

Table 2.2.2 Evaluation on Natural Conditions

No.	Village	Elev.	Pop.	Exist. Source	Access	Geology	Topo.	G-water Potential	W. Auality	Overall Eval.
Masaka Destrict										
Ma 1	Bukango B	1,239	600	A	B	B	B	A	A	A
Ma 2	Kasambya	1,250	700	A	B	B	C	A	A	A
Ma 3	Kigangazzi P/S	1,239	560	A	B	B	C	A	A	A
Ma 4	Kyawamala	1,245	900	A	B	B	B	A	A	A
Ma 5	Mijunwa	1,208	1,060	A	B	B	B	B	A	B
Ma 6	Mbirizi P/S	1,299	455	A	B	B	B	B	A	B
Ma 7	Kisala	1,300	380	A	B	B	C	B	A	C
Ma 8	Kigaba	1,206	400	A	B	B	B	B	A	B
Ma 9	Kyankole A	1,276	450	A	B	B	B	B	A	B
Ma 10	Kagando	1,280	710	A	B	B	B	B	A	B
Ma 11	Kamanda	1,225	640	A	B	B	B	C	A	C
Ma 12	Katoma	1,217	440	A	B	B	B	C	A	C
Ma 13	Kassebwavu P/S	1,247	1,000	A	B	B	C	C	A	C
Ma 14	Kagogo H/C	1,248	1,025	A	B	B	B	B	A	B
Ma 15	Buwembo	1,280	490	A	B	B	B	A	A	A
Ma 16	Kyankonko	1,272	590	A	B	B	B	A	A	A
Ma 17	Lukaawa P/S	1,316	520	A	B	B	B	B	A	B
Ma 18	Kirinda	1,237	750	A	B	B	B	A	A	A
Ma 19	Kyakajwiga P/S	1,209	640	A	B	B	B	B	A	B
Ma 20	Miteteero	1,258	480	A	B	B	A	A	A	A
Ma 21	Kaligondo T/C	1,308	780	A	B	B	B	C	B	C
Ma 22	Kitwa	1,291	600	A	A	B	B-C	B	B	B
Ma 23	Bbuuliro P/S	1,134	627	A	B	A	A	B	B	B
Ma 24	Kyesiga P/S	1,228	888	A	B	A	B-C	B	B	B
Ma 25	Katwe T/C	1,250	380	A	B	A	B	A	B	A
Ma 26	Nsangamo	1,287	1,485	A	B	B	B	B	A	B
Ma 27	Kyetume	1,281	535	A	A	B	B	B	A	B
Ma 28	Kyamakata	1,248	620	A	B	B	B	B	A	B
Ma 29	Kibaale	1,246	728	A	B	B	B	A	A	A
Ma 30	Bunyere	1,270	780	A	A	B	B	A	A	A
Ma 31	Kalegero	1,305	620	A	B	B	B	C	A	C
Ma 32	Mpembwe	1,270	400	A	B	B	B	B	A	B
Ma 33	Bigando	1,313	400	A	B	B	B	B	A	B
Ma 34	Ngondati	1,258	775	A	B	B	B	B	A	B
Ma 35	Busibo B	1,313	455	A	B	A	B	B	A	B
Ma 36	Lyakibilizi	1,342	720	A	B	B	B	A	A	A
Ma 37	Lubaale	1,269	520	A	B	A	B	B	A	B
Ma 38	Kyampisi	1,318	340	A	B	B	B	C	A	C
Ma 39	Kyetume	1,288	535	A	B	B	B	B	A	B
Ma 40	Kiryankuyege	1,316	390	A	B	B	B	C	A	C
Ma 41	Lutoma	1,308	600	A	B	B	C	C	A	C
Ma 42	Gwanika	1,290	400	A	B	A	B	B	A	B
Ma 43	Kakolongo	1,307	2,400	A	B	A	B	B	A	B
Ma 44	Lwemiyaga	1,422	850	A	B	A	C	C	A	C
Ma 45	Kyannangazi	1,312	905	A	B	A	B-C	B	A	B
Ma 46	Kabambira	1,303	120	A	B	A	B	B	A	B
Ma 47	Kabimba	1,284	400	A	B	B	B	A	A	A
Ma 48	Bukulula	1,278	700	A	B	B	B	B	A	B
Ma 49	Kisalila	1,291	754	A	B	B	B	B	A	B
Ma 50	Kyantale	1,272	275	A	B	B	B	A	A	A
Ma 51	Kijwala	1,248	400	A	B	A	B	B	A	B
Ma 52	Kitokolo	1,270	490	A	B	B	B	C	B	C
Ma 53	Kisalamatu	1,246	220	A	B	B	B	B	B	B

