (hereinafter referred to as "GOJ") and JICA, and Approval by the Japanese Cabinet

(3) Implementation

Exchange of Notes

-The Notes exchanged between the GOJ and the government of the Recipient

Grant Agreement (hereinafter referred to as "the G/A")

-Agreement concluded between JICA and the Recipient

Banking Arrangement (hereinafter referred to as "the B/A")

-Opening of bank account by the Recipient in a bank in Japan (hereinafter referred to as "the Bank") to receive the grant

Construction works/procurement

-Implementation of the project (hereinafter referred to as "the Project") on the basis of the G/A

(4) Ex-post Monitoring and Evaluation

-Monitoring and evaluation at post-implementation stage

2. Preparatory Survey

(1) Contents of the Survey

The aim of the Survey is to provide basic documents necessary for the appraisal of the 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 necessary for the implementation of the Project.

- Evaluation of the feasibility of the Project to be implemented under the Japanese Grant 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.
- Confirmation of Environmental and Social Considerations

The contents of the original request by the Recipient are not necessarily approved in their initial form. The Outline Design of the Project is confirmed based on the guidelines of the Japanese Grant.

JICA requests the Recipient to take 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 executing agency of the Project. Therefore, the contents of the Project are confirmed by all relevant organizations of the Recipient based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA contracts with (a) 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 feasibility of the Project.

3. Basic Principles of Project Grants

(1) Implementation Stage

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 singed between the GOJ and the Government of the Recipient to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Recipient to define the necessary articles, in accordance with the E/N, to implement the Project, such as conditions of disbursement, responsibilities of the Recipient, and procurement conditions. The terms and conditions generally applicable to the Japanese Grant are stipulated in the "General Terms and Conditions for Japanese Grant (January 2016)."

2) Banking Arrangements (B/A) (See "Financial Flow of Japanese Grant (A/P Type)" for details)

a) The Recipient shall open an account or shall cause its designated authority to open an account under the name of

the Recipient in the Bank, in principle. JICA will disburse the Japanese Grant in Japanese yen for the Recipient to cover the obligations incurred by the Recipient under the verified contracts.

b) The Japanese Grant will be disbursed when payment requests are submitted by the Bank to JICA under an Authorization to Pay (A/P) issued by the Recipient.

3) Procurement Procedure

The products and/or services necessary for the implementation of the Project shall be procured in accordance with JICA's procurement guidelines as stipulated in the G/A.

4) 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 to continue to work on the Project's implementation after the E/N and G/A.

5) Eligible source country

In using the Japanese Grant disbursed by JICA for the purchase of products and/or services, the eligible source countries of such products and/or services shall be Japan and/or the Recipient. The Japanese Grant may be used for the purchase of the products and/or services of a third country as eligible, if necessary, taking into account the quality, competitiveness and economic rationality of products and/or services necessary for achieving the objective of the Project. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm, which enter into contracts with the Recipient, are limited to "Japanese nationals", in principle.

6) Contracts and Concurrence by JICA

The Recipient will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be concurred by JICA in order to be verified as eligible for using the Japanese Grant.

7) Monitoring

The Recipient is required to take their initiative to carefully monitor the progress of the Project in order to ensure its smooth implementation as part of their responsibility in the G/A, and to regularly report to JICA about its status by using the Project Monitoring Report (PMR).

8) Safety Measures

The Recipient must ensure that the safety is highly observed during the implementation of the Project.

9) Construction Quality Control Meeting

Construction Quality Control Meeting (hereinafter referred to as the "Meeting") will be held for quality assurance and smooth implementation of the Works at each stage of the Works. The member of the Meeting will be composed by the Recipient (or executing agency), the Consultant, the Contractor and JICA. The functions of the Meeting are as followings:

a) Sharing information on the objective, concept and conditions of design from the Contractor, before start of construction.

b) Discussing the issues affecting the Works such as modification of the design, test, inspection, safety control and the Client's obligation, during of construction.

(2) Ex-post Monitoring and Evaluation Stage

1) After the project completion, JICA will continue to keep in close contact with the Recipient in order to monitor that the outputs of the Project is used and maintained properly to attain its expected outcomes.

2) In principle, JICA will conduct ex-post evaluation of the Project after three years from the completion. It is required for the Recipient to furnish any necessary information as JICA may reasonably request.

(3) Others

1) Environmental and Social Considerations

The Recipient shall carefully consider environmental and social impacts by the Project and must comply with the environmental regulations of the Recipient and JICA Guidelines for Environmental and Social Considerations (April, 2010).

2) Major undertakings to be taken by the Government of the Recipient

For the smooth and proper implementation of the Project, the Recipient is required to undertake necessary measures including land acquisition, and bear an advising commission of the A/P and payment commissions paid to the Bank as agreed with the GOJ and/or JICA. The Government of the Recipient shall ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the Recipient with respect to the purchase of the Products and/or the Services be exempted or be borne by its designated authority without using the Grant and its accrued interest, since the grant fund comes from the Japanese taxpayers.

3) Proper Use

The Recipient is required to maintain and use properly and effectively the products and/or services under the Project (including the facilities constructed and the equipment purchased), to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Japanese Grant.

4) Export and Re-export

The products purchased under the Japanese Grant should not be exported or re-exported from the Recipient.

PROCEDURES OF JAPANESE GRANT

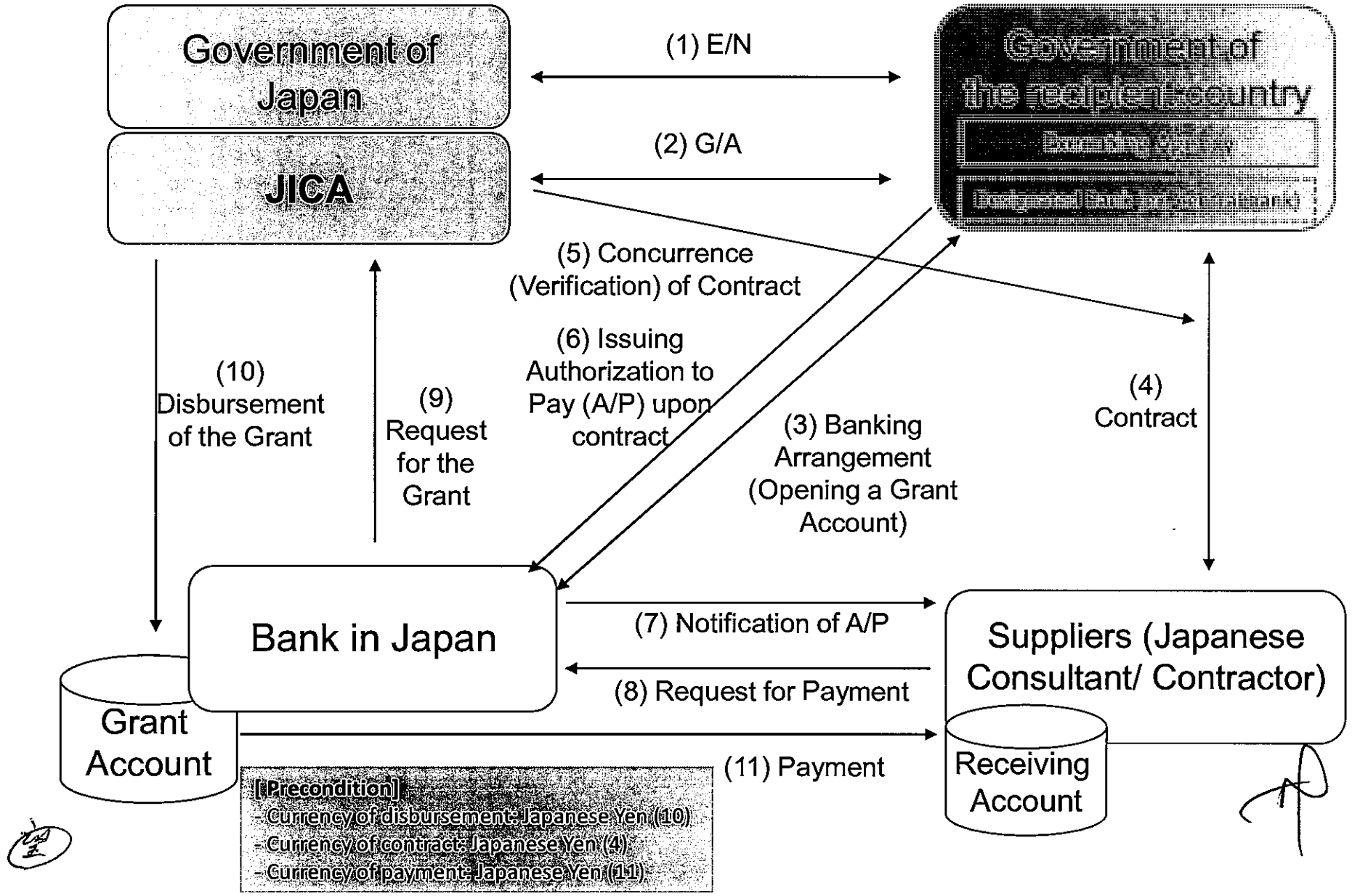
Stage	Procedures	Remarks	Recipient Government	Japanese Government	JICA	Consultants	Contractors	Agent Bank
Official Request	Request for grants through diplomatic channel	Request shall be submitted before appraisal stage.	x	x				
1. Preparation	(1) Preparatory Survey Preparation of outline design and cost estimate		x		x	x		
2. Appraisal	(2)Preparatory Survey Explanation of draft outline design, including cost estimate, undertakings, etc.		x		x	x		
	(3)Agreement on conditions for implementation	Conditions will be explained with the draft notes (E/N) and Grant Agreement (G/A) which will be signed before approval by Japanese government.	x	x (E/N)	x (G/A)			
	(4) Approval by the Japanese cabinet			x				
3. Implementation	(5) Exchange of Notes (E/N)		x	x				
	(6) Signing of Grant Agreement (G/A)		x		x			
	(7) Banking Arrangement (B/A)	Need to be informed to JICA	x					x
	(8) Contracting with consultant and issuance of Authorization to Pay (A/P)	Concurrence by JICA is required	x			x		x
	(9) Detail design (D/D)		x			x		
	(10) Preparation of bidding documents	Concurrence by JICA is required	x			x		
	(11) Bidding	Concurrence by JICA is required	x			x	x	
	(12) Contracting with contractor/supplier and issuance of A/P	Concurrence by JICA is required	x				x	x
	(13) Construction works/procurement	Concurrence by JICA is required for major modification of design and amendment of contracts.	x			x	x	
	(14) Completion certificate		x			x	x	
4. Ex-post monitoring & evaluation	(15) Ex-post monitoring	To be implemented generally after 1, 3, 10 years of completion, subject to change	x		x			
	(16) Ex-post evaluation	To be implemented basically after 3 years of completion	x		x			

notes:

1. Project Monitoring Report and Report for Project Completion shall be submitted to JICA as agreed in the G/A.

2. Concurrence by JICA is required for allocation of grant for remaining amount and/or contingencies as agreed in the G/A.

Financial Flow of Japanese Grant (A/P Type)



Project Monitoring Report
on
Project Name
Grant Agreement No. XXXXXXX

20XX, Month

Organizational Information

Signer of the G/A (Recipient)	Person in Charge (Designation) Contacts Address: Phone/FAX: Email:
Executing Agency	Person in Charge (Designation) Contacts Address: Phone/FAX: Email:
Line Ministry	Person in Charge (Designation) Contacts Address: Phone/FAX: Email:

General Information:

Project Title	

E/N	Signed date: Duration:
G/A	Signed date: Duration:
Source of Finance	Government of Japan: Not exceeding JPY _____ mil. Government of (_____): _____

1: Project Description

1-1 Project Objective

1-2 Project Rationale

- Higher-level objectives to which the project contributes (national/regional/sectoral policies and strategies)
- Situation of the target groups to which the project addresses

1-3 Indicators for measurement of "Effectiveness"

Quantitative indicators to measure the attainment of project objectives		
Indicators	Original (Yr)	Target (Yr)
Qualitative indicators to measure the attainment of project objectives		

2: Details of the Project

2-1 Location

Components	Original *(proposed in the outline design)*	Actual
1.		

2-2 Scope of the work

Components	Original* *(proposed in the outline design)*	Actual*
1.		

Reasons for modification of scope (if any).

(PMR)

2-3 Implementation Schedule

Items	Original		Actual
	(proposed in the outline design)	*(at the time of signing the Grant Agreement)*	

Reasons for any changes of the schedule, and their effects on the project (if any)

2-4 Obligations by the Recipient

2-4-1 Progress of Specific Obligations

See Attachment 2.

2-4-2 Activities

See Attachment 3.

2-4-3 Report on RD

See Attachment 11.

2-5 Project Cost

2-5-1 Cost borne by the Grant(Confidential until the Bidding)

Components			Cost (Million Yen)	
	Original *(proposed in the outline design)*	Actual *(in case of any modification)*	Original[1),2)] *(proposed in the outline design)*	Actual
	1.			
Total				

Note: 1) Date of estimation:
2) Exchange rate: 1 US Dollar = Yen

2-5-2 Cost borne by the Recipient

Components			Cost (1,000 Taka)	
	Original *(proposed in the outline design)*	Actual *(in case of any modification)*	Original[1),2)] *(proposed in the outline design)*	Actual
	1.			

Note: 1) Date of estimation:
2) Exchange rate: 1 US Dollar =

Reasons for the remarkable gaps between the original and actual cost, and the countermeasures (if any)

(PMR)

2-6 Executing Agency

- Organization's role, financial position, capacity, cost recovery etc,
- Organization Chart including the unit in charge of the implementation and number of employees.

Original *(at the time of outline design)* name: role: financial situation: institutional and organizational arrangement (organogram): human resources (number and ability of staff):
Actual *(PMR)*

2-7 Environmental and Social Impacts

- The results of environmental monitoring based on Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- The results of social monitoring based on in Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- Disclosed information related to results of environmental and social monitoring to local stakeholders (whenever applicable).

3: Operation and Maintenance (O&M)

3-1 Physical Arrangement

- Plan for O&M (number and skills of the staff in the responsible division or section, availability of manuals and guidelines, availability of spareparts, etc.)

Original *(at the time of outline design)*
Actual *(PMR)*

3-2 Budgetary Arrangement

- Required O&M cost and actual budget allocation for O&M

Original *(at the time of outline design)*
Actual *(PMR)*

4: Potential Risks and Mitigation Measures

- Potential risks which may affect the project implementation, attainment of objectives, sustainability
- Mitigation measures corresponding to the potential risks

Assessment of Potential Risks *(at the time of outline design)*

Potential Risks	Assessment
1. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
2. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
3. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:

	Action required during the implementation stage:
	Contingency Plan (if applicable):
Actual Situation and Countermeasures	
(PMR)	

5: Evaluation and Monitoring Plan (after the work completion)

5-1 Overall evaluation

Please describe your overall evaluation on the project.

5-2 Lessons Learnt and Recommendations

Please raise any lessons learned from the project experience, which might be valuable for the future assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

5-3 Monitoring Plan of the Indicators for Post-Evaluation

Please describe monitoring methods, section(s)/department(s) in charge of monitoring, frequency, the term to monitor the indicators stipulated in 1-3.

Attachment

1. Project Location Map
2. Specific obligations of the Recipient which will not be funded with the Grant
3. Monthly Report submitted by the Consultant

Appendix - Photocopy of Contractor's Progress Report (if any)
- Consultant Member List
- Contractor's Main Staff List

4. Check list for the Contract (including Record of Amendment of the Contract/Agreement and Schedule of Payment)
5. Environmental Monitoring Form / Social Monitoring Form
6. Monitoring sheet on price of specified materials (Quarterly)
7. Report on Proportion of Procurement (Recipient Country, Japan and Third Countries) (PMR (final)only)
8. Pictures (by JPEG style by CD-R) (PMR (final)only)
9. Equipment List (PMR (final)only)
10. Drawing (PMR (final)only)
11. Report on RD (After project)

Monitoring sheet on price of specified materials

1. Initial Conditions (Confirmed)

	Items of Specified Materials	Initial Volume A	Initial Unit Price (¥) B	Initial total Price C=A×B	1% of Contract Price D	Condition of payment	
						Price (Decreased) E=C−D	Price (Increased) F=C+D
1	Item 1	●●t	●	●	●	●	●
2	Item 2	●●t	●	●	●		
3	Item 3						
4	Item 4						
5	Item 5						

2. Monitoring of the Unit Price of Specified Materials
(1) Method of Monitoring : ●●

(2) Result of the Monitoring Survey on Unit Price for each specified materials

	Items of Specified Materials	1st ●month, 2015	2nd ●month, 2015	3rd ●month, 2015	4th	5th	6th
1	Item 1						
2	Item 2						
3	Item 3						
4	Item 4						
5	Item 5						

(3) Summary of Discussion with Contractor (if necessary)
-
-
-

A4-25

Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)
(Actual Expenditure by Construction and Equipment each)

	Domestic Procurement (Recipient Country) A	Foreign Procurement (Japan) B	Foreign Procurement (Third Countries) C	Total D
Construction Cost	(A/D%)	(B/D%)	(C/D%)	
Direct Construction Cost	(A/D%)	(B/D%)	(C/D%)	
others	(A/D%)	(B/D%)	(C/D%)	
Equipment Cost	(A/D%)	(B/D%)	(C/D%)	
Design and Supervision Cost	(A/D%)	(B/D%)	(C/D%)	
Total	(A/D%)	(B/D%)	(C/D%)	

A4-26

Annex 5

Major Undertakings to be taken by the Government of Mozambique (Draft)

1. Specific obligations of the Government of Mozambique which will not be funded with the Grant

(1) Before the Tender

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To open bank account (Banking Arrangement（B/A）)	Within 1 month after the signing of the G/A	DNAAS		
2	To issue Authorization to Pay (A/P) to a bank in Japan (the Agent Bank) for the payment to the consultant	Within 1 month after the signing of the contract	DNAAS		
3	To bear the following commissions to a bank in Japan for the banking services based upon the B/A 1) Advising commission of A/P 2) Payment commission for A/P	1) Within 1 month after the signing of the contract 2) Every payment	DNAAS		
4	To obtain approval of EIA	Before the third survey (Dec.2019)	DNAAS		
5-1	To secure lands	Before notice of the bidding document	DNAAS		
5-2	To secure the necessary budget and implement land acquisition, and compensation with full replacement cost in accordance with Abbreviated RAP or RAP	Before notice of the bidding document	DNAAS		
5-3	To implement social monitoring, and to submit the monitoring results to JICA, by using the monitoring form, monthly	Till land acquisition completes	DNAAS		
6	To assign counterparts for the Survey Team during detail design survey	Soon after starting detail design survey	DNAAS		
7	To submit Project Monitoring Report (with the result of Detail Design)	before preparation of bidding document(s)	DNAAS		

(2) During the Project Implementation

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the contractors	Within 1 month after contract(s) signing	DNAAS		
2	To bear the following commissions to a bank of Japan for the banking services based upon the B/A 1) Advising commission of A/P 2) Payment commission for A/P	1) Within 1 month after the singing of the contract(s) 2) Every payment	DNAAS		
3	To ensure prompt customs clearance and assist the Contractor(s) with internal transportation in recipient country	During the project	DNAAS		
4	To accord Japanese nationals and/or physical persons of third countries (main contractors, subcontractors, supplies and consultants) 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 country of the Recipient and stay therein for the performance of their work. The Recipient implements this project in accordance with Regulation of the Mechanisms and Procedures of Employment of foreign Workers stipulated in article 12 "Investment Projects" on the decree No. 37/2016, August 31, 2016. Working status for the Project shall be preceded as a contract for the investment Project approved by the Recipient Government stipulated in Article 12 on the degree No. 37/2016, August 31, 2016. The possible number of Japanese nationals and/or physical persons of third countries are XX* persons while the number of persons of Recipient country is XX*. If the above number of Japanese nationals and/or physical persons of third countries exceed than the Project shall apply for Working Permit Authorization Regime stipulated in article 16, 17, 18 and 19 on the degree No. 37/2016, August 31, 2016.	during the Project	DNAAS	-	
5	To accord Japanese nationals and/or physical persons of third countries whose services may be required in connection with the supply of the products and services under the verified contract such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work、 and move access the states within the country.	During the project	DNAAS		
6	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the Products and/or the Services be borne by its designated authority without using the Grant.	During the project	DNAAS		
7	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	During the project	DNAAS		
8	To submit the Project Monitoring Report	Every month	DNAAS		
9	To submit Project Monitoring Report (final)	Within one month after signing of Certificate of Completion for the works under the contract(s)	DNAAS		
10	To submit a report concerning completion of the Project	Within six months after completion of the Project	DNAAS		

* the Number will be decided by January 2020.

NO	Items	Deadline	In charge	Estimated Cost	Ref.
11	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the site(s)	3 months before completion of the construction	DNAAS		
12	To assign supervisor during the construction period	During the project	DNAAS		
13	To assign counterparts for the soft-component activities	During the project	DNAAS		
14	To conduct public relations activities in both national level and state level in Mozambique by utilizing the occasion of the handover ceremony of the facilities.	During the project	DNAAS		

(3) After the Project

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid 1) Allocation of maintenance cost 2) Operation and maintenance structure 3) Routine check/Periodic inspection	After completion of the construction	DNAAS		

2. Other obligations of the Government of Mozambique funded with the Grant

NO	Items	Deadline	Amount (Million Japanese Yen)*
1			
2			
	Total		

* The Amount is provisional. This is subject to the approval of the Government of Japan.

Annex 6

REPÚBLICA DE MOÇAMBIQUE
GOVERNO DA PROVÍNCIA DO NIASSA
DIRECÇÃO PROVINCIAL DAS OBRAS PÚBLICAS, HABITAÇÃO E RECURSOS HÍDRICOS DO NIASSA

LIST OF THE PROJECT CANDIDATE SITES FOR BOREHOLE WITH HAND PUMP

DISTRITOS	POSTO ADMINISTRATIVO	COMUNIDADES	CONSTRUÇÃO
MAVAGO	**MAVAGO SEDE**	Luatize	1
		Maolela	1
		Mataka	3
		Ibo	3
		Lipembo	1
		Lucuissi	1
		Nsacalange	1
		1° de Maio	2
		Ntacudja	1
		Lijombo	2
	MSAWIZE	Matukuta	2
		Mangupenge	2
		Mbangala	1
		SUB TOTAL (13 comunidades)	**21**
MUEMBE	**MUEMBE-SEDE**	Nzizi –Sede	4
		Muembe-Sede	0
		Lipula	4
		Namanolo	5
		Ntuta	6
		Ntiule	4
		Licondaga	4
		Mercado Novo	2
		Namuela	6
		Ncali	4
		Ncalange	1
		Bairro Radio	1
		Butiama	2
		Lutuesse-Sede	4
		Lucheta	2
		Luguesi	2
		Lussegeue	2
		Cassuide	2
		Lundale	2
		Chipala	2
		Mussafa	2
		Chiumbe	2

DISTRITOS	POSTO ADMINISTRATIVO	COMUNIDADES	CONSTRUÇÃO
		Chicunja	2
		Licuvi	2
		Matitima	2
		Chitala	2
	CHICONONO	Liuamabili	4
		Chiuanjota	4
		Ligogolo	2
		Sienene	4
		Longolela	2
		Ndidti	2
		SUB TOTAL (32 comunidades)	**89**
MAJUNE	**MALANGA**	B.Chissano	1
		Muamona	1
		Canjessa	1
		Majassuela	1
		Luambala	3
		Bairro Esperanca	1
		Expansao	1
		Simango	1
		Muchilipo	1
		Muhata	3
		Malila	6
		Matucuta	4
		Namitunda	3
		Issa Malanga	1
		Mitomone	3
		Ndima	1
		Malanga bairro	0
		Chipuipui	0
		Lizombe	0
		Centro de Saude Mitomone	0
		Bairro-Manhenge	0
	MUAQUIA	Pindura2	1
		Nacavaloca	1
		Riate sede	1
		Nicuresse	0
	NAIRUBI	Palombe	1
		Tteniua	1
		Nacuca	1
		Culue	1
		Marivata	1
		Nambilange sede	1
		Mapichite	1
		Palombe	0
		Mercado	0
		Igreja	0

DISTRITOS	POSTO ADMINISTRATIVO	COMUNIDADES	CONSTRUÇÃO
		SUB TOTAL (35 comunidades)	**42**
MANDIMBA	**MANDIMBA SEDE (LISSIETE)**	Malinde	1
		Licuacua	1
		Nlocote II	1
		Mpitilila	1
		Songela	1
		Lilonga	1
		Massonga	1
		Cachepa	1
		Tambala Chome/Malivira	1
		Chamba	1
		Nselema	0
		Mbungo	1
		Daua	1
		Sefo	1
		Nongone	1
		Centro de Saúde	0
		Socone	1
		Ngumbe	1
		Mbone	1
		Mbone	1
		Niquisse	1
		Saize	1
		Massocossi	1
		Maluvila	1
		Micomeia	1
		Mpanga	1
		Nambua	1
		Tsotsoma	1
		Ndogo	1
		Puiamuene	1
		Buanado	1
		Madeira	1
		Muamade	1
		Chale	2
		Mpatila	1
		7 de Abril	1
		Ncuezo	1
		Nhungua	1
		Chande	1
		Ussi	1
		Malinde	1
	MITANDE	Cuphia II	1
		Minicua	1
		Nicomo II	1
		Namuhaia	1
		Mepapaia	1

DISTRITOS	POSTO ADMINISTRATIVO	COMUNIDADES	CONSTRUÇÃO
		Musserepa	1
		Muheia	1
		Mpote	1
		Niuaquela	1
		Macassa	1
		Chipa	1
		Mario	1
		Torosso	1
		Mapururu	1
		Muheia	1
		Muitia	1
		Yute	1
		Minicua	1
		Mepepeia	1
		Nicomo II	1
		Calicumbe	1
		SUBTOTAL (62 comunidades)	**61**
		TOTAL GERAL (142 comunidades)	**213**

DEPARTAMENTO DE ÁGUA E SANEAMENTO

MINUTES OF DISCUSSIONS
ON
THE SECOND PREPARATORY SURVEY
FOR
THE PROJECT FOR CONSTRUCTION OF RURAL WATER SUPPLY FACILITY IN NIASSA PROVINCE, REPUBLIC OF MOZAMBIQUE

Based on the several preliminary discussions between the Government of Republic of Mozambique (hereinafter referred to as "Government of Mozambique") and JICA Mozambique Office, Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the 2nd Preparatory Survey Team for the Outline Design (hereinafter referred to as "the Team") of the Project for Construction of Rural Water Supply Facility in Niassa Province, Republic of Mozambique (hereinafter referred to as "the Project") to Mozambique. The Team held a series of discussions with the officials of the Government of Mozambique. In the course of the discussions, both sides have confirmed the main items described in the attached sheets.

Maputo, June 19, 2019

望戸昌親

Mr. Masami MOKO
Team Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan

Nilton Trindade

Mr. Nilton Sérgio Rebelo TRINDADE
National Director,
National Directorate of Water Supply and Sanitation, DNAAS
Ministry of Public Works, Housing and Water Resources
The Republic of Mozambique

ATTACHMENT

1. Progress of the Preparatory Survey

   The Team explained the progress of the survey based on the Minutes of Discussion on Preparatory Survey for the Project for Construction of Rural Water Supply Facility in Niassa Province (hereinafter referred to as "M/D1") and submitted the report to Mozambican side. Mozambican side understood and accepted it.

2. Water Discharge for Piped Water Scheme

   M/D1 refers that criteria of test borehole to be production borehole is whether the water discharge and quality is "adequate" for piped water scheme. In this context, the minimum adequate discharge is defined as $3m^3/h$. In addition, even if the case that water discharge is slightly less than $3m^3/h$, concerned parties will discuss whether to utilize the test boreholes as production boreholes.

3. List of the Priority Sites for Boreholes with Hand Pump

   Both sides agreed that boreholes with hand pump will be constructed in accordance with the list shown Annex 1 based on the result of the survey.