Table 2.2.2 Evaluation on Natural Conditions

No.	Village	Elev.	Pop.	Exist. Source	Access	Geology	Topo.	G-water Potential	W. Auality	Overall Eval.
Ma 54	Bulingo P/S	1,166	1,000	A	B	B	A	B	B	B
Ma 55	Kalangala P/S	1,165	500	A	B	B	B	B	B	B
Ma 56	Kireterwa	1,262	400	A	B	B	B	C	B	C
Ma 57	Kagasa	1,296	768	A	B	B	B	B	B	B
Ma 58	Kabungo A	1,290	250	A	B	B	B-C	A	B	A
Ma 59	Kyamulibwa P/S	1,253	1,300	A	B	A	B	B	B	B
Ma 60	Kamuwunga P/S	1,148	1,120	A	B	A	A	A	B	A
Ma 61	Kityaba	1,206	560	A	B	A	B	A	B	A
Ma 62	Sserinya	1,202	340	A	B	A	B	B	B	B
Ma 63	Kiteredde	1,190	355	A	B	A	A	A	B	A
Mukono District										
Mu 1	Kikoma P/S	1,279	1,500	A	B	B	B	B	A	B
Mu 2	Nakikunyu	1,322	1,200	A	B	B	B	B	A	B
Mu 3	Kasokoso P/S	1,191	490	A	B	A	C	A	A	A
Mu 4	Lugala Kituuti	1,209	698	A	B	A	B	C	A	C
Mu 5	Lukalu	1,344	250	A	B	B	B	C	A	C
Mu 6	Makindu H/C	1,220	600	A	B	B	B	A	A	A
Mu 7	Buvunya	1,521	920	A	B	A	B	B	A	B
Mu 8	Kikube P/S	1,489	1,250	A	B	A	B	A	A	A
Mu 9	Baskerville	1,214	150	A	B	B	B	A	A	A
Mu 10	Bubiro P/S	1,333	338	A	A	B	C	C	A	C
Mu 11	Bukamunye	1,169	1,692	A	B	B	B	B	A	B
Mu 12	Kikondo	1,183	850	A	B	B	B	B	A	B
Mu 13	Tongolo I P/S	1,170	700	A	B	B	B	B	A	B
Mu 14	Gaba	1,324	200	A	B	A	B	C	A	C
Mu 15	Kisigula Center	1,322	110	A	B	A	C	C	A	C
Mu 16	Malindi-B	1,150	1,300	A	A	A	A	A	A	A
Mu 17	Owino Wakikoola A	1,152	700	A	A	A	B	B	A	B
Mu 18	Wakisi Market S/C Htrs	1,159	2,400	A	A	A	B	B	A	B
Mu 19	Kasokoso	1,174	210	A	A	B	A	B	A	B
Mu 20	Nakagere	1,163	373	A	A	B	B	C	A	C
Mu 21	Mbalala Lower side	1,125	700	A	A	B	A	B	A	B
Mu 22	Ajiiija	1,255	2,000	C	A	B	B	C	A	C
Mu 23	Kitayunnja-B	1,085	1,200	A	B	B	A	B	B	B
Mu 24	Kasozzi (B)	1,173	1,700	A	A	B	B	A	A	A
Mu 25	Kibuye/Kiyunga	1,202	400	A	A	B	B	B	A	B
Mu 26	Katente B	1,219	700	A	B	A	A	A	A	A
Mu 27	Kirondo	1,217	390	A	A	A	B	B	A	B
Mu 28	Ntakafunvu	1,210	280	A	A	A	B	B	A	B
Mu 29	Namawojolo Sch. Side	1,163	820	A	B	A	B	B	A	B
Mu 30	Kisoga	1,202	1,200	A	B	A	B	A	A	A
Mu 31	Mpunge	1,145	2,205	A	B	B	B	A	A	A
Mu 32	Nsanja	1,220	720	A	B	B	B	C	A	C
Mu 33	Kakira	1,105	1,400	A	B	B	B	A	B	A
Mu 34	Kigayaza P/S	1,129	1,000	A	B	B	B	A	B	A
Mu 35	Mubanda P/S	1,107	1,500	A	B	B	A	C	B	C
Mu 36	Kawongo	1,138	1,500	A	A	B	B	B	B	B
Mu 37	Kawuku	1,137	2,000	A	A	B	B	C	B	C
Mu 38	Bamusuuta B	1,143	810	A	A	B	B	B	B	B
Mu 39	Makukuba	1,120	2,000	A	B	B	A	C	B	C
Mu 40	Nakiwate	1,162	1,193	A	A	B	C	C	B	C
Mu 41	Galabi	1,155	620	A	B	A	B	A	A	A
Mu 42	Mayangayanga	1,172	400	A	B	B	B	B	A	B
Mu 43	Ntonto	1,106	590	A	B	B	A	B	B	B
Mu 44	Katuuso	1,099	470	A	B	B	B	C	A	C

Table 2.2.2 Evaluation on Natural Conditions

No.	Village	Elev.	Pop.	Exist. Source	Access	Geology	Topo.	G-water Potential	W. Auality	Overall Eval.
Mu 45	Namuganga S.S.S.	1,102	450	A	B	B	B	B	A	B
Mu 46	Ntonto	1,054	400	A	B	B	A	B	A	B
Kayunga District										
Ky 1	Gayaza	1,079	647	A	A	B	B	A	A	A
Ky 2	Namirembe	1,072	656	A	B	B	B	B	A	B
Ky 3	Gweero	1,086	556	A	B	B	A	A	B	A
Ky 4	Kiryala	1,062	421	A	B	B	B	A	B	A
Ky 5	Namalere	1,058	790	A	B	B	A	B	B	B
Ky 6	Kiwenda	1,067	625	A	B	B	B	C	B	C
Ky 7	Nkutu	1,090	408	A	B	B	B	B	B	B
Ky 8	Kaato	1,080	713	A	B	B	A	B	B	B
Ky 9	Makukulu	1,083	598	A	B	B	B	A	B	A
Ky 10	Nawansama	1,077	507	C	B	B	B	B	B	C
Ky 11	Bulawula-A	1,099	539	A	B	B	B	B	B	B
Ky 12	Bulawula-B	1,106	488	A	B	B	A	B	B	B
Ky 13	Kitatya C	1,095	1,017	A	B	B	B	A	B	A
Ky 14	Kitimbwa	1,090	936	A	A	B	B	B	B	B
Ky 15	Kyetume	1,100	1,993	A	B	B	B	B	B	B
Ky 16	Mansa (B)	1,103	964	A	B	B	A	B	B	B
Ky 17	Nakivubo-A	1,077	862	A	A	B	B	B	B	B
Ky 18	Namabuga	1,083	618	A	B	B	A	B	B	B
Ky 19	Namulaba	1,103	1,050	A	A	B	B	C	B	C
Ky 20	Wabwoko	1,079	974	A	A	B	B	B	B	B
Ky 21	Bugadu-B	1,123	1,608	A	A	B	B	B	B	B
Ky 22	Kayonjo	1,108	1,244	A	B	B	B	B	B	B
Ky 23	Kitala	1,101	749	A	A	B	B	B	B	B
Ky 24	Namusala	1,114	1,027	A	A	B	A	B	B	B
Ky 25	Kitabazi	1,080	597	A	B	B	A	A	A	A
Ky 26	Kisaba-Moyonga	1,082	700	A	B	B	B	B	A	B
Ky 27	Ndeeba	1,079	360	A	A	B	A	B	A	B
Ky 28	Ntenjeru W	1,084	410	A	A	B	B	B	A	B
Ky 29	Bunyumya	1,113	780	A	B	B	B	B	A	B
Ky 30	Kaazi	1,098	1,120	A	A	B	B	B	A	B
Ky 31	Katikamu	1,082	689	A	B	B	A	B	A	B
Ky 32	Kisobmwa	1,103	482	A	B	B	A	B	A	B
Ky 33	Kyanya	1,058	842	A	A	B	B	B	A	B
Ky 34	Nakaseeta	1,110	1,033	A	B	B	B	A	A	A
Ky 35	Nazigo	1,160	1,562	A	A	B	B	A	A	A
Ky 36	Kirindi	1,078	800	A	A	B	B	B	A	B
Ky 37	Kiteredde	1,086	700	A	A	B	B	A	A	A
Ky 38	Kizika	1,154	1,277	A	B	B	B	B	A	B
Ky 39	Nakatooke	1,084	1,000	A	A	B	B	A	A	A
Ky 40	Namirembe	1,111	1,004	A	A	B	B	A	A	A
Ky 41	Gombolola	1,121	442	A	A	B	B	B	A	B

Table 2.2.3 Evaluation on Socio-economic Conditions

No.	Village	Elev.	Pop.	Willingness to Pay Water Charge			Difficulty in Obtaining Water			Health and Sanitation		Overall Eval.
				Interv. 1	Interv. 2	Eval.	Dist. (m)	Time (hr)	Eval.	Water Borne Disease	Eval.	
Masaka District												
Ma 1	Bukango B	1,239	600	1	1	A	0	0	A	6	C	A
Ma 2	Kasambya	1,250	700	1	1	A	0	0	A	4	C	A
Ma 3	Kigangazzi P/S	1,239	560	3	3	B	0	0	A	6	C	A
Ma 4	Kyawamala	1,245	900	1	3	A	0	0	A	6	C	A
Ma 5	Mijunwa	1,208	1,060	3	3	B	0	0	A	10	A	A
Ma 6	Mbirizi P/S	1,299	455	3	1	A	0	0	A	3	D	B
Ma 7	Kisala	1,300	380	1	3	A	0	0	A	8	B	A
Ma 8	Kigaba	1,206	400	1	1	A	500	30	C	4	C	A
Ma 9	Kyankole A	1,276	450	1	1	A	0	0	A	5	C	A
Ma 10	Kagando	1,280	710	1	1	A	805	60	A	4	C	A
Ma 11	Kamanda	1,225	640	1	1	A	0	0	A	5	C	A
Ma 12	Katoma	1,217	440	1	1	A	0	0	A	5	C	A
Ma 13	Kassebwavu P/S	1,247	1,000	1	1	A	0	0	A	3	D	B
Ma 14	Kagogo H/C	1,248	1,025	1	1	A	900	55	C	5	C	A
Ma 15	Buwembo	1,280	490	3	1	A	0	0	A	7	B	A
Ma 16	Kyankonko	1,272	590	1	1	A	0	0	A	4	C	A
Ma 17	Lukaawa P/S	1,316	520	1	1	A	0	0	A	2	D	B
Ma 18	Kirinda	1,237	750	1	1	A	0	0	A	4	C	A
Ma 19	Kyakajwiga P/S	1,209	640	3	3	B	0	0	A	7	B	A
Ma 20	Miteteero	1,258	480	1	1	A	0	0	A	4	C	A
Ma 21	Kaligondo T/C	1,308	780	1	1	A	0	0	A	5	C	A
Ma 22	Kitwa	1,291	600	1	1	A	0	0	A	3	D	B
Ma 23	Bbuuliro P/S	1,134	627	2	3	C	0	0	A	4	C	A
Ma 24	Kyesiga P/S	1,228	888	1	1	A	0	0	A	6	C	A
Ma 25	Katwe T/C	1,250	380	3	2	C	0	0	A	6	C	A
Ma 26	Nsangamo	1,287	1,485	1	1	A	0	0	A	3	D	B
Ma 27	Kyetume	1,281	535	1	1	A	130	30	C	2	D	B
Ma 28	Kyamakata	1,248	620	3	1	A	0	0	A	11	A	A
Ma 29	Kibaale	1,246	728	1	1	A	0	0	A	6	C	A
Ma 30	Bunyere	1,270	780	1	3	A	0	0	A	4	C	A
Ma 31	Kalegero	1,305	620	3	3	B	0	0	A	6	C	A
Ma 32	Mpembwe	1,270	400	1	3	A	0	0	A	4	C	A
Ma 33	Bigando	1,313	400	1	3	A	0	0	A	4	C	A
Ma 34	Ngondati	1,258	775	1	1	A	200	25	D	1	D	B
Ma 35	Busibo B	1,313	455	1	2	B	0	0	A	7	B	A
Ma 36	Lyakibilizi	1,342	720	3	1	A	0	0	A	5	C	A
Ma 37	Lubaale	1,269	520	3	1	A	0	0	A	6	C	A
Ma 38	Kyampisi	1,318	340	1	1	A	0	0	A	4	C	A
Ma 39	Kyetume	1,288	535	1	1	A	250	20	D	3	D	B
Ma 40	Kiryankuyege	1,316	390	1	1	A	0	0	A	4	C	A
Ma 41	Lutoma	1,308	600	1	1	A	0	0	A	5	C	A
Ma 42	Gwanika	1,290	400	1	1	A	0	0	A	3	D	B
Ma 43	Kakolongo	1,307	2,400	1	1	A	0	0	A	8	B	A
Ma 44	Lwemiyaga	1,422	850	1	1	A	0	0	A	4	C	A
Ma 45	Kyannangazi	1,312	905	2	2	D	0	0	A	3	D	C
Ma 46	Kabambira	1,303	120	1	1	A	0	0	A	6	C	A
Ma 47	Kabimba	1,284	400	1	3	A	0	0	A	4	C	A
Ma 48	Bukulula	1,278	700	1	1	A	0	0	A	4	C	A
Ma 49	Kisalila	1,291	754	2	2	D	0	0	A	2	D	C
Ma 50	Kyantale	1,272	275	1	1	A	0	0	A	5	C	A