4. Selecting Method and Procedures for Boreholes with Hand Pump

   Both sides confirmed the selecting method and procedures for construction of boreholes with hand pump as follows;

   a) Out of one hundred (100) sites, twenty five (25) sites for boreholes with hand pump are allocated in each District on an equal basis and are drilled in accordance with the priority for the Project candidate sites of borehole with hand pump in each district shown as Annex 1.
   b) When the first twenty five (25) boreholes with hand pump in each District on Annex 1 are not able to be completed, the procedure on Annex 2 will be implemented.

5. Candidate Sites Located in Mavago District

   Five (5) candidate sites for boreholes with hand pump are located in Niassa National Reserve in Mavago District. Both sides agreed that the final decision whether these sites remain as candidate sites will be made in accordance with the result of pre-evaluation of Provincial Directorate of Land, Environment and Rural Development (hereinafter referred to as "DPTADER") of Niassa Province and assessment of JICA

Credit Risk Analysis and Environmental Review Department.

6. Reconfirmation of Undertakings by Mozambican Side

On Annex 5 of M/D1, undertakings by Mozambican side were confirmed. Both sides reconfirmed the major undertakings by Mozambican side on the following points;

a) Tax exemption,
b) Obtaining the Environmental License of DPTADER,
c) Constructing the access road from the public road to the facilities if necessary,
d) Securing lands for boreholes, machinery houses, elevated tanks and other relevant facilities, and
e) Supporting to obtain the necessary permission and agreements with concerned parties.

7. Request from Mozambican Side

As mentioned above, both sides agreed the item undertaken by Mozambican side in Japanese Grant Aid Project on Annex 5 of M/D1. However, Mozambican side requested to Japanese side to include the following three points in the Project, due to the two cyclones (Idai and Kenneth) that have been causing serious damage to the country. The team understood the current situation in Mozambique and will examine the possibility during the survey.

a) House connection with water meter
b) Power line to the facilities of piped water scheme
c) Preparing room for security guards and constructing fences to protect main facilities (such as machinery houses, elevated tanks and boreholes)

8. Adaptation Measure for Climate Change

Both sides discussed on existence of climate change record and impact forecast (such as drought and flood), and the measures for climate change taken by Government of Mozambique. Facilities constructed in the Project are expected to be resilience to natural disaster by climate change especially drought. It is also expected to contribute to Mozambican Nationally Determined Contributions (NDC) and new National Rural Water Supply Program (PRONASAR). Both sides agreed that the Project will be taken as adaptation measure for climate change.

Annex 1: List of the Priority Sites for Boreholes with Hand Pump
Annex 2: Procedures for Alternative Sites and Measures in Negative Boreholes

Annex 1

List of the Priority Sites for Boreholes with Hand Pump

MUEMBE							
Code	District	Administrative Post	Community	Population without safe water	Priority	Result of Selection	No. of New Boreholes
MB-01	Muembe	Muembe Sede	Namamba	4,030	1	Project	1
MB-02	Muembe	Muembe Sede	Namanolo 1	3,200	2	Project	1
MB-03	Muembe	Muembe Sede	Lutuesse Sede	2,604	3	Project	1
MB-04	Muembe	Muembe Sede	Lussegeue	2,576	4	Project	1
MB-05	Muembe	Chiconono	Ligogolo	2,540	5	Project	1
MB-06	Muembe	Muembe Sede	Namanolo 2	2,000	6	Project	1
MB-07	Muembe	Muembe Sede	Lipula	1,800	7	Project	1
MB-08	Muembe	Muembe Sede	Nziz-Sede	1,730	8	Project	1
MB-09	Muembe	Chiconono	Sienene	1,287	9	Project	1
MB-10	Muembe	Chiconono	Liuamabili	1,000	10	Project	1
MB-11	Muembe	Muembe Sede	Massagide	975	11	Project	1
MB-12	Muembe	Muembe Sede	Ntiule	975	12	Project	1
MB-13	Muembe	Muembe Sede	Lundale	920	13	Project	1
MB-14	Muembe	Muembe Sede	Luguesi	825	14	Project	1
MB-15	Muembe	Muembe Sede	Butiama	771	15	Project	1
MB-16	Muembe	Muembe Sede	Matitima	652	16	Project	1
MB-17	Muembe	Chiconono	Ngalinge	600	17	Project	1
MB-18	Muembe	Chiconono	Ntamila	530	18	Project	1
MB-19	Muembe	Chiconono	Chiuajota	475	19	Project	1
MB-20	Muembe	Muembe Sede	Chipala	468	20	Project	1
MB-21	Muembe	Muembe Sede	Cassuide	427	21	Project	1
MB-22	Muembe	Muembe Sede	Mussafa	251	22	Project	1
MB-23	Muembe	Chiconono	Lissanje	250	23	Project	1
MB-24	Muembe	Muembe Sede	Nagazu	210	24	Project	1
MB-25	Muembe	Chiconono	Nditi	138	25	Project	1
MB-26	Muembe	Muembe Sede	Chitala	120	26	Alternativo	-
MB-27	Muembe	Muembe Sede	Chiumbe	Low demand of safe water		Cancelled	-
MB-28	Muembe	Chiconono	Longolela	Low demand of safe water		Cancelled	-
MB-29	Muembe	Muembe Sede	Lucheta	Low demand of safe water		Cancelled	-
MB-30	Muembe	Muembe Sede	Licuvi	Low demand of safe water, low willingness to pay for O&M		Cancelled	-
MB-31	Muembe	Muembe Sede	Chicunja	Low demand of safe water, low willingness to pay for O&M		Cancelled	-
						Total	25

MAVAGO							
Code	District	Administrative Post	Community	Population without safe water	Priority	Result of Selection	No. of New Boreholes
MV-01	Mavago	Msawize	Mangupenge	1,566	1	Project	3
MV-02	Mavago	Mavago Sede	Lucuissi	1,362	2	Project	2
MV-03	Mavago	Msawize	Mbangala	1,182	3	Project	2
MV-04	Mavago	Mavago Sede	Ntacudja	1,170	4	Project	2
MV-05	Mavago	Mavago Sede	Mbuio	900	5	Project	2
MV-06	Mavago	Msawize	Matukuta	790	6	Project	2
MV-07	Mavago	Mavago Sede	Matumbi	752	7	Project	2
MV-08	Mavago	Mavago Sede	Nsacalange	718	8	Project	2
MV-09	Mavago	Mavago Sede	Mitacala	715	9	Project	2
MV-10	Mavago	Mavago Sede	Lipembo	612	10	Project	2
MV-11	Mavago	Mavago Sede	Ntambu	603	11	Project	2
MV-12	Mavago	Mavago Sede	Ligogo	545	12	Project	2
MV-13	Mavago	Mavago Sede	Luatize	Absence of population		Cancelled	-
						Total	25

MAJUNE							
Code	District	Administrative Post	Community	Population without safe water	Priority	Result of Selection	No. of New Boreholes
MJ-01	Majune	Malanga	Malila	6,008	1	Project	2
MJ-02	Majune	Malanga	Mitomone	5,965	2	Project	2
MJ-03	Majune	Nairubi	Mapichite	4,025	3	Project	2
MJ-04	Majune	Malanga	Namitunda	3,890	4	Project	2
MJ-05	Majune	Malanga	Matukuta	1,725	5	Project	1
MJ-06	Majune	Malanga	Lugenda	858	6	Project	1
MJ-07	Majune	Malanga	Lizombe (Escola EPC)	579	7	Project	1
MJ-08	Majune	Malanga	Majassuela	565	8	Project	1
MJ-09	Majune	Nairubi	Palombe	448	9	Project	1
MJ-10	Majune	Nairubi	Nambilange Sede	421	10	Project	1
MJ-11	Majune	Nairubi	Ttenlua	340	11	Project	1
MJ-12	Majune	Nairubi	Marivata	304	12	Project	1
MJ-13	Majune	Malanga	Muamona	289	13	Project	1
MJ-14	Majune	Muaquia	Pindura 2	260	14	Project	1
MJ-15	Majune	Malanga	Bairro Chissano	260	15	Project	1
MJ-16	Majune	Malanga	Canjessa	192	16	Project	1
MJ-17	Majune	Malanga	Ndima	168	17	Project	1
MJ-18	Majune	Muaquia	Riate Sede	162	18	Project	1
MJ-19	Majune	Muaquia	Nacavaloca	158	19	Project	1
MJ-20	Majune	Nairubi	Culue	155	20	Project	1
MJ-21	Majune	Malanga	Issa Malanga	108	21	Project	1
MJ-22	Majune	Nairubi	Nacuca	Low demand of safe water		Cancelled	-
MJ-23	Majune	Malanga	Bairro Esperança	Duplication with WSS		Cancelled	-
MJ-24	Majune	Malanga	Simango	Duplication with WSS		Cancelled	-
MJ-25	Majune	Malanga	Bairro expansão	Duplication with WSS		Cancelled	-
						Total	25

MANDIMBA							
Code	District	Administrative Post	Community	Population without safe water	Priority	Result of Selection	No. of New Boreholes
MD-01	Mandimba	Mandimba Sede	Socone	12,400	1	Project	1
MD-02	Mandimba	Mitande	Mepapaia	3,750	2	Project	1
MD-03	Mandimba	Mitande	Namuhaia	2,380	3	Project	1
MD-04	Mandimba	Mitande	Cuphia 2	2,047	4	Project	1
MD-05	Mandimba	Mitande	Muitia	1,904	5	Project	1
MD-06	Mandimba	Mitande	Musserepa	1,885	6	Project	1
MD-07	Mandimba	Mandimba Sede	Licuacua	1,861	7	Project	1
MD-08	Mandimba	Mitande	Capito	1,635	8	Project	1
MD-09	Mandimba	Mitande	Cuchirimba	1,506	9	Project	1
MD-10	Mandimba	Mitande	Chipa	1,450	10	Project	1
MD-11	Mandimba	Mandimba Sede	Ndogo	1,421	11	Project	1
MD-12	Mandimba	Mitande	Mário	1,300	12	Project	1
MD-13	Mandimba	Mitande	Nicomo 1	1,020	13	Project	1
MD-14	Mandimba	Mandimba Sede	Muamade	977	14	Project	1
MD-15	Mandimba	Mandimba Sede	Daua	869	15	Project	1
MD-16	Mandimba	Mitande	Nicupa	845	16	Project	1
MD-17	Mandimba	Mandimba Sede	Songela	780	17	Project	1
MD-18	Mandimba	Mitande	Muheia	682	18	Project	1
MD-19	Mandimba	Mandimba Sede	Ncuezo	678	19	Project	1
MD-20	Mandimba	Mandimba Sede	Lissimba	676	20	Project	1
MD-21	Mandimba	Mandimba Sede	Saize	651	21	Project	1
MD-22	Mandimba	Mitande	Yute	650	22	Project	1
MD-23	Mandimba	Mandimba Sede	Issa	638	23	Project	1
MD-24	Mandimba	Mitande	Niuaquela	581	24	Project	1
MD-25	Mandimba	Mitande	Namahassa	580	25	Project	1
MD-26	Mandimba	Mandimba Sede	Mpitilila	575	26	Alternativo	-
MD-27	Mandimba	Mandimba Sede	Nongone	552	27	Alternativo	-
MD-28	Mandimba	Mitande	Mpote	533	28	Alternativo	-
MD-29	Mandimba	Mandimba Sede	Nlocote 2	520	29	Alternativo	-
MD-30	Mandimba	Mandimba Sede	Lilonga	520	30	Alternativo	-
MD-31	Mandimba	Mandimba Sede	Chale	487	31	Alternativo	-
MD-32	Mandimba	Mandimba Sede	Buanado	486	32	Alternativo	-
MD-33	Mandimba	Mandimba Sede	Mbungo	468	33	Alternativo	-
MD-34	Mandimba	Mitande	Mapururu	455	34	Alternativo	-
MD-35	Mandimba	Mitande	Torosso	450	35	Alternativo	-
MD-36	Mandimba	Mitande	Calicumbe	420	36	Alternativo	-
MD-37	Mandimba	Mandimba Sede	Malinde	415	37	Alternativo	-
MD-38	Mandimba	Mandimba Sede	Nhungua	410	38	Alternativo	-
MD-39	Mandimba	Mandimba Sede	Tsotsoma	404	39	Alternativo	-
MD-40	Mandimba	Mandimba Sede	Mpatila	390	40	Alternativo	-
MD-41	Mandimba	Mandimba Sede	Chamba	390	41	Alternativo	-
MD-42	Mandimba	Mandimba Sede	Sefo	385	42	Alternativo	-
MD-43	Mandimba	Mandimba Sede	Maluvila	385	43	Alternativo	-
MD-44	Mandimba	Mandimba Sede	Madeira	380	44	Alternativo	-
MD-45	Mandimba	Mandimba Sede	Puiamuene	364	45	Alternativo	-
MD-46	Mandimba	Mandimba Sede	Cachepa	344	46	Alternativo	-
MD-47	Mandimba	Mandimba Sede	Chande	325	47	Alternativo	-
MD-48	Mandimba	Mandimba Sede	Massonga	325	48	Alternativo	-
MD-49	Mandimba	Mandimba Sede	Niquisse	305	49	Alternativo	-
MD-50	Mandimba	Mandimba Sede	Ngumbe	279	50	Alternativo	-
MD-51	Mandimba	Mandimba Sede	Centro de saúde Lissiete / Ba	276	51	Alternativo	-
MD-52	Mandimba	Mandimba Sede	Mpanga	250	52	Alternativo	-
MD-53	Mandimba	Mandimba Sede	Massocossi	245	53	Alternativo	-
MD-54	Mandimba	Mandimba Sede	Mbone	211	54	Alternativo	-
MD-55	Mandimba	Mandimba Sede	Quenra	208	55	Alternativo	-
MD-56	Mandimba	Mandimba Sede	Ussi	182	56	Alternativo	-
MD-57	Mandimba	Mitande	Nicomo 2	182	57	Alternativo	-
MD-58	Mandimba	Mandimba Sede	7 de Abril	78	58	Alternativo	-
MD-59	Mandimba	Mandimba Sede	Tambala Chome/Malivira	Low demand of safe water		Cancelled	-
MD-60	Mandimba	Mandimba Sede	Numbua	Unified with MD-52		Cancelled	-
MD-61	Mandimba	Mandimba Sede	Micomeia	Community not identified		Cancelled	-
						Total	25

* Máximum 100 boreholes with hand pump

Procedures for Alternative Sites and Measures in Negative Boreholes

List of Community (Borehole with Handpump)

Code	Population without safe water	Priority	Result of Selection	Allocation
MB-01	4,030	1	Project	1
MB-02	3,200	2	Project	1
MB-03	2,604	3	Project	1
			. . .	1
MB-24	210	. . .	. . .	1
MB-25	138	25	Project	1
MB-26	120	26	Alternative	-

1) Drill the first borehole at the communities indicated as 'Project' in the column of 'Result of Selection'.
- Positive Borehole → Install a hand pump and apron → 25 positive boreholes ⇒Completed in the District
- Negative Borehole → 2) Drill the second borehole at the same community.
  - Positive → Install a hand pump and apron → 25 positive boreholes ⇒Completed in the District
  - Negative → 3) If the second borehole is also negative, the drilling work shall be cancelled in such community and the drilling team shall move to the next community. The negative community shall be cancelled from the list of community.