Table 2.2.3 Evaluation on Socio-economic Conditions

No.	Village	Elev.	Pop.	Willingness to Pay Water Charge			Difficulty in Obtaining Water			Health and Sanitation		Overall Eval.
				Interv. 1	Interv. 2	Eval.	Dist. (m)	Time (hr)	Eval.	Water Borne Disease	Eval.	
Ma 51	Kijwala	1,248	400	1	1	A	0	0	A	8	B	A
Ma 52	Kitokolo	1,270	490	1	1	A	2,150	68	A	7	B	A
Ma 53	Kisalamatu	1,246	220	1	1	A	0	0	A	7	B	A
Ma 54	Bulingo P/S	1,166	1,000	1	1	A	0	0	A	4	C	A
Ma 55	Kalangala P/S	1,165	500	1	1	A	0	0	A	6	C	A
Ma 56	Kireterwa	1,262	400	1	3	A	0	0	A	4	C	A
Ma 57	Kagasa	1,296	768	1	1	A	1,600	45	B	2	D	B
Ma 58	Kabungo A	1,290	250	3	3	B	0	0	A	3	D	B
Ma 59	Kyamulibwa P/S	1,253	1,300	1	1	A	1,610	30	B	4	C	A
Ma 60	Kamuwunga P/S	1,148	1,120	1	1	A	0	0	A	5	C	A
Ma 61	Kityaba	1,206	560	1	1	A	0	0	A	8	B	A
Ma 62	Sserinya	1,202	340	1	1	A	0	0	A	7	B	A
Ma 63	Kiteredde	1,190	355	1	1	A	0	0	A	8	B	A
Mukono District												
Mu 1	Kikoma P/S	1,279	1,500	1	1	A	900	33	C	5	C	A
Mu 2	Nakikunyu	1,322	1,200	2	3	C	800	45	C	8	B	A
Mu 3	Kasokoso P/S	1,191	490	1	1	A	1,000	60	A	3	D	B
Mu 4	Lugala Kituuti	1,209	698	1	1	A	500	30	C	3	D	B
Mu 5	Lukalu	1,344	250	1	1	A	1,500	50	B	4	C	A
Mu 6	Makindu H/C	1,220	600	1	1	A	500	30	C	3	D	B
Mu 7	Buvunya	1,521	920	1	1	A	0	0	A	4	C	A
Mu 8	Kikube P/S	1,489	1,250	?	1	A	1,250	35	B	4	C	A
Mu 9	Baskerville	1,214	150	3	1	A	300	40	C	4	C	A
Mu 10	Bubiro P/S	1,333	338	3	1	A	0	0	A	2	D	B
Mu 11	Bukamunye	1,169	1,692	1	1	A	1,750	60	A	7	B	A
Mu 12	Kikondo	1,183	850	3	1	A	2,800	90	A	4	C	A
Mu 13	Tongolo I P/S	1,170	700	3	3	B	1,500	90	A	4	C	A
Mu 14	Gaba	1,324	200	1	3	A	1,500	120	A	5	C	A
Mu 15	Kisigula Center	1,322	110	1	1	A	0	0	A	4	C	A
Mu 16	Malindi-B	1,150	1,300	1	1	A	200	45	C	7	B	A
Mu 17	Owino Wakikoola A	1,152	700	1	?	A	1,600	120	A	7	B	A
Mu 18	Wakisi Market S/C Htrs	1,159	2,400	1	?	A	2,000	240	A	8	B	A
Mu 19	Kasokoso	1,174	210	1	1	A	900	55	C	6	C	A
Mu 20	Nakagere	1,163	373	1	1	A	800	45	C	7	B	A
Mu 21	Mbalala Lower side	1,125	700	1	1	A	1,550	95	A	12	A	A
Mu 22	Ajjijja	1,255	2,000	1	1	A	2,500	150	A	7	B	A
Mu 23	Kitayunnja-B	1,085	1,200	1	1	A	1,000	40	B	4	C	A
Mu 24	Kasozi (B)	1,173	1,700	1	3	A	0	0	A	4	C	A
Mu 25	Kibuye/Kiyunga	1,202	400	1	1	A	1,033	42	B	4	C	A
Mu 26	Katente B	1,219	700	1	1	A	1,750	120	A	4	C	A
Mu 27	Kirondo	1,217	390	1	1	A	1,250	120	A	4	C	A
Mu 28	Ntakafunvu	1,210	280	1	1	A	0	0	A	4	C	A
Mu 29	Namawojolo Sch. Side	1,163	820	1	1	A	225	30	C	3	D	B
Mu 30	Kisoga	1,202	1,200	1	1	A	500	128	A	7	B	A
Mu 31	Mpunge	1,145	2,205	1	1	A	1,600	45	B	10	A	A
Mu 32	Nsanja	1,220	720	3	1	A	2,800	90	A	5	C	A
Mu 33	Kakira	1,105	1,400	1	1	A	3,200	180	A	7	B	A
Mu 34	Kigayaza P/S	1,129	1,000	1	1	A	1,600	90	A	6	C	A
Mu 35	Mubanda P/S	1,107	1,500	1	1	A	500	35	C	5	C	A
Mu 36	Kawongo	1,138	1,500	3	1	A	1,400	120	A	3	D	B
Mu 37	Kawuku	1,137	2,000	3	1	A	0	0	A	5	C	A
Mu 38	Bamusuuta B	1,143	810	1	1	A	1,000	60	A	4	C	A