4) In place of the cancelled community above, drill in the 'Alternative' community (example: MB-26 in the list) in accordance with the list of community.
- Positive → Install a hand pump and apron → 25 positive boreholes ⇒Completed in the District
- or
  - 5.a) If there is no 'Alternative' community in the list, or all the alternatives become negative,
  - 5.b) If there are 'Alternative' communities (example MB-26), these shall be replaced as 'Project' communities in place of the cancelled ones (shall be drilled until achieving 25 positive boreholes in the District).
    - Positive → Install a hand pump and apron → 25 positive boreholes ⇒Completed in the District

6) Return to the highest priority community in the list (excluding those already cancelled) for the second round of drilling work following the order of 'Priority'. That is, there will be some communities that will have 2 or more boreholes. However, the following conditions must be fulfilled:
a. Have sufficient demand population (more than 300 people without safe water)
b. Have hydrogeological potential
- Positive → Install a hand pump and apron → 25 positive boreholes ⇒Completed in the District
- Negative → 7) In case many boreholes result in negative, and can not complete 25 positive boreholes in the respective District even following the above mentioned procedures X times...

8) The drilling in such District shall be suspended, and the remaining number of boreholes shall be allocated to another target District. The District that has the lowest access rate to safe water shall be given priority among four target Districts.

Complete Target Number of Positive Boreholes with Hand Pump

MINUTES OF DISCUSSIONS
ON
THE PREPARATORY SURVEY
FOR
THE PROJECT FOR CONSTRUCTION OF RURAL WATER SUPPLY FACILITY IN NIASSA PROVINCE, REPUBLIC OF MOZAMBIQUE
(Explanation on Draft Preparatory Survey Report)

With reference to the minutes of discussions signed between the National Directorate of Water Supply and Sanitation, Ministry of Public Works, Housing and Water Resources (hereinafter referred to as "DNAAS") and Japan International Cooperation Agency (hereinafter referred to as "JICA") on 21st March 2019 and 19th June 2019, and in response to the request from the Government of Republic of Mozambique (hereinafter referred to as "Mozambique") dated 31st July 2019, JICA Preparatory Survey Team (hereinafter referred to as "the Team") explained Draft Preparatory Survey Report (hereinafter referred to as "the Draft Report") for the Project for Construction of Rural Water Supply Facility in Niassa Province, Republic of Mozambique (hereinafter referred to as "the Project").

As a result of the discussions, both sides agreed on the main items described in the attached sheets.

Maputo, 10th September, 2020
Tokyo, 10th September, 2020

Ms. Yoko HATTORI
Team Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan

Mr. Nilton Sérgio Rebelo TRINDADE
National Director,
National Directorate of Water Supply and Sanitation, DNAAS
Ministry of Public Works, Housing and Water Resources
The Republic of Mozambique

ATTACHMENT

1. Objective of the Project

The objective of the Project is to improve the access to safe water in Niassa Province by/through installing water supply facilities thereby contributing to better quality of life environment of people living in Niassa Province.

2. Project Sites

Both sides confirmed that the sites of the Project are as follows and shown in Annex 1;

2-1. Piped Water Scheme

Mandimba Municipality in Mandimba District, Malanga Town in Majune District, Muembe Town in Muembe District, and Mavago Town in Mavago District.

2-2. Boreholes with Hand Pump

Mandimba District, Majune District, Muembe District and Mavago District.

3. Responsible Authority for the Project

Both sides reconfirmed the authority responsible for the Project is as follows:
The National Directorate of Water Supply and Sanitation (hereinafter referred to as "DNAAS") of Ministry of Public Works, Housing and Water Resources will be the executing agency for the Project (hereinafter referred to as "the Executing Agency"). The Executing Agency shall coordinate with all the relevant authorities to ensure smooth implementation of the Project and ensure that the undertakings for the Project shall be managed by relevant authorities properly and on time. The implementing organization structure of the Project is shown in Annex 2.

4. Contents of the Draft Report

After the explanation of the contents of the Draft Report by the Team, Mozambican side agreed to its contents. JICA will finalize the Preparatory Survey Report based on the results of discussion. The report will be sent to the Mozambican side around December 2020.

5. Cost Estimate and Contingency

Both sides confirmed that the cost estimate including the contingency explained by the Team is provisional and will be examined further by the Government of Japan for its approval. The contingency would cover the additional cost against natural disaster

and unexpected natural conditions, etc.

6. Confidentiality of the Cost Estimate and Technical Specifications
Both sides agreed that the cost estimate and technical specifications of the Project should never be disclosed to any third parties until all the contracts under the Project are concluded

7. Procedures and Basic Principal of Japanese Grant
The Mozambican side agreed that the procedures and basic principles of Japanese Grant (hereinafter referred to as "the Grant") as described in Annex 3 shall be applied to the Project. In addition, the Mozambican side agreed to take any necessary measures according to the procedures.

8. Timeline for the Project Implementation
Both side agreed on the expected timeline for the project implementation as attached in Annex 4.

9. Expected Outcomes and Indicators
Both sides agreed that key indicators for expected outcomes are as follows. The Mozambican side will be responsible for the achievement of agreed key indicators targeted in year 2027 and shall monitor the progress for Ex-Post Evaluation based on those indicators.

[Quantitative indicators]

Indicator	Baseline value (2019)	Expected value (2027)
Population served (people)	21,600	86,314
Daily water supply (m^3/day)	456	2,289

[Qualitative indicators]
(1) Reduction of water collection time including waiting time
(2) Reduction of water-borne diseases
(3) Improvement of malnutrition condition in children

10. Ex-post Evaluation
JICA will conduct ex-post evaluation after four (4) years from the project completion, in principle, with respect to five evaluation criteria (Relevance, Effectiveness,

Efficiency, Impact, and Sustainability). The result of the evaluation will be publicized. The Mozambican side is required to provide necessary support for the data collection.

11. Soft Component of the Project

Considering the sustainable operation and maintenance of the facilities and services granted through the Project, the following Soft Components are planned under the Project. The Mozambican side confirmed to assign necessary number of counterparts who are appropriate and competent in terms of its purpose of the soft component as described in the Draft Report and Annex 5:

11-1. Piped Water Scheme

Outline of the soft component is as follows. Objective is to support establishment of the system required to start operation of the water supply facilities, such as the contracting procedures of the private operator.

1. Trainings on Operation and Maintenance of the piped water scheme (for supervision, monitoring, and support activities) for Provincial Service for Infrastructure (hereinafter referred to as "SPI") / Department of Infrastructure Service-Water and Sanitation (hereinafter referred to as "DSI-AS") and SDPIs.
2. Supporting AIAS and SDPIs in signing of house connection (yard tap) contract.
3. Supporting for signing the concession contract between AIAS and Private Operators.

11-2. Boreholes with Hand Pump

Outline of the soft component is as follows. Objective is to support establishment of the community based operation and maintenance system of the water supply facility and hygiene and sanitation promotion.

1. Establishing an organizational structure for management, operation, and maintenance of boreholes with hand pump centered around Water and Sanitation Committee (hereinafter referred to as "CAS").
2. Conducting trainings on Operation and Maintenance of the boreholes with hand pump aimed at CAS and Local Mechanics.
3. Promotion of appropriate use of water and sanitation facilities, and hygiene behavior to local residents. (This will be carried out by taking nutrition improvement into account.)

12. Undertakings of the Project

Both sides confirmed the undertakings of the Project as described in Annex 5. With

regard to exemption of customs duties, internal taxes and other fiscal levies as stipulated in No.6 of "(2) During the Project Implementation" of Annex 5, both sides confirmed that such customs duties, internal taxes and other fiscal levies, shall be clarified in the bid documents by DNAAS during the implementation stage of the Project.

Regarding Personal Income Tax for Japanese physical persons and/or physical persons of third countries (main contractors, subcontractors, suppliers and consultants) and corporate income tax during the implementation of the Project described in Annex 5, JICA side requested DNAAS to bear it. Upon the request, DNAAS agreed to coordinate with the proper institutions.

The Mozambican side assured to take the necessary measures and coordination including allocation of the necessary budget which are preconditions of implementation of the Project. It is further agreed that the costs are indicative, i.e. at Outline Design level. More accurate costs will be calculated at the Detailed Design stage.

Both sides also confirmed that the Annex 5 will be used as an attachment of G/A.

Both sides confirmed that DNAAS shall take necessary measures to ensure and maintain the security of the Project site and the persons related to the implementation of the Project, in cooperation with relevant authorities during the Project period. Such security measures shall reasonably reflect needs of the Consultant/the Contractor engaging in the Project, as shown in Annex 5. Both sides agreed that in case the additional security cost would be necessary for the implementation of the Project, such cost shall be borne by the Recipient without using the Grant.

The Mozambican side assured to secure the budget as described in Annex 5 to maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid after the Project. To secure the sustainable operation and maintenance of these facilities, DNAAS shall continue close communication with relevant organizations such as AIAS, SPI, DPOP and SDPI to supervise their monitoring activities after the Project.

13. Monitoring during the Implementation

The Project will be monitored by the Executing Agency and reported to JICA by using the form of Project Monitoring Report (PMR) attached as Annex 6. The timing of submission of the PMR is described in Annex 5.

14. Environmental and Social Considerations

JICA explained that 'JICA Guidelines for Environmental and Social Considerations (April 2010)' (hereinafter referred to as "the Guidelines") is applicable for the Project. The Project is categorized as C because the Project is likely to have minimal adverse impact on the environment under the Guidelines.

15. Project Completion

Both sides confirmed that the Project completes when all the facilities constructed and equipment procured by the Grant are in operation. The completion of the Project will be reported to JICA promptly, but in any event not later than six months after completion of the Project.

16. Other Relevant Issues

16-1. Disclosure of Information

Both sides confirmed that the Preparatory Survey Report from which project cost is excluded will be disclosed to the public after completion of the Preparatory Survey. The comprehensive report including the project cost will be disclosed to the public after all the contracts under the Project are concluded.

16-2. Both sides confirmed the responsibility of implementation of the Project by type of water supply scheme as follows;

1) AIAS is responsible for the execution of the piped water schemes under the supervision of DNAAS during the project.
2) Provincial Directorate of Public Works of Niassa (hereinafter referred to as "DPOP-Niassa") is responsible for the execution of boreholes with hand pump facility at village level under the supervision of DNAAS during the project.

16-3. Number of test boreholes and procedures for Piped Water Scheme in the detailed design stage

The Team explained that eight (8) borehole sites (Mavago (1), Muembe (2), Mandimba (3), and Majune (2)) were found by the successful test drilling conducted at the Preparatory Survey as shown in Table-2 of Annex 9. Considering the possibility of success, twenty-four (24) test drilling should be conducted in the detailed design stage to secure eight (8) boreholes to be production wells as shown in Table-3 of Annex 9. Since it is an area where groundwater development is difficult, the planned discharge amount per borehole is calculated based on the

result of test drilling of Preparatory Survey and according to the water demand at each site. The borehole will be considered negative if the water quality is inappropriate for drinking purpose nor the discharge is not enough for piped scheme.

If eight (8) boreholes to be production wells are secured before completion of drilling 24 boreholes, the drilling will be stopped. The boreholes which are confirmed to be unsuccessful for the production wells will be dealt with as follows;

- Back-filled and seal the borehole, if it is dry or the water quality is inappropriate for drinking purpose (out of Mozambican water quality standard).
- Handing over to the Mozambican side if requested, but only if the water quality is within the Mozambican water quality standard.

After the test drilling, regarding the exploratory/production wells, the executive agency shall maintain and protect them, and not allow them to be used until the construction stage begins.

16-4. Protection of the exploratory/production of test wells (outline design stage and detailed designed stage)

Both sides agreed on the responsibility for the exploratory/production wells as follows:

(1) The Mozambican side shall maintain, protect, and not use the exploratory wells until the construction stage begins. In case defects that is not related to construction quality or caused by natural causes were identified before the construction stage begins, The Mozambican side will be responsible for repairing them, otherwise the site will be excluded from the project.

(2) The Mozambican side will transfer the responsibility of the exploratory/production wells to Japanese contractor soon after the construction stage begins, after the necessary verification of its maintenance condition.

(3) In case that the production wells were discovered inadequate to use due to changing condition of aquifer or abnormal seasonal fluctuation after the completion of the Project, The Mozambican side will inform the Japanese side of it and both sides will discuss further actions.

16-5. Selecting Method and Procedures for Boreholes with Hand Pump

Both sides agreed that boreholes with hand pump will be constructed in accordance with the list shown in Annex 7 based on the result of the survey. Selecting method and procedures for construction as follows;

a) Out of one hundred (100), twenty five (25) sites for boreholes with hand pump are allocated in each District on an equal basis and are drilled in accordance with the priority in each district as Annex 7.
b) When the twenty five (25) boreholes with hand pump allocated to each District as indicated on Annex 7 are not able to be completed, the procedure on Annex 8 will be implemented.
c) In case many candidate sites result in negative and cannot complete 25 positive boreholes in the respective District in accordance with Annex 8, the number of boreholes with hand pump may be less than twenty five (25) at some Districts.