Table 2.2.3 Evaluation on Socio-economic Conditions

No.	Village	Elev.	Pop.	Willingness to Pay Water Charge			Difficulty in Obtaining Water			Health and Sanitation		Overall Eval.
				Interv. 1	Interv. 2	Eval.	Dist. (m)	Time (hr)	Eval.	Water Borne Disease	Eval.	
Mu 39	Makukuba	1,120	2,000	1	1	A	2,300	45	B	7	B	A
Mu 40	Nakiwate	1,162	1,193	1	1	A	0	0	A	8	B	A
Mu 41	Galabi	1,155	620	1	1	A	500	40	C	4	C	A
Mu 42	Mayangayanga	1,172	400	1	1	A	0	0	A	4	C	A
Mu 43	Ntonto	1,106	590	1	1	A	2,000	30	B	4	C	A
Mu 44	Katuuso	1,099	470	1	1	A	1,000	45	B	3	D	B
Mu 45	Namuganga S.S.S.	1,102	450	1	1	A	317	37	C	4	C	A
Mu 46	Ntonto	1,054	400	1	1	A	750	45	C	6	C	A
Kayunga District												
Ky 1	Gayaza	1,079	647	1	1	A	0	0	A	6	C	A
Ky 2	Namirembe	1,072	656	1	1	A	0	0	A	3	D	B
Ky 3	Gweero	1,086	556	1	1	A	1,800	45	B	8	B	A
Ky 4	Kiryala	1,062	421	1	1	A	0	0	A	9	B	A
Ky 5	Namalere	1,058	790	1	1	A	900	45	C	8	B	A
Ky 6	Kiwenda	1,067	625	3	1	A	0	0	A	7	B	A
Ky 7	Nkutu	1,090	408	1	3	A	4,800	240	A	7	B	A
Ky 8	Kaato	1,080	713	1	1	A	2,800	180	A	17	A	A
Ky 9	Makukulu	1,083	598	1	1	A	0	0	A	5	C	A
Ky 10	Nawansama	1,077	507	1	1	A	2,000	105	A	4	C	A
Ky 11	Bulawula-A	1,099	539	3	3	B	800	90	A	5	C	A
Ky 12	Bulawula-B	1,106	488	3	1	A	800	45	C	4	C	A
Ky 13	Kitatya C	1,095	1,017	3	1	A	0	0	A	4	C	A
Ky 14	Kitimbwa	1,090	936	1	1	A	1,050	120	A	9	B	A
Ky 15	Kyetume	1,100	1,993	1	1	A	1,050	25	B	4	C	A
Ky 16	Mansa (B)	1,103	964	1	1	A	2,000	45	B	3	D	B
Ky 17	Nakivubo-A	1,077	862	1	3	A	400	135	A	6	C	A
Ky 18	Namabuga	1,083	618	1	1	A	3,000	240	A	15	A	A
Ky 19	Namulaba	1,103	1,050	3	3	B	0	0	A	4	C	A
Ky 20	Wabwoko	1,079	974	1	1	A	400	15	D	4	C	A
Ky 21	Bugadu-B	1,123	1,608	1	1	A	6,400	180	A	4	C	A
Ky 22	Kayonjo	1,108	1,244	1	3	A	1,500	180	A	4	C	A
Ky 23	Kitala	1,101	749	1	1	A	0	0	A	2	D	B
Ky 24	Namusala	1,114	1,027	1	1	A	0	0	A	5	C	A
Ky 25	Kitabazi	1,080	597	1	1	A	1,550	75	A	2	D	B
Ky 26	Kisaba-Moyonga	1,082	700	1	1	A	500	13	D	4	C	A
Ky 27	Ndeeba	1,079	360	1	1	A	2,400	120	A	3	D	B
Ky 28	Ntenjeru W	1,084	410	1	1	A	550	120	A	5	C	A
Ky 29	Bunyumya	1,113	780	1	1	A	4,800	180	A	8	B	A
Ky 30	Kaazi	1,098	1,120	1	1	A	300	105	A	4	C	A
Ky 31	Katikamu	1,082	689	1	3	A	300	180	A	5	C	A
Ky 32	Kisobmwa	1,103	482	1	1	A	2,000	210	A	4	C	A
Ky 33	Kyanya	1,058	842	1	1	A	3,600	300	A	12	A	A
Ky 34	Nakaseeta	1,110	1,033	1	1	A	1,200	120	A	4	C	A
Ky 35	Nazigo	1,160	1,562	1	1	A	0	0	A	13	A	A
Ky 36	Kirindi	1,078	800	3	1	A	0	0	A	7	B	A
Ky 37	Kiteredde	1,086	700	3	1	A	0	0	A	5	C	A
Ky 38	Kizika	1,154	1,277	1	1	A	1,000	60	A	14	A	A
Ky 39	Nakatooke	1,084	1,000	1	3	A	0	0	A	8	B	A
Ky 40	Namirembe	1,111	1,004	1	1	A	2,800	195	A	10	A	A
Ky 41	Gombolola	1,121	442	1	1	A	1,600	120	A	10	A	A

Table 2.2.4 Depth of Existing Borehole and Depth to Base Rock

Subcounty	No. of Data	No. of Existing Boreholes		Plan				
		Avg. Depth	Avg. Depth to Base Rock	No. of Bore-holes	Planned Depth	Depth to Base Rock	Avg. Depth of Borehole	Avg. Depth to Base Rock
Kayunga District				38	2,537.5	1,250.0	66	33
Bbaale	38	82.5	47.7	2	165	95.4		
Galiraya	25	78.9	37.8	4	315.6	151.2		
Kayanza	103	74.6	36.1	2	149.2	72.2		
Kitimbwe	34	60.8	30.4	0	0	0		
Busaana	71	61.3	31.1	4	245.2	124.4		
Ntengera	29	59.4	31	0	0	0		
Kayunga	39	56.8	26.6	9	511.2	239.4		
Ntengeru town	7	52.7	34.5	0	0	0		
Nagigo	10	59.8	30.2	7	418.6	211.4		
Wabwoko	Data of Kayanza	74.6	36.1	9	671.4	324.9		
Kangulumira	Data of Busaana	61.3	31.1	1	61.3	31.1		
Mukono District				33	1899.7	1004.9	58	30
Buikwe	5	47.4	31.7	2	94.8	63.4		
Kawolo	4	65	33.8	1	65	33.8		
Buikwe council	17	85.5	44.9	0	0	0		
Najjembe	2	63.9	31.3	2	127.8	62.6		
Ngogwe	6	83	45.6	1	83	45.6		
Nyenga	9	60.8	21.8	3	182.4	65.4		
Wakisi	3	26	8.3	3	78	24.9		
Goma	10	68.2	34.5	1	68.2	34.5		
Kyampisi	9	54.7	37.1	2	109.4	74.2		
Kauga	13	77.4	31.4	0	0	0		
Nakisunga	10	56.4	44.9	3	169.2	134.7		
Ntenjeru	12	81.4	47	2	162.8	94		
Kasawo	28	50.9	32.8	2	101.8	65.6		
Nabbaale	8	43.9	25.6	1	43.9	25.6		
Nagojje	2	63.5	22	2	127	44		
Nakifuma	13	51.2	32.6	0	0	0		
Namganga	1	58	51	0	0	0		
Seeta	23	46.5	28	2	93	56		
Najja	Data of Kawalo	65	33.8	1	65	33.8		
Ssi	Data of Nyenga	60.8	21.8	0	0	0		
Nama	Data of Goma	68.2	34.5	2	136.4	69		
Ntunda	Data of Nagojje	63.5	22	2	127	44		
Kimenyedde	Data of Kawalo	65	33.8	1	65	33.8		
Masaka District				49	4,009.3	2,404.1	82	49
Bigasa	2	79	62.9	5	395	314.5		
Butenga	15	66	31.1	3	198	93.3		
Kibinge	2	62.1	52.4	1	62.1	52.4		
Kitanda	3	81.3	48.8	7	569.1	341.6		
Bukakata	1	100	60	0	0	0		
Kaswa	3	96	58.8	0	0	0		
Kisekka	11	67.8	45.6	4	271.2	182.4		
Kyanamkaka	1	85.4	73.2	3	256.2	219.6		
Lwengo	17	80.5	37.2	2	161	74.4		
Malongo	4	72.8	37.9	1	72.8	37.9		
Mukungwe	5	100.9	65	1	100.9	65		
Bukalula	7	99.5	43.1	3	298.5	129.3		
Kalungu	5	104.2	64.8	2	208.4	129.6		
Kyamulibwa	5	84.5	46.6	1	84.5	46.6		
Lwemiyaga	19	82.9	23.9	0	0	0		
Ntusi	17	95.5	61.2	0	0	0		
Lwebitakuli	75	85.5	32.7	0	0	0		
Mateete	37	89.4	44.1	0	0	0		
Mijwala	49	100.1	35.6	0	0	0		
Buwunga	Data of Kisekka	67.8	45.6	1	67.8	45.6		
Kkingo	Data of Lwengo	80.5	37.2	3	241.5	111.6		
Kyazanga	Data of Lwengo	80.5	37.2	3	241.5	111.6		
Ndagwe	Data of Malongo	72.8	37.9	5	364.0	189.5		
Lkaya T/C	Data of Kalungu	104.2	64.8	1	104.2	64.8		
Lwabenge	Data of Kalungu	104.2	64.8	3	312.6	194.4		
Total	=	=	=	120	8,446.5	4,659.0	70	39