16-6. Gender Mainstreaming

Both sides confirmed that the Project is expected to contribute to gender mainstreaming due to the following approaches;

(1) Facilitating community awareness activities with taking gender considerations into account.
(2) Setting location of the hand pumps at places where the villagers themselves decides, but given priority in order to reduce the burden of the women and girls. Promote equal participation of women and men in the decision making process and operation and maintenance activities of the water supply facilities.
(3) Promoting equal representation of women and men in the membership of Water and Sanitation Committees (CAS) and encouraging women to take executive roles in Water and Sanitation Committees in cooperation with men.

16-7. In Niassa Province, JICA is planning to implement projects, one in health and the other in agriculture sector besides the Project. These two projects will contribute to improvement of nutrition state in Niassa Province as well. The Government of Mozambique is encouraged to cooperate with the Project to expect further improvement of nutrition state.

16-8. Adaptation Measure for Climate Change

Both sides discussed on existence of climate change record and impact forecast (such as drought and flood), and the measures for climate change taken by Mozambican

Government. Facilities constructed in the Project are expected not to be influenced by climate change. It is also expected to contribute to Mozambican Nationally Determined Contributions (NDC). Both sides agreed that the Project will be taken as adaption measure for climate change.

16-9. The borehole data utilisation

16-9-1. The borehole information of the Project

1) It is useful to make a dataset of the boreholes constructed by the JICA's preparatory survey and the coming grant aid project using a standard form as explained in the attached. In case the dataset is developed, JICA and DNAAS shall share and store it properly.
2) The borehole information is important to understand the characteristics of the hydrogeological situation in the area and can be worth utilizing for other projects of development and research of rural water, education, and health.
3) JICA suggests the following matters, and DNAAS consent them.
   - A part of the basic information of the boreholes to be open in public, using the internet media.
   - The technical detail of information to be provided through JICA or DNAAS, if development actors and researchers ask them, it could be provided for them by JICA or DNAAS. In case that JICA provide the borehole information of the coming grant aid project to the third party, JICA shall ask concurrence of DNAAS in advance.

16-9-2. The borehole information of the other grant aid projects of Japan

1) As for the other grant aid projects implemented, the borehole information can be obtained from the consultants or the contractors in Japan, who were engaged in the projects.
2) JICA suggests that they can collect the information to develop the dataset as mentioned above implies to collect develop the dataset if DNAAS accepts the same condition as the Project.

Annex

Annex 1 Project Site

Annex 2 Organization Chart

Annex 3 Japanese Grant

Annex 4 Project Implementation Schedule

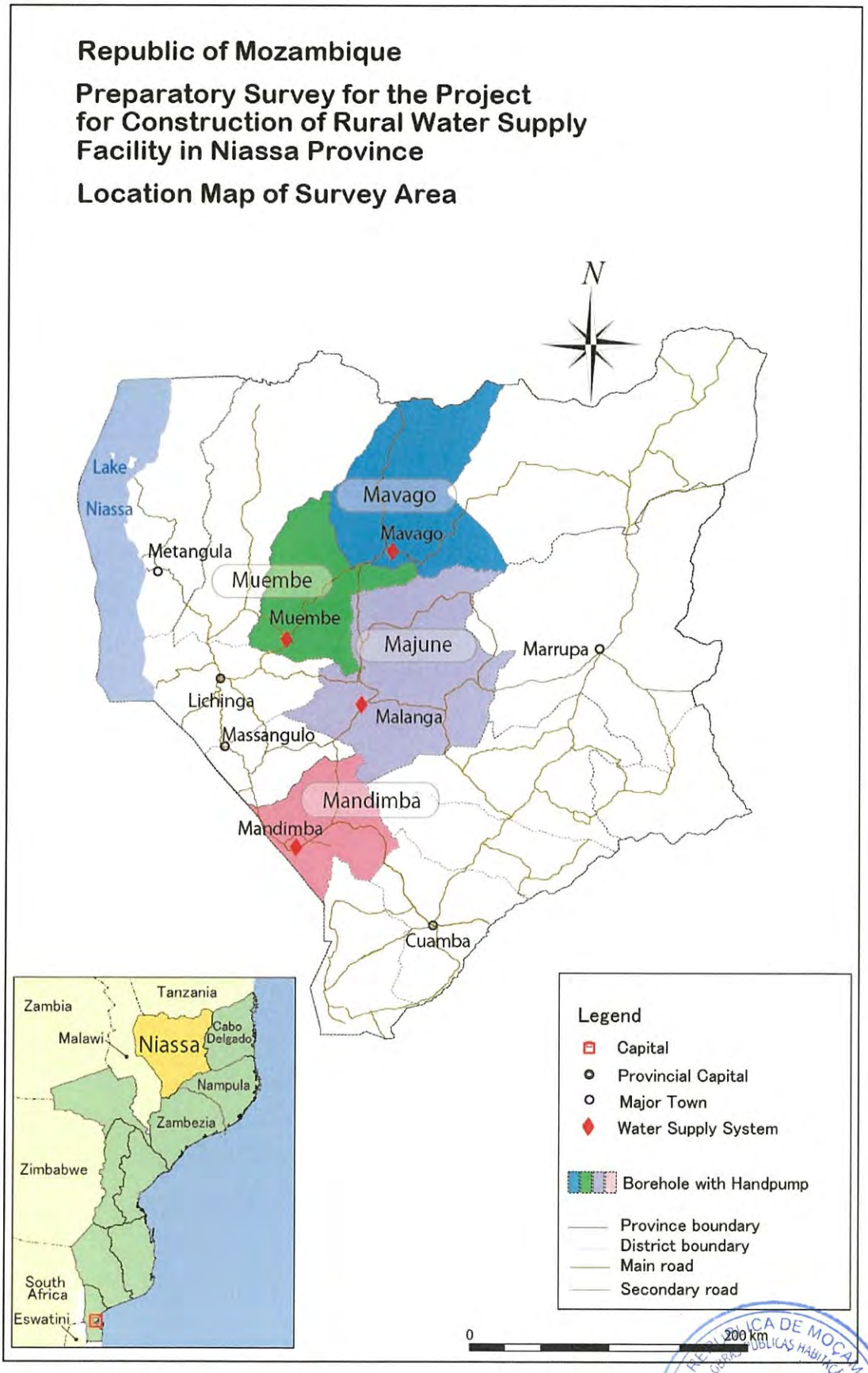
Annex 5 Major Undertakings to be taken by the Government of the Mozambique

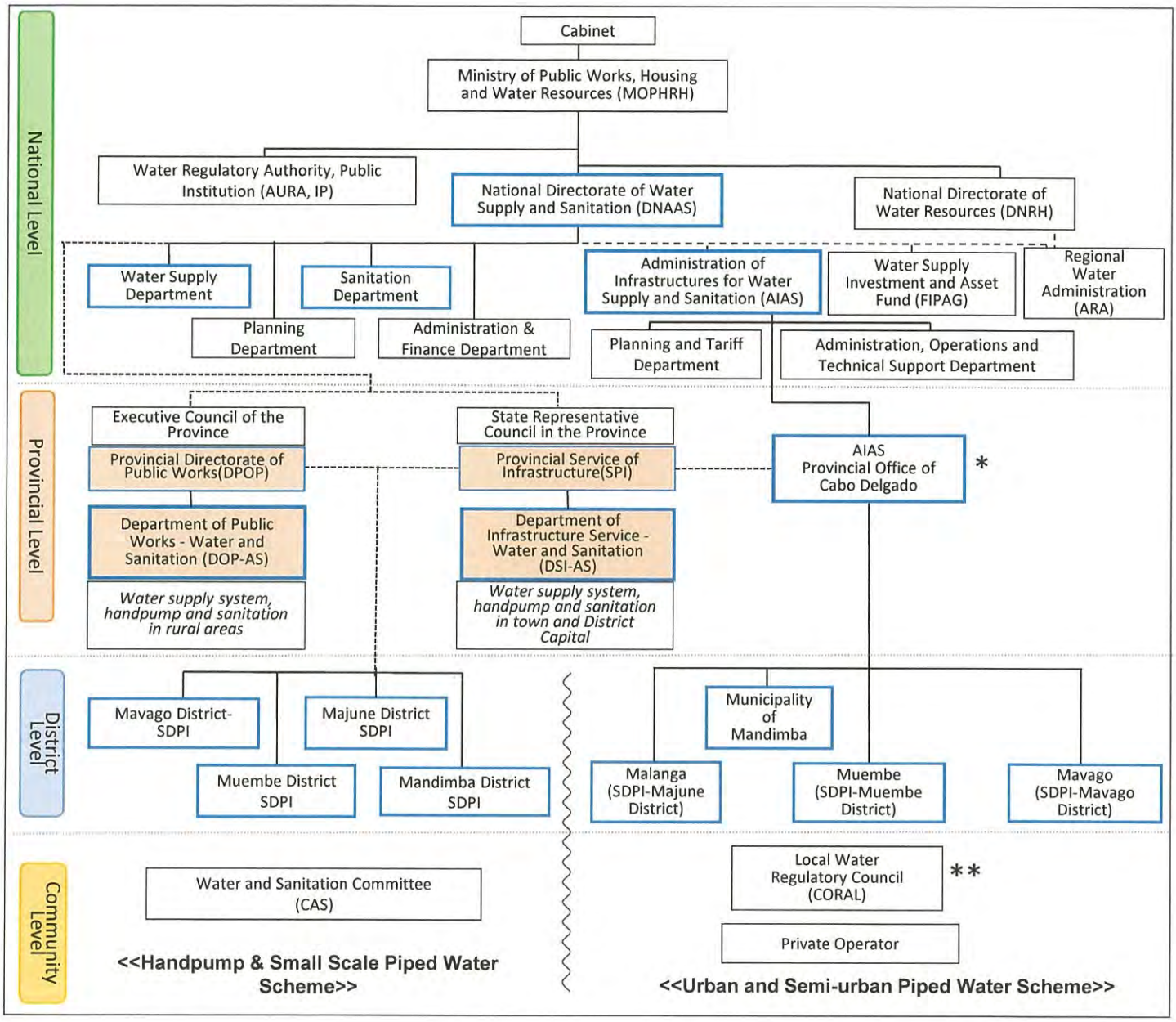
Annex 6 Project Monitoring Report (template)

Annex 7 List of the Priority Sites for Boreholes with Hand Pump

Annex 8 Procedures for Alternative Sites and Measures in Negative Boreholes

Annex 9 Policy on the number of Test Drilling during the Detailed Design Stage


Republic of Mozambique
Preparatory Survey for the Project for Construction of Rural Water Supply Facility in Niassa Province
Location Map of Survey Area
N
Lake Niassa
Metangula
Mavago
Mavago
Muembe
Muembe
Majune
Marrupa
Lichinga
Malanga
Massangulo
Mandimba
Mandimba
Cuamba
Zambia
Tanzania
Malawi
Niassa
Cabo Delgado
Nampula
Zambezia
Zimbabwe
South Africa
Eswatini
Legend
Capital
Provincial Capital
Major Town
Water Supply System
Borehole with Handpump
Province boundary
District boundary
Main road
Secondary road
0
200 km



* There is no office of AIAS in Niassa Province.
**A Committee composed of local residents for each water point and plays the role as an agent of AURA, IP.
Remarks:
a) The ones highlighted in Blue are the organizations directly related to this project.
b) The structure maybe will change according to the expected new decentralization rule.
c) The dotted line means the relationship of cooperation between the organizations related to this project.

JAPANESE GRANT

The Japanese Grant is non-reimbursable fund provided to a recipient country (hereinafter referred to as "the Recipient") to purchase the products and/or 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. Followings are the basic features of the project grants operated by JICA (hereinafter referred to as "Project Grants").

1. Procedures of Project Grants

Project Grants are conducted through following procedures (See "PROCEDURES OF JAPANESE GRANT" for details):

(1) Preparation

- The Preparatory Survey (hereinafter referred to as "the Survey") conducted by JICA

(2) Appraisal

-Appraisal by the government of Japan (hereinafter referred to as "GOJ") and JICA, and Approval by the Japanese Cabinet

(3) Implementation

Exchange of Notes

-The Notes exchanged between the GOJ and the government of the Recipient

Grant Agreement (hereinafter referred to as "the G/A")

-Agreement concluded between JICA and the Recipient

Banking Arrangement (hereinafter referred to as "the B/A")

-Opening of bank account by the Recipient in a bank in Japan (hereinafter referred to as "the Bank") to receive the grant

Construction works/procurement

-Implementation of the project (hereinafter referred to as "the Project") on the basis of the G/A

(4) Ex-post Monitoring and Evaluation

-Monitoring and evaluation at post-implementation stage

2. Preparatory Survey

(1) Contents of the Survey

The aim of the Survey is to provide basic documents 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 necessary for the implementation of the Project.

- Evaluation of the feasibility of the Project to be implemented under the Japanese Grant 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.
- Confirmation of Environmental and Social Considerations

The contents of the original request by the Recipient are not necessarily approved in their initial form. The Outline Design of the Project is confirmed based on the guidelines of the Japanese Grant.

JICA requests the Recipient to take 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 executing agency of the Project. Therefore, the contents of the Project are confirmed by all relevant organizations of the Recipient based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA contracts with (a) 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 feasibility of the Project.

3. Basic Principles of Project Grants

(1) Implementation Stage

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 singed between the GOJ and the Government of the Recipient to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Recipient to define the necessary articles, in accordance with the E/N, to implement the Project, such as conditions of disbursement, responsibilities of the Recipient, and procurement conditions. The terms and conditions generally applicable to the Japanese Grant are stipulated in the "General Terms and Conditions for Japanese Grant (January 2016)."

2) Banking Arrangements (B/A) (See "Financial Flow of Japanese Grant (A/P Type)" for details)

a) The Recipient shall open an account or shall cause its designated authority to open an account under the name of the Recipient in the Bank, in principle. JICA will disburse the Japanese Grant in Japanese yen for the Recipient to

cover the obligations incurred by the Recipient under the verified contracts.

b) The Japanese Grant will be disbursed when payment requests are submitted by the Bank to JICA under an Authorization to Pay (A/P) issued by the Recipient.

3) Procurement Procedure

The products and/or services necessary for the implementation of the Project shall be procured in accordance with JICA's procurement guidelines as stipulated in the G/A.

4) 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 to continue to work on the Project's implementation after the E/N and G/A.

5) Eligible source country

In using the Japanese Grant disbursed by JICA for the purchase of products and/or services, the eligible source countries of such products and/or services shall be Japan and/or the Recipient. The Japanese Grant may be used for the purchase of the products and/or services of a third country as eligible, if necessary, taking into account the quality, competitiveness and economic rationality of products and/or services necessary for achieving the objective of the Project. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm, which enter into contracts with the Recipient, are limited to "Japanese nationals", in principle.

6) Contracts and Concurrence by JICA

The Recipient will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be concurred by JICA in order to be verified as eligible for using the Japanese Grant.

7) Monitoring

The Recipient is required to take their initiative to carefully monitor the progress of the Project in order to ensure its smooth implementation as part of their responsibility in the G/A, and to regularly report to JICA about its status by using the Project Monitoring Report (PMR).

8) Safety Measures

The Recipient must ensure that the safety is highly observed during the implementation of the Project.

9) Construction Quality Control Meeting

Construction Quality Control Meeting (hereinafter referred to as the "Meeting") will be held for quality assurance and smooth implementation of the Works at each stage of the Works. The member of the Meeting will be composed by the Recipient (or executing agency), the Consultant, the Contractor and JICA. The functions of the Meeting are as followings:

a) Sharing information on the objective, concept and conditions of design from the Contractor, before start of

construction.

b) Discussing the issues affecting the Works such as modification of the design, test, inspection, safety control and the Client's obligation, during of construction.

(2) Ex-post Monitoring and Evaluation Stage

1) After the project completion, JICA will continue to keep in close contact with the Recipient in order to monitor that the outputs of the Project is used and maintained properly to attain its expected outcomes.

2) In principle, JICA will conduct ex-post evaluation of the Project after three years from the completion. It is required for the Recipient to furnish any necessary information as JICA may reasonably request.

(3) Others

1) Environmental and Social Considerations

The Recipient shall carefully consider environmental and social impacts by the Project and must comply with the environmental regulations of the Recipient and JICA Guidelines for Environmental and Social Considerations (April, 2010).

2) Major undertakings to be taken by the Government of the Recipient

For the smooth and proper implementation of the Project, the Recipient is required to undertake necessary measures including land acquisition, and bear an advising commission of the A/P and payment commissions paid to the Bank as agreed with the GOJ and/or JICA. The Government of the Recipient shall ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the Recipient with respect to the purchase of the Products and/or the Services be exempted or be borne by its designated authority without using the Grant and its accrued interest, since the grant fund comes from the Japanese taxpayers.

3) Proper Use

The Recipient is required to maintain and use properly and effectively the products and/or services under the Project (including the facilities constructed and the equipment purchased), to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Japanese Grant.

4) Export and Re-export

The products purchased under the Japanese Grant should not be exported or re-exported from the Recipient.

Annex 3
Attachment 1

PROCEDURES OF JAPANESE GRANT

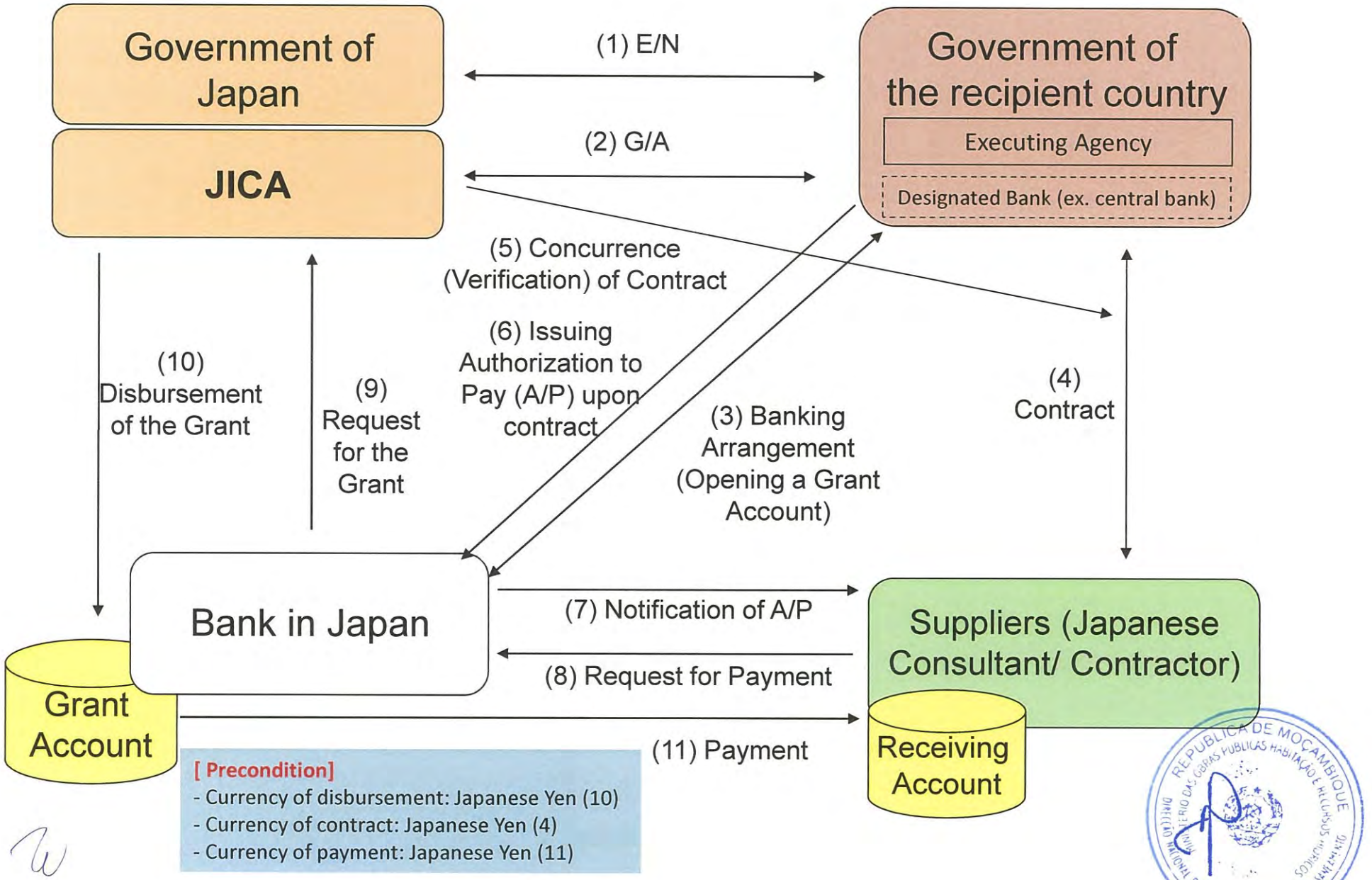
Stage	Procedures	Remarks	Recipient Government	Japanese Government	JICA	Consultants	Contractors	Agent Bank
Official Request	Request for grants through diplomatic channel	Request shall be submitted before appraisal stage.	X	X				
1. Preparation	(1) Preparatory Survey Preparation of outline design and cost estimate		X		X	X		
2. Appraisal	(2) Preparatory Survey Explanation of draft outline design, including cost estimate, undertakings, etc.		X		X	X		
	(3) Agreement on conditions for implementation	Conditions will be explained with the draft notes (E/N) and Grant Agreement (G/A) which will be signed before approval by Japanese government.	X	X (E/N)	X (G/A)			
	(4) Approval by the Japanese cabinet			X				
3. Implementation	(5) Exchange of Notes (E/N)		X	X				
	(6) Signing of Grant Agreement (G/A)		X		X			
	(7) Banking Arrangement (B/A)	Need to be informed to JICA	X					X
	(8) Contracting with consultant and issuance of Authorization to Pay (A/P)	Concurrence by JICA is required	X			X		X
	(9) Detail design (D/D)		X			X		
	(10) Preparation of bidding documents	Concurrence by JICA is required	X			X		
	(11) Bidding	Concurrence by JICA is required	X			X	X	
	(12) Contracting with contractor/supplier and issuance of A/P	Concurrence by JICA is required	X				X	X
	(13) Construction works/procurement	Concurrence by JICA is required for major modification of design and amendment of contracts.	X			X	X	
	(14) Completion certificate		X			X	X	
4. Ex-post monitoring & evaluation	(15) Ex-post monitoring	To be implemented generally after 1, 3, 10 years of completion, subject to change	X		X			
	(16) Ex-post evaluation	To be implemented basically after 3 years of completion	X		X			

Notes:

1. Project Monitoring Report and Report for Project Completion shall be submitted to JICA as agreed in the G/A.

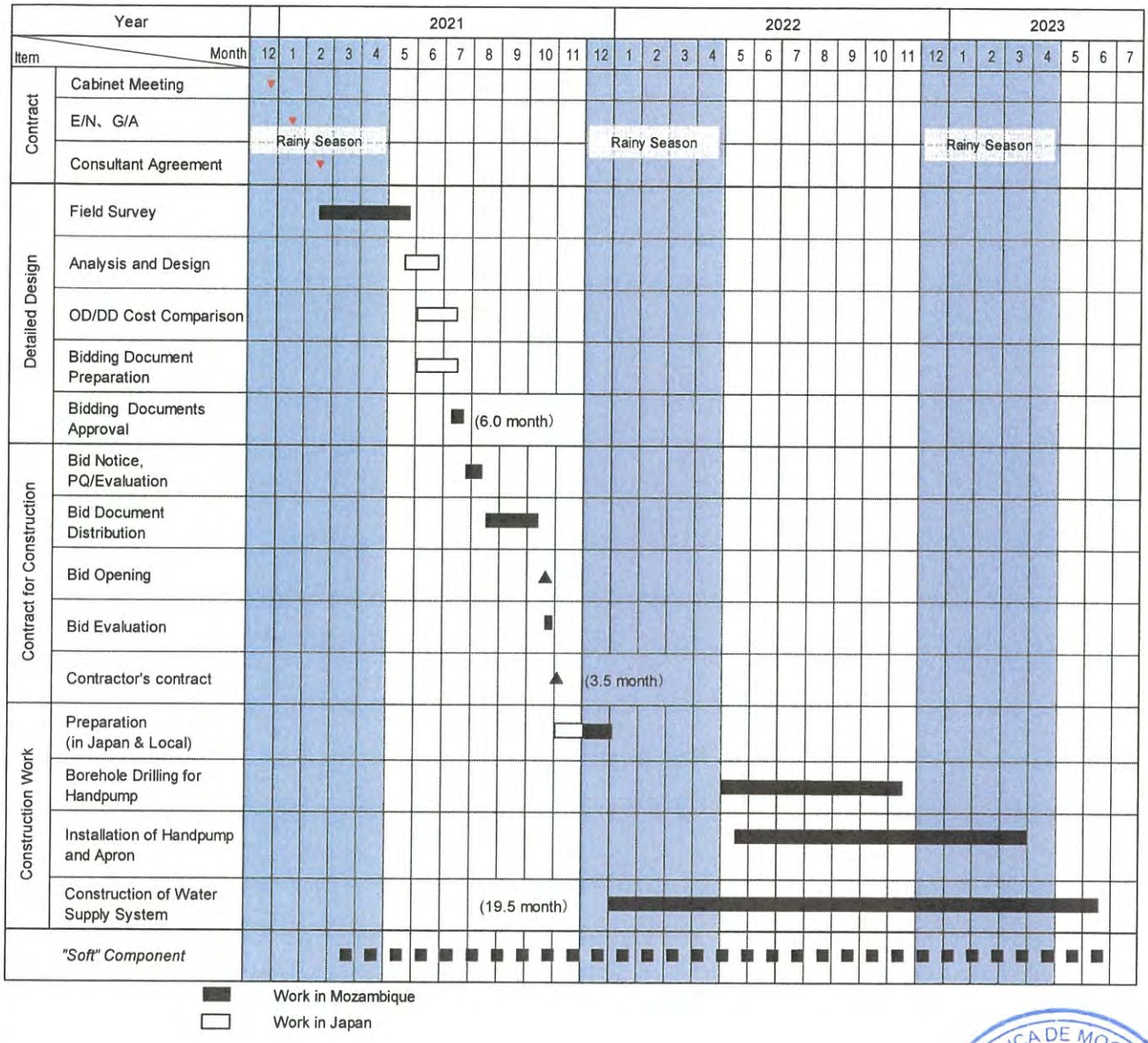
2. Concurrence by JICA is required for allocation of grant for remaining amount and/or contingencies as agreed in the G/A.