Table 2.2.5 Project Design Matrix for Software Assistance

Project: The Project for Rural Water Supply in Central Uganda

Location : Uganda

Duration:

Target Group: Local Community

Made in August 2003

Narrative Summary		Verifiable Indicators	Means of Verification	Important Assumptions
<u>Super Goal</u> Poverty reduction: Improvement of quality of life		Rural water supply rate Water-borne disease rate Toilet provision rate	Data from District Water Office Project Impact Study Report	
<u>Overall Goal</u> Sustainability of the project handpumps Improvement of handpump users' health, sanitation and hygiene in relation to safe water		Rate of operation of project handpumps Latrine coverage rate Conditions and prevalence of water-borne diseases Sanitation/Hygiene conditions in the communities and at home Awareness and understanding of handpump users that the handpumps improved their health	Project Impact Study Report Data from District Health Office Community Mobilization and Sensitization Report	Water policy and national development policy of Uganda remain the same
<u>Purpose of Software Assistance Program</u> Participatory/community-based O&M based on the basic principles of sense of ownership and gender equality Stronger system of support to WSC Improved HPM's activities for handpump repair and maintenance		Awareness and understanding of handpump users that they own the handpumps and must take good care of them Rate of women's participation in WSC meetings and activities Rate of women among WSC executives Women's opinions are reflected in WSC and O&M activities Conditions of frequencies of monitoring of WSC and handpumps by local government staff Conditions and frequencies of handpump repair by HPMs	Project Report Community Mobilization and Sensitization Report Software Assistance Impact Study Report Monitoring records/forms Handpump repair records/forms	Unexpected events such as epidemics, flood, drought, etc. that damage health, sanitation and hygiene of handpump users
<u>Outputs</u>				
2-74	(knowledge/attitudes)	(actions)		
	1 Handpump users understand aims, roles and importance of WSC, and are willing and motivated to take part in WSC	Handpump user participate in WSC activities of their own accord	Rate of participation in WSC meetings and activities (No. of participants) / Number of participants in well construction Rate of payment of O&M fee Observance of WSC rules Understanding of WSC	Community Mobilization and Sensitization Report Records of WSC/Community Meetings, and WSC activities Records of O&M collection Software Assistance Impact Study Report
	2 The concerned persons at the local government understand aims, roles and importance of WSC, and are willing and motivated to take part in WSC support	Local government officers engage in WSC support activities such as monitoring of WSC and handpump conditions and major repairs of handpumps	No. and frequencies of visits to handpumps by local government staff Conditions, No. and frequencies of contacts between WSC and LC1, 2, 3, and District Water Office	Community Mobilization and Sensitization Report Monitoring records/forms Software Assistance Impact Study Report
	3 WSC executives understand their roles and organizational management practices, and are willing and motivated to do their jobs	WSC executives fulfill their roles such as promotion and monitoring of health, sanitation and hygiene in their communities, monitoring of handpumps, communication with HPMs, collection and management of O&M fees, and holding community meetings	Conditions, rate of collection, and management of O&M fee Frequencies, rate of participation, and conditions of WSC meetings and community meetings Management of handpump by caretakers Leadership: actions and activities to represent all the community members	Records of O&M collection, Records of revenue and expenditure Records of WSC/Community Meetings, and WSC activities Software Assistance Impact Study Report Monitoring records/forms
	4 Handpump users understand the importance of safe water (relationship between safe water and health, sanitation, and hygiene)	Handpump users engage in activities that will improve their health, sanitation and hygiene conditions such as latrine construction, cleaning of water containers, safe management/disposal of feces, house cleaning, and drinking safe water	No. of latrines constructed Water storage conditions at home Cleanliness of water containers Cleanliness around houses Understanding of safe water and its effects on health No of pits for rubbish Visibility of feces around houses	Community Mobilization and Sensitization Report Monitoring records/forms Software Assistance Impact Study Report Records of WSC Activities
	5 Handpump users understand the importance/value of the project handpump as the source of safe water	Handpump users use their handpumps with care	Frequencies of handpump cleaning Cleanliness around handpumps Reasons for breakdown of handpump Awareness and understanding of effects of handpumps	Community Mobilization and Sensitization Report Monitoring records/forms Software Assistance Impact Study Report Records of WSC Activities
	6 HPMs understand and master repair and inspection method of handpump, and understand their roles.	HPM can repair and conduct maintenance of the project handpumps	Number of participants in HPM training No. of handpump repairs Rate of operation of handpumps Conditions of handpump repair and maintenance	Records of WSC Activities Handpump repair records/forms Software Assistance Impact Study Report
<u>Activities</u>		<u>Inputs</u>		
1 Community mobilization and sensitization - pre-construction workshop for villagers and WSC executives - during/post-construction workshop for villagers and WSC executives		Subcontractor (Local NGO, CBO, or consulting firm) Japanese consultant (specialist on social development) Assistant District Water Officers on mobilization/sanitation County officers Community Development Assistants Health Assistants		Handpump users participate in community mobilization and sensitization activities HPMs continue to work Local government staff and village leaders continue to understand and support this project
2 HPM training				<u>Pre-Conditions</u> Every sub-county has at least one HPM
3 Project impact study				Village leaders and villagers do not oppose to this project