Financial Flow of Japanese Grant (A/P Type)



Annex 4

Project Implementation Schedule



Annex 5

Major Undertakings to be taken by the Government of Mozambique (Draft)

1. Specific obligations of the Government of Mozambique which will not be funded with the Grant

(1) Before the Bidding

NO	Items	Deadline	In charge	Estimated Cost (MZN)	Ref.
1	To open bank account (Banking Arrangement (B/A)), and bear the Payment Commission to a bank in Japan	Within 1 month after the signing of the G/A	DNAAS	1,197,750	
2	To issue Authorization to Pay (A/P) to a bank in Japan (the Agent Bank) for the payment to the consultant	Within 1 month after the signing of the contract	DNAAS		
3	To bear the following commissions to a bank in Japan for the banking services based upon the B/A 1) Advising commission of A/P 2) Payment commission for A/P	1) Within 1 month after the signing of the contract 2) Every payment	DNAAS	5,678	
4	To secure and clear lands 1) Site for piped water supply scheme 2) Site for the boreholes with hand pumps	Before notice of the bidding document	SDPI		
	To clear and maintain access road to the sites (if required)	Before notice of the bidding document	DNAAS		
	To secure land necessary for the construction of water supply scheme such as pumping station, elevated water tank, water pipes and public tap stand etc	Before notice of the bidding document	DNAAS		
	To secure stock yards and store to maintain construction materials	Before notice of the bidding document	DPOP, SDPI		
	To obtain the necessary permit for the implementation of the Project from the concerned organization (road crossing of pipeline, and others)	Before notice of the bidding document	DPOP, SDPI		
5	To obtain the planning, zoning, building permit	Before notice of the bidding documents	DNAAS		
6	To assign counterparts for the Survey Team during Detail Design survey	Soon after starting detail design survey	DNAAS		
	To accompany the field work during Detailed Design at target sites		SDPI	456,000	
	To accompany the geophysical survey team during the Detailed Design survey		SDPI	768,000	
	Site Transfer to the Contractor (Hand pump site)		SDPI	120,000	
	Site Transfer to the Contractor (Piped Water Scheme)		AIAS DSI-AS, SDPI	144,000	
	To accompany the geophysical team at alternative sites		SDPI	240,000	
7	To submit Project Monitoring Report (with the result of Detail Design)	before preparation of bidding document(s)	DNAAS		

(2) During the Project Implementation

NO	Items	Deadline	In charge	Estimated Cost (MZN)	Ref.
1	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the contractors	Within 1 month after contract(s) signing	DNAAS		
2	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		DNAAS		
	1) Advising commission of A/P	1) Within 1 month after the singing of the contract(s)	DNAAS	5,678	
	2) Payment commission for A/P	2)Every payment	DNAAS		
3	To ensure prompt customs clearance and assist the Contractor(s) with internal transportation in recipient country	During the project	DNAAS		
4	1) To accord Japanese nationals and/or physical persons of third countries (main contractors, subcontractors, supplies and consultants) 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 country of the Recipient and stay therein for the performance of their work. 2) The Recipient implements this project in accordance with Regulation of the Mechanisms and Procedures of Employment of foreign Workers stipulated in article 12 "Investment Projects" on the decree No. 37/2016, August 31, 2016. Working status for the Project shall be preceded as a contract for the investment Project approved by the Recipient Government stipulated in Article 12 on the degree No. 37/2016, August 31, 2016. The possible number of Japanese nationals and/or physical persons of third countries are 15* persons while the number of persons of Recipient country is 300*. * the Number will be decided by November 2021. 3) If the above number of Japanese nationals and/or physical persons of third countries exceed than the Project shall apply for Working Permit Authorization Regime stipulated in article 16, 17, 18 and 19 on the degree No. 37/2016, August 31, 2016.	During the Project	DNAAS		
5	To accord Japanese nationals and/or physical persons of third countries whose services may be required in connection with the supply of the products and services under the verified contract such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work,and move access the states within the country.	During the project	DNAAS		
6	1) To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the Products and/or the Services be exempted by its designated authority without using the Grant.	During the project	DNAAS		
	2)To bear the Personal Income Tax for Japanese Nationals and/or physical persons of third countries (main contractors, subcontractors, suppliers and consultants)			10,947,745	
	3)To bear the IRPC (Income Tax on Legal Entity) for Japanese companies (main contractors, subcontractors, suppliers and consultants) (If requires)				

7	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	During the project	DNAAS		
8	To take measure necessary for security and safety of the Project - maintaining the safety of workers and the general public by thorough implementation of safety measures and immediate action in the case of accident - traffic control around the site(s) and on transportation routes of construction materials installation of gates and fences around the site(s)	during the construction	DNAAS		
9	To submit the Project Monitoring Report	Every month	DNAAS		
10	To submit Project Monitoring Report (final)	Within one month after signing of Certificate of Completion for the works under the contract(s)	DNAAS		
11	To submit a report concerning completion of the Project	Within six months after completion of the Project	DNAAS		
12	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the site(s)	3 months before completion of the construction	DNAAS		
13	To assign supervisor during the construction period	During the project	DNAAS		
	1) To accompany in the supervision during the construction work	During the project	DNAAS	1,116,000	
	2)Inspection work for hand-over (borehole with hand pump)	During the project	DNAAS SDPI	240,000	
	3) Inspection work for hand-over of piped water scheme	During the project	DNAAS AIAS	144,000	
14	To assign counterparts for the soft-component activities	During the project	DNAAS	2,892,600	
15	To conduct public relations activities in both national level and state level in Mozambique by utilizing the occasion of the handover ceremony of the facilities.	During the project	DNAAS		

(3) After the Project

NO	Items	Deadline	In charge	Estimated Cost (MZN)	Ref.
1	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid 1) Monitor the payment of maintenance cost by the local beneficiaries 2) Operation and maintenance structure 3) Routine monitoring/Periodic inspection	After completion of the construction	DNAAS AIAS SDPI	 473,040 34,353.60	
2	To submit monitoring data related to evaluation indicators as attachment of Project Monitoring Report.	Within one month after each fiscal year up to 2027	DNAAS		

Project Monitoring Report
on
Project Name
Grant Agreement No. XXXXXXX

20XX, Month

Organizational Information

Signer of the G/A (Recipient)	Person in Charge	(Designation)
	Contacts	Address: Phone/FAX: Email:
Executing Agency	Person in Charge	(Designation)
	Contacts	Address: Phone/FAX: Email:
Line Ministry	Person in Charge	(Designation)
	Contacts	Address: Phone/FAX: Email:

General Information:

Project Title	
E/N	Signed date: Duration:
G/A	Signed date: Duration:
Source of Finance	Government of Japan: Not exceeding JPY _____ mil. Government of (_____): _____

1: Project Description

1-1 Project Objective

1-2 Project Rationale

- Higher-level objectives to which the project contributes (national/regional/sectoral policies and strategies)
- Situation of the target groups to which the project addresses

1-3 Indicators for measurement of "Effectiveness"

Quantitative indicators to measure the attainment of project objectives		
Indicators	Original (Yr)	Target (Yr)
Qualitative indicators to measure the attainment of project objectives		

2: Details of the Project

2-1 Location

Components	Original *(proposed in the outline design)*	Actual
1.		

2-2 Scope of the work

Components	Original* *(proposed in the outline design)*	Actual*
1.		

Reasons for modification of scope (if any).

(PMR)

2-3 Implementation Schedule

Items	Original		Actual
	(proposed in the outline design)	*(at the time of signing the Grant Agreement)*	

Reasons for any changes of the schedule, and their effects on the project (if any)

2-4 Obligations by the Recipient

2-4-1 Progress of Specific Obligations

See Attachment 2.

2-4-2 Activities

See Attachment 3.

2-4-3 Report on RD

See Attachment 11.

2-5 Project Cost

2-5-1 Cost borne by the Grant(Confidential until the Bidding)

Components			Cost (Million Yen)	
	Original *(proposed in the outline design)*	Actual *(in case of any modification)*	Original[1),2)] *(proposed in the outline design)*	Actual
	1.			
Total				

Note: 1) Date of estimation:
2) Exchange rate: 1 US Dollar = Yen

2-5-2 Cost borne by the Recipient

Components			Cost (1,000 Taka)	
	Original *(proposed in the outline design)*	Actual *(in case of any modification)*	Original[1),2)] *(proposed in the outline design)*	Actual
	1.			

Note: 1) Date of estimation:
2) Exchange rate: 1 US Dollar =

Reasons for the remarkable gaps between the original and actual cost, and the countermeasures (if any)

(PMR)

2-6 Executing Agency

- Organization's role, financial position, capacity, cost recovery etc,
- Organization Chart including the unit in charge of the implementation and number of employees.

Original *(at the time of outline design)* name: role: financial situation: institutional and organizational arrangement (organogram): human resources (number and ability of staff):
Actual *(PMR)*

2-7 Environmental and Social Impacts

- The results of environmental monitoring based on Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- The results of social monitoring based on in Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- Disclosed information related to results of environmental and social monitoring to local stakeholders (whenever applicable).

3: Operation and Maintenance (O&M)

3-1 Physical Arrangement

- Plan for O&M (number and skills of the staff in the responsible division or section, availability of manuals and guidelines, availability of spareparts, etc.)

Original *(at the time of outline design)*
Actual *(PMR)*

3-2 Budgetary Arrangement

- Required O&M cost and actual budget allocation for O&M

Original *(at the time of outline design)*

Actual *(PMR)*

4: Potential Risks and Mitigation Measures

- Potential risks which may affect the project implementation, attainment of objectives, sustainability
- Mitigation measures corresponding to the potential risks

Assessment of Potential Risks *(at the time of outline design)*

Potential Risks	Assessment
1. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
2. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
3. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:

	Contingency Plan (if applicable):
Actual Situation and Countermeasures	
(PMR)	

5: Evaluation and Monitoring Plan (after the work completion)

5-1 Overall evaluation

Please describe your overall evaluation on the project.

5-2 Lessons Learnt and Recommendations

Please raise any lessons learned from the project experience, which might be valuable for the future assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

5-3 Monitoring Plan of the Indicators for Post-Evaluation

Please describe monitoring methods, section(s)/department(s) in charge of monitoring, frequency, the term to monitor the indicators stipulated in 1-3.

Attachment

1. Project Location Map
2. Specific obligations of the Recipient which will not be funded with the Grant
3. Monthly Report submitted by the Consultant

Appendix - Photocopy of Contractor's Progress Report (if any)
- Consultant Member List
- Contractor's Main Staff List

4. Check list for the Contract (including Record of Amendment of the Contract/Agreement and Schedule of Payment)
5. Environmental Monitoring Form / Social Monitoring Form
6. Monitoring sheet on price of specified materials (Quarterly)
7. Report on Proportion of Procurement (Recipient Country, Japan and Third Countries) (PMR (final)only)
8. Pictures (by JPEG style by CD-R) (PMR (final)only)
9. Equipment List (PMR (final)only)
10. Drawing (PMR (final)only)
11. Report on RD (After project)

Monitoring sheet on price of specified materials

1. Initial Conditions (Confirmed)

	Items of Specified Materials	Initial Volume A	Initial Unit Price (¥) B	Initial total Price C=A×B	1% of Contract Price D	Condition of payment	
						Price (Decreased) E=C−D	Price (Increased) F=C+D
1	Item 1	●●t	●	●	●	●	●
2	Item 2	●●t	●	●	●		
3	Item 3						
4	Item 4						
5	Item 5						

2. Monitoring of the Unit Price of Specified Materials

(1) Method of Monitoring : ●●

(2) Result of the Monitoring Survey on Unit Price for each specified materials

	Items of Specified Materials	1st ●month, 2015	2nd ●month, 2015	3rd ●month, 2015	4th	5th	6th
1	Item 1						
2	Item 2						
3	Item 3						
4	Item 4						
5	Item 5						

(3) Summary of Discussion with Contractor (if necessary)

-
-
-

Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)
(Actual Expenditure by Construction and Equipment each)

		Domestic Procurement (Recipient Country) A	Foreign Procurement (Japan) B	Foreign Procurement (Third Countries) C	Total D
Construction Cost		(A/D%)	(B/D%)	(C/D%)	
	Direct Construction Cost	(A/D%)	(B/D%)	(C/D%)	
	others	(A/D%)	(B/D%)	(C/D%)	
Equipment Cost		(A/D%)	(B/D%)	(C/D%)	
Design and Supervision Cost		(A/D%)	(B/D%)	(C/D%)	
Total		(A/D%)	(B/D%)	(C/D%)	

Annex-7 List of Candidate Sites for Construction of Borehole with Hand pump

MAVAGO						
Code	Administrative Post	Project Site	Inhabitant without safe water	Priority	Selection Result	Nr. of Boreholes
MV-01	Msawize	Mangupenge	1,566	1	Project	3
MV-02	Mavago Sede	Lucuissi	1,362	2	Project	2
MV-03	Msawize	Mbangala	1,182	3	Project	2
MV-04	Mavago Sede	Ntacudja	1,170	4	Project	2
MV-05	Mavago Sede	Mbuio	900	5	Project	2
MV-06	Msawize	Matukuta	790	6	Project	2
MV-07	Mavago Sede	Matumbi	752	7	Project	2
MV-08	Mavago Sede	Nsacalange	718	8	Project	2
MV-09	Mavago Sede	Mitacala	715	9	Project	2
MV-10	Mavago Sede	Lipembo	612	10	Project	2
MV-11	Mavago Sede	Ntambu	603	11	Project	2
MV-12	Mavago Sede	Ligogo	545	12	Project	2
MV-13	Mavago Sede	Luatize	No population		Excluded	-
					Total	**25**

MUEMBE						
Code	Administrative Post	Project Site	Inhabitant without safe water	Priority	Selection Result	Nr. of Boreholes
MB-01	Muembe Sede	Namamba	4,030	1	Project	1
MB-02	Muembe Sede	Namanolo 1	3,200	2	Project	1
MB-03	Muembe Sede	Lutuesse Sede	2,604	3	Project	1
MB-04	Muembe Sede	Lussegeue	2,576	4	Project	1
MB-05	Chiconono	Ligogolo	2,540	5	Project	1
MB-06	Muembe Sede	Namanolo 2	2,000	6	Project	1
MB-07	Muembe Sede	Lipula	1,800	7	Project	1
MB-08	Muembe Sede	Nziz-Sede	1,730	8	Project	1
MB-09	Chiconono	Sienene	1,287	9	Project	1
MB-10	Chiconono	Liuamabili	1,000	10	Project	1
MB-11	Muembe Sede	Massagide	975	11	Project	1
MB-12	Muembe Sede	Ntiule	975	12	Project	1
MB-13	Muembe Sede	Lundale	920	13	Project	1
MB-14	Muembe Sede	Luguesi	825	14	Project	1
MB-15	Muembe Sede	Butiama	771	15	Project	1
MB-16	Muembe Sede	Matitima	652	16	Project	1
MB-17	Chiconono	Ngalinge	600	17	Project	1
MB-18	Chiconono	Ntamila	530	18	Project	1
MB-19	Chiconono	Chiuajota	475	19	Project	1
MB-20	Muembe Sede	Chipala	468	20	Project	1
MB-21	Muembe Sede	Cassuide	427	21	Project	1
MB-22	Muembe Sede	Mussafa	251	22	Project	1
MB-23	Chiconono	Lissanje	250	23	Project	1
MB-24	Muembe Sede	Nagazu	210	24	Project	1
MB-25	Chiconono	Nditi	138	25	Project	1
MB-26	Muembe Sede	Chitala	120	26	Alternative	-
MB-27	Muembe Sede	Chiumbe	Low nr. of beneficiaries		Excluded	-
MB-28	Chiconono	Longolela	Low nr. of beneficiaries		Excluded	-
MB-29	Muembe Sede	Lucheta	Low nr. of beneficiaries		Excluded	-
MB-30	Muembe Sede	Licuvi	Low nr. of beneficiaries, Not interested to contribute with O&M		Excluded	-
MB-31	Muembe Sede	Chicunja	Low nr. of beneficiaries, Not interested to contribute with O&M		Excluded	-
					Total	**25**

MAJUNE

Code	Administrative Post	Project Site	Inhabitants without safe water	Priority	Selection Result	No. of Boreholes
MJ-01	Malanga	Malila	6.000	1	Project	2
MJ-02	Malanga	Mitomone	5.950	2	Project	2
MJ-03	Nairubi	Mapichite	4.020	3	Project	2
MJ-04	Malanga	Namitunda	3.890	4	Project	2
MJ-05	Malanga	Matukuta	1.725	5	Project	1
MJ-06	Malanga	Lugenda	930	6	Project	1
MJ-07	Malanga	Lizombe (Escola EPC)	579	7	Project	1
MJ-08	Malanga	Majassuela	565	8	Project	1
MJ-09	Nairubi	Palombe	440	9	Project	1
MJ-10	Nairubi	Nambilange Sede	427	10	Project	1
MJ-11	Nairubi	Tteniua	340	11	Project	1
MJ-12	Nairubi	Marivata	304	12	Project	1
MJ-13	Malanga	Muamona	282	13	Project	1
MJ-14	Muaquia	Pindura 2	265	14	Project	1
MJ-15	Malanga	Bairro Chissano	240	15	Project	1
MJ-16	Malanga	Canjessa	192	16	Project	1
MJ-17	Malanga	Ndima	188	17	Project	1
MJ-18	Muaquia	Riate Sede	182	18	Project	1
MJ-19	Muaquia	Nacavaloca	158	19	Project	1
MJ-20	Nairubi	Culue	155	20	Project	1
MJ-21	Malanga	Issa Malanga	150	21	Project	1
MJ-22	Nairubi	Nacuca	Low nr. of beneficiaries		Excluded	-
MJ-23	Malanga	Bairro Esperança	Duplication with WSS		Excluded	-
MJ-24	Malanga	Simango	Duplication with WSS		Excluded	-
MJ-25	Malanga	Bairro expansão	Duplication with WSS		Excluded	-
WSS: Water Supply System					Total	28

MANDIMBA

Code	Administrative Post	Project Site	Inhabitants without safe water	Priority	Selection Result	Nr. of Boreholes
MD-01	Mandimba Sede	Socone	12.400	1	Project	1
MD-02	Mitande	Mepapaia	3.750	2	Project	1
MD-03	Mitande	Namuhaia	2.380	3	Project	1
MD-04	Mitande	Cuphia 2	2.047	4	Project	1
MD-05	Mitande	Muitia	1.904	5	Project	1
MD-06	Mitande	Musserepa	1.880	6	Project	1
MD-07	Mandimba Sede	Licuacua	1.881	7	Project	1
MD-08	Mitande	Capito	1.535	8	Project	1
MD-09	Mitande	Cuchirimba	1.500	9	Project	1
MD-10	Mitande	Chipa	1.450	10	Project	1
MD-11	Mandimba Sede	Ndogo	1.421	11	Project	1
MD-12	Mitande	Mário	1.300	12	Project	1
MD-13	Mitande	Nicomo 1	1.020	13	Project	1
MD-14	Mandimba Sede	Muamade	977	14	Project	1
MD-15	Mandimba Sede	Daua	969	15	Project	1
MD-16	Mitande	Nicupa	840	16	Project	1
MD-17	Mandimba Sede	Songela	780	17	Project	1
MD-18	Mitande	Muheia	682	18	Project	1
MD-19	Mandimba Sede	Ncuezo	578	19	Project	1
MD-20	Mandimba Sede	Lissimba	570	20	Project	1

MANDIMBA (Cont.)						
Code	Administrative Post	Project Site	Inhabitant without safe water	Priority	Selection Result	Nr. of Boreholes
MD-21	Mandimba Sede	Saize	651	21	Project	1
MD-22	Mitande	Yute	650	22	Project	1
MD-23	Mandimba Sede	Issa	638	23	Project	1
MD-24	Mitande	Niuaquela	581	24	Project	1
MD-25	Mitande	Namahassa	580	25	Project	1
MD-26	Mandimba Sede	Mpitilila	575	26	Alternative	-
MD-27	Mandimba Sede	Nongone	552	27	Alternative	-
MD-28	Mitande	Mpote	533	28	Alternative	-
MD-29	Mandimba Sede	Nlocote 2	520	29	Alternative	-
MD-30	Mandimba Sede	Lilonga	520	30	Alternative	-
MD-31	Mandimba Sede	Chale	487	31	Alternative	-
MD-32	Mandimba Sede	Buanado	486	32	Alternative	-
MD-33	Mandimba Sede	Mbungo	468	33	Alternative	-
MD-34	Mitande	Mapururu	455	34	Alternative	-
MD-35	Mitande	Torosso	450	35	Alternative	-
MD-36	Mitande	Calicumbe	420	36	Alternative	-
MD-37	Mandimba Sede	Malinde	415	37	Alternative	-
MD-38	Mandimba Sede	Nhungua	410	38	Alternative	-
MD-39	Mandimba Sede	Tsotsoma	404	39	Alternative	-
MD-40	Mandimba Sede	Mpatila	390	40	Alternative	-
MD-41	Mandimba Sede	Chamba	390	41	Alternative	-
MD-42	Mandimba Sede	Sefo	385	42	Alternative	-
MD-43	Mandimba Sede	Maluvila	385	43	Alternative	-
MD-44	Mandimba Sede	Madeira	380	44	Alternative	-
MD-45	Mandimba Sede	Puiamuene	364	45	Alternative	-
MD-46	Mandimba Sede	Cachepa	344	46	Alternative	-
MD-47	Mandimba Sede	Chande	325	47	Alternative	-
MD-48	Mandimba Sede	Massonga	325	48	Alternative	-
MD-49	Mandimba Sede	Niquisse	305	49	Alternative	-
MD-50	Mandimba Sede	Ngumbe	279	50	Alternative	-
MD-51	Mandimba Sede	Centro de saúde Lissiete / Ba	276	51	Alternative	-
MD-52	Mandimba Sede	Mpanga	250	52	Alternative	-
MD-53	Mandimba Sede	Massocossi	245	53	Alternative	-
MD-54	Mandimba Sede	Mbone	211	54	Alternative	-
MD-55	Mandimba Sede	Quenra	208	55	Alternative	-
MD-56	Mandimba Sede	Ussi	182	56	Alternative	-
MD-57	Mitande	Nicomo 2	182	57	Alternative	-
MD-58	Mandimba Sede	7 de Abril	78	58	Alternative	-
MD-59	Mandimba Sede	Tambala Chome/Malivira	Low nr. of beneficiaries		Excluded	-
MD-60	Mandimba Sede	Numbua	Unified with MD-52		Excluded	-
MD-61	Mandimba Sede	Micomeia	Community not identified		Excluded	-
					Total	**25**

*** Maximum 100 boreholes with handpump**

Procedures for Alternative Sites and Measures in Negative Boreholes

List of Community (Borehole with Handpump)

Code	Population without safe water	Priority	Result of Selection	Allocation
MB-01	4,030	1	Project	1
MB-02	3,200	2	Project	1
MB-03	2,604	3	Project	1
...	...	...	...	1
MB-24	210	...	...	1
MB-25	138	25	Project	1
MB-26	120	26	Alternative	-

1) Drill the first borehole at the communities indicated as 'Project' in the column of 'Result of Selection'.

Positive Borehole → Install a hand pump and apron → 25 positive boreholes ⇒**Completed in the District**

Negative Borehole

2) Drill the second borehole at the same community.

Positive → Install a hand pump and apron → 25 positive boreholes ⇒**Completed in the District**

Negative

3) If the second borehole is also negative, the drilling work shall be cancelled in such community and the drilling team shall move to the next community. The negative community shall be cancelled from the list of community.

4) In place of the cancelled community above, drill in the 'Alternative' community (example: MB-26 in the list) in accordance with the list of community.

Positive → Install a hand pump and apron → 25 positive boreholes ⇒**Completed in the District**

or

5.a) If there is no 'Alternative' community in the list, or all the alternatives become negative,

5.b) If there are 'Alternative' communities (example MB-26), these shall be replaced as 'Project' communities in place of the cancelled ones (shall be drilled until achieving 25 positive boreholes in the District).

Positive → Install a hand pump and apron → 25 positive boreholes ⇒**Completed in the District**

6) Return to the highest priority community in the list (excluding those already cancelled) for the second round of drilling work following the order of 'Priority'. That is, there will be some communities that will have 2 or more boreholes. However, the following conditions must be fulfilled:

a. Have sufficient demand population (more than 300 people without safe water)
b. Have hydrogeological potential

Positive → Install a hand pump and apron → 25 positive boreholes ⇒**Completed in the District**

Negative or doesn't fulfill the conditions a. and b. above

7) In case many boreholes result in negative, and can not complete 25 positive boreholes in the respective District even following the above mentioned procedures *X* times…

8) The drilling in such District shall be suspended, and the remaining number of boreholes shall be allocated to another target District. The District that has the lowest access rate to safe water shall be given priority among four target Districts.

Complete Target Number of Positive Boreholes with Hand Pump

Annex-9 Policy on the Number of Test Drilling during the Detailed Design Stage

(1) Borehole for the Piped Water Scheme

In this project, boreholes are planned as a water source for piped water supply scheme, and the required number of successful (positive) boreholes at each target site is shown in Table-1.
Although some boreholes were secured by the test drilling conducted during the Preparatory Survey, as Niassa Province is a very difficult area for groundwater development, many drilling were unsuccessful (negative).

Taking in consideration the risks of significant change in the design of the water supply system and also the planned number of served population may not be achieved due to negative boreholes during the implementation stage, the number of test drilling were reconsidered. Therefore, it was decided to calculate the number of test drilling based on the actual results of the test drilling conducted during the preparatory survey.

Table-1 Planned number of positive boreholes that need to be added

Site name	Planned Positive Boreholes(a)	Already Secured Positive Boreholes (b)	Additional Boreholes(a-b)
Mavago	4	2 (include 1 existing borehole)	2
Muembe	3	2	1
Mandimba	8	3	5
Majune	2	2	—
Total	17	9 (include 1 existing borehole)	8

(2) Successful Ratio for Test Drilling

For the calculation of successful ratio of test drilling, it was used the ratio achieved during the Preparatory Survey as shown in the Table 2.

Table -2 Result of Test Drilling during the Preparatory Survey

	Classification	Work done	Quantity
①	Total drilled borehole	a. Drilled 24 boreholes b. Positive: 8 nos. Successful ratio: 8/24=33.3%	Positive: 8 nos. Negative: 16 nos.
②	Drilling method	a. DTH: drilling in consolidated geological formation b. Mud Circulation drilling: un-consolidated geological formation	18 nos. (75%) 6 nos. (25%)
③	Negative results by water quantity	a. Considered dry hole during drilling b. Low yield during pumping test	14 nos. (87.5%) 2 nos. (12.5%)
④	Negative results by water quality		Nil

DTH: Down-the-Hole Hammer

Considering the above-mentioned results of the Preparatory Survey, the number of test drilling for the piped water supply scheme during the Detailed Design Survey is as follows.

Table-3 Estimated Number of Test Drilling at the Detailed Design Stage

	Classification	Work/Conditions	Quantity
①	Total boreholes to be drilled	Successful ratio indicated in Table-2 shall be used (Rate: 33.3%)	Positive: 8nos. Negative: 16nos. Total: 24 nos.
②	Drilling Method	a. DTH: drilling in consolidated geological formation (75%) b. Mud Circulation drilling: un-consolidated geological formation (25%)	18 nos. (75%) 6 nos. (25%) Total: 24nos.
③	Negative results by water quantity	a. Considered dry hole during drilling (87.5%) b. Low yield after the pumping test (12.5%)	14 nos. (87.5%) 2 nos. (12.5%)
④	Negative results by water quality		Nil

(3) Policy on the Results of the Number of Test Drilling at the Detailed Design Stage

As mentioned above, 24 test drillings are planned, but the results are roughly estimated to fall into the following patterns.

a. Pattern-1 : The number of positive test drilling is obtained as planned.
b. Pattern-2 : Even after drilling 24 boreholes, the number of positive boreholes is not achieved.
c. Pattern-3 : The required number of positive boreholes is obtained with less than 24 nos. of Test Drillings.

In this project, the above Patterns will be dealt within the following priority order.

Table-4 Patterns of Test Drilling Results and Response Policy

Pattern	Response policy	Required Procedures
【Pattern-1】 The number of positive test drilling is obtained as planned	Proceed to the Detailed Design work as originally planned.	Nothing to add.
【Pattern-2】 Even after drilling 24 boreholes, the number of positive boreholes is not achieved	The test drilling work in the Detailed Design will be ended with 24 test drillings, and the water supply facility dimension will be reviewed based on the number of successful boreholes obtained.	Request design change to JICA

Pattern	Response policy	Required Procedures
【Pattern-3】 The required number of positive boreholes is obtained with less than 24 nos. of test drillings	The test drilling work is completed and the number of test drillings that have not been performed will be reduced from the Consultant agreement amount.	Reduction of Agreement amount will follow the rules of JICA for Design Change.

During the implementation stage, all the required procedures related to the result obtained in the test drilling, will be discussed firstly between the Implementing Agency and the Consultant. After that, the Consultant will inform to JICA and discuss for further procedures and necessary approvals.

(4) Target discharge of test drilling at the Detailed Design Stage

The Table-5 shows the discharge and water quality standards to be achieved in the test drilling.

Table-5 Target Discharge and Water Quality

Site	Discharge (planned)※	Water Quality
Mavago	>6.2m^3/hr/borehole	Water quality standard of Mozambique
Muembe	>6.6m^3/hr/borehole	
Mandimba	>5.4m^3/hr/borehole	

※Since it is an area where groundwater development is difficult, the planned discharge amount per borehole is calculated according to the water demand at each site, not the discharge rate to judge if the borehole is positive or negative.

However, regarding water quality, if an item that is harmful to the human body or an item that is difficult to treat is detected, the test drilled borehole shall be backfilled and considered negative borehole regardless of the amount of water.

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