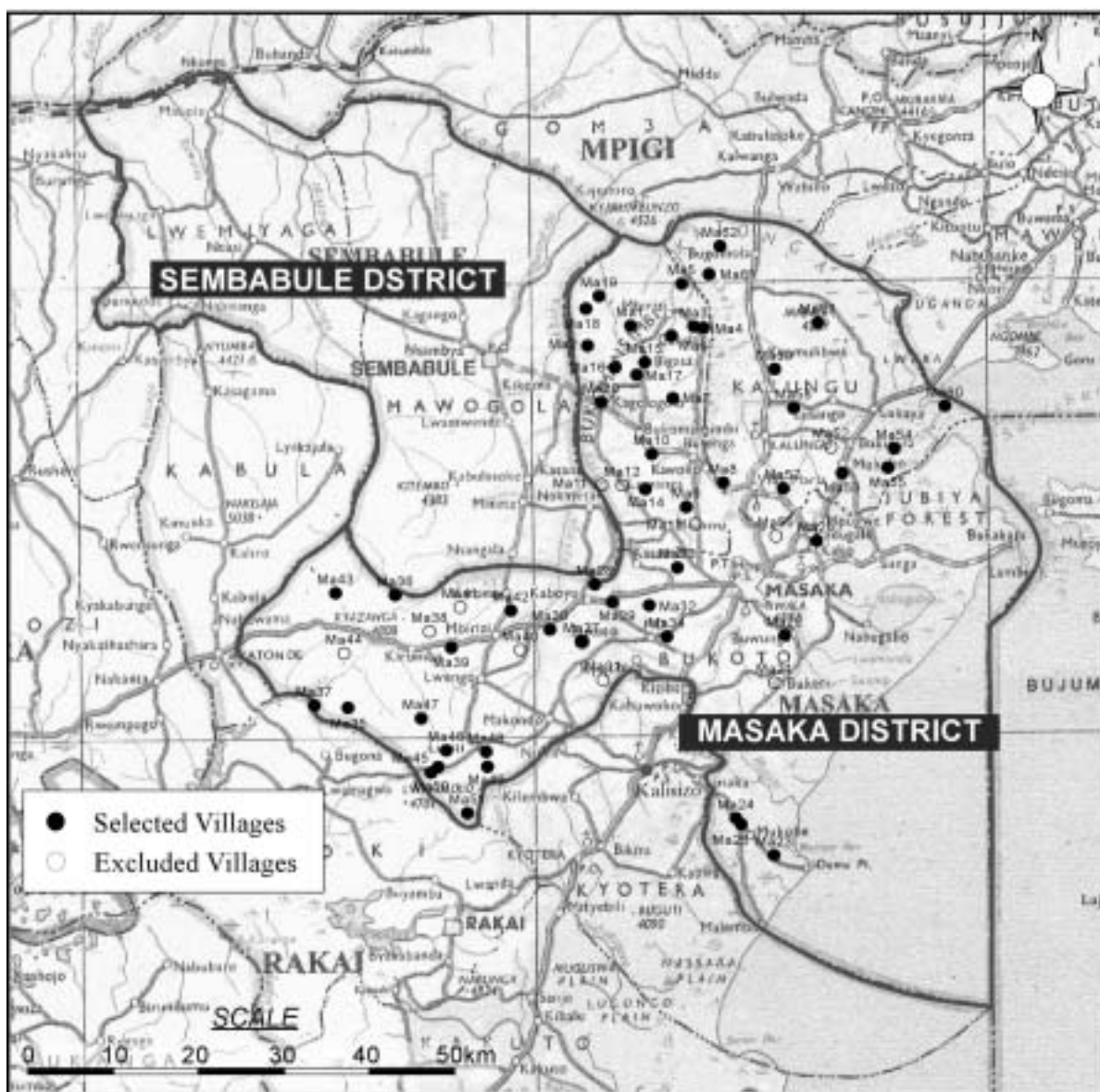


Fig. 2.2.1 LOCATION OF VILLAGES IN MASAKA DISTRICT

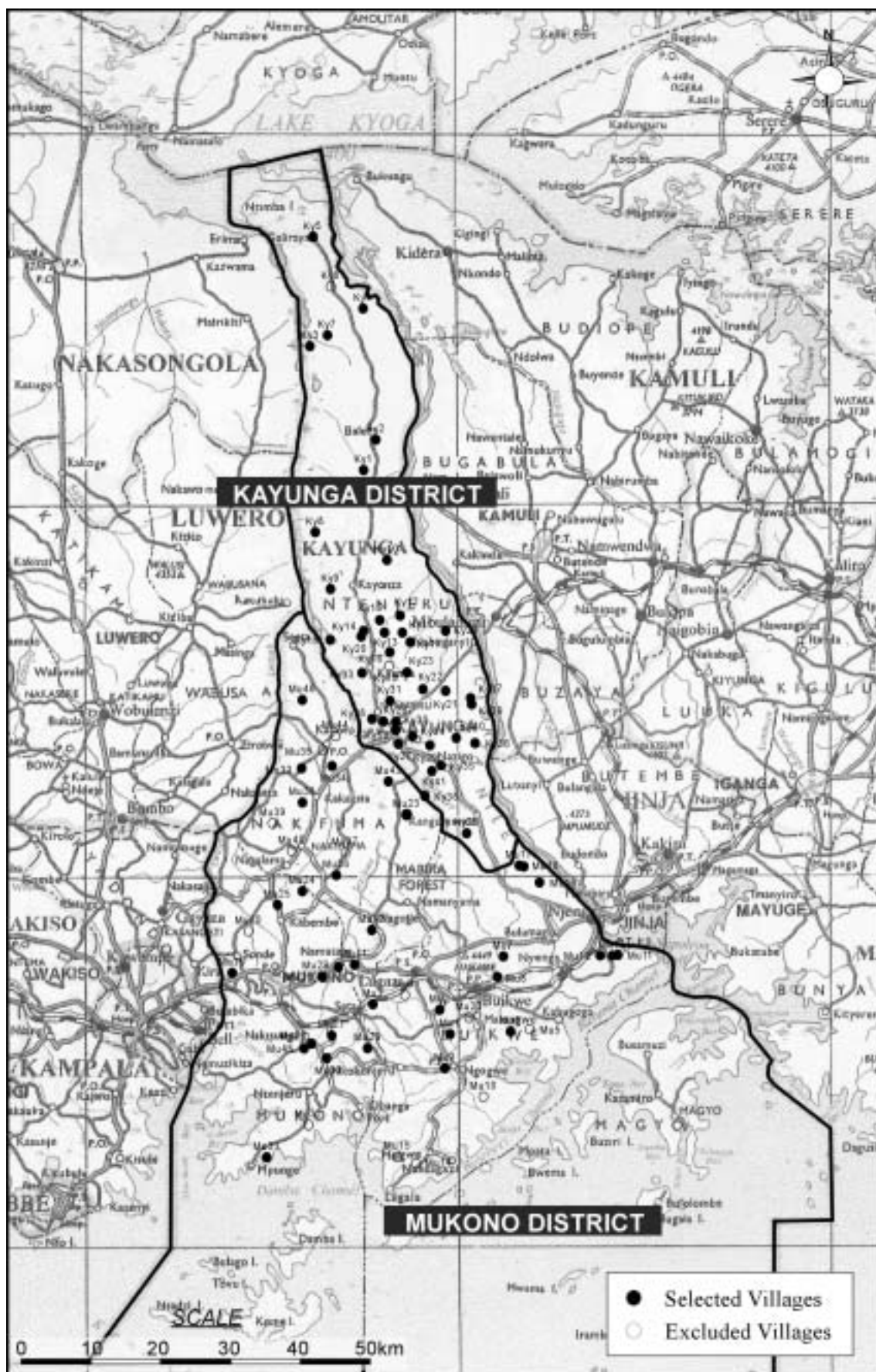


Fig. 2.2.2 LOCATION OF VILLAGES IN MUKONO AND KAYUNGA DISTRICTS

Fig. 2.2.3 SOFTWARE ASSISTANCE PLAN

3.5 months

9.0 months (I); 13.5 months (II)

Pre-Construction Workshop

	activity	participants
1	Greeting and courtesy call on sub-county, parish, and village leaders - Introduction/Explanation of the project - Request for cooperation and assistance - Promotion of latrine construction by leaders	Leaders of sub-county, parish, and villages, village elders, opinion leaders, religious leaders, cultural leaders, teachers, and medical personnel
	Initial visit to village - Introduction/Explanation of the project - Explanation of Pre-Construction Workshop (objectives, duration, schedule) - Explanation of what the project expects from community members Introduction/Explanation of community-based O&M - Explanation of O&M fee including community contribution Brief explanation of safe water and health	Villagers and village leaders (chief, elders, teachers, medical personnel, opinion leaders, cultural leaders, religious leaders, leaders of women's group, etc)
2	Participatory assessment and introduction of different water supply systems (different meetings for men and women if necessary) - Mapping of existing water sources, latrines, and other sanitation/hygiene facilities - Discussion on conditions, problems and solutions concerning water and health/sanitation/hygiene in their communities - Introduction/Explanation of water supply facilities: kinds, functions, water safety, investment and cost, cost for repair, maintenance, O&M, etc Decision making on whether to accept the project (construction of handpump well in their community); different meetings for men and women if necessary Explanation and provisional acceptance of MOUs between the community and NGO or consultancy firm as well as local government - Roles and responsibilities of the community Selection of well construction sites (4 sites in order of necessity) Promotion of safe water and health/sanitation/hygiene Sensitization/Awareness education on gender, AIDS, and environment	Villagers and village leaders (chief, elders, teachers, medical personnel, opinion leaders, cultural leaders, religious leaders, leaders of women's group, etc)
3	Decision on construction site : Adjustment of technical and social standpoints Introduction/ Explanation of WSC - roles, responsibilities, rules - importance of O&M and preventive maintenance Selection of WSC executives Decision on the amount and payment methods of community contribution Collection of community contribution Signing and exchange of MOUs Introduction of plan of activities for well construction - role of the community - activities that the villagers are to participate Introduction/Explanation of monitoring Promotion of safe water and health/sanitation/hygiene Sensitization/Awareness education on gender, AIDS, and environment	Villagers and village leaders (chief, elders, teachers, medical personnel, opinion leaders, cultural leaders, religious leaders, leaders of women's group, etc)
4	Capacity building of WSC - collection and management of O&M fee - bookkeeping - keeping records of meetings, handpump repair Promotion of safe water and health/sanitation/hygiene Sensitization/Awareness education on gender, AIDS, and environment	WSC executives
5	Capacity building of WSC - preventive maintenance - roles and responsibilities of each executive and HPM - relationship with external organizations such as District Water Office, District Health Office, and LC 1 /2/3 - monitoring Making of O&M Plan (Draft) Promotion of safe water and health/sanitation/hygiene Sensitization/Awareness education on gender, AIDS, and environment	WSC executives
Community meeting facilitated by WSC executives (Local NGO/consultancy firm will not be present)		
6	Making of O&M Plan Community contribution: amount collected Collection/payment of O&M fee Summary of Pre-Construction Workshop Schedule for future	Villagers and village leaders

During/Post-Construction Workshop (3 times)

(Activities/Outputs)

MOU : Community and district/sub-county, etc.

- Roles and Responsibilities
- O&M fee

Contract between community and HPM

Detailed O&M plan

Coordination between WSC and LC1/2/3

Confirmation of well construction site

Confirmation and implementation: participation in well construction

- Labor contribution
- Construction of drainage pit
- Construction of fence

Explanation and training: preventive maintenance and minor repair

Promotion of safe water and health, sanitation and hygiene

Awareness education: gender, Aids, environment, etc.

Capacity building of WSC

- Organizational management and leadership
- Meeting records and handpump repair records
- Collection and management of O&M fee
- Roles and responsibility of executives

Monitoring by villagers and WSC (use of checklist)

- Conditions of handpump usage
- WSC management
- O&M activities (repair, preventive/regular

maintenance)

- Latrine coverage and usage
- Conditions of health, sanitation and hygiene
- Water and gender (participation, voices)

<< Training and workshop whenever necessary >>

HPM Training: 2 weeks

- * Roles and responsibilities of HPM
- * Relationship with WSC
- * Project handpump
 - Repair
 - Maintenance
- * Repair and maintenance records
- * Spare parts availability

Software Assistance Impact Study 2 months

* Quantitative Study

- (Data from WSC, District Water Office, etc)
- Rate of operation and repair of project handpumps
- Rate of O&M fee payment
- Rate of participation to WSC meetings
- Latrine coverage rate

* Qualitative Study

- (Data from interviews, discussions participant observation, PRA, RRA, etc.)
- Ownership
- Understanding and awareness: community-based O&M
- Improvement of health, sanitation and hygiene
- Improvement of quality of life due to project handpumps

Fig. 2.2.4 INPUT PLAN FOR SOFTWARE ASSISTANCE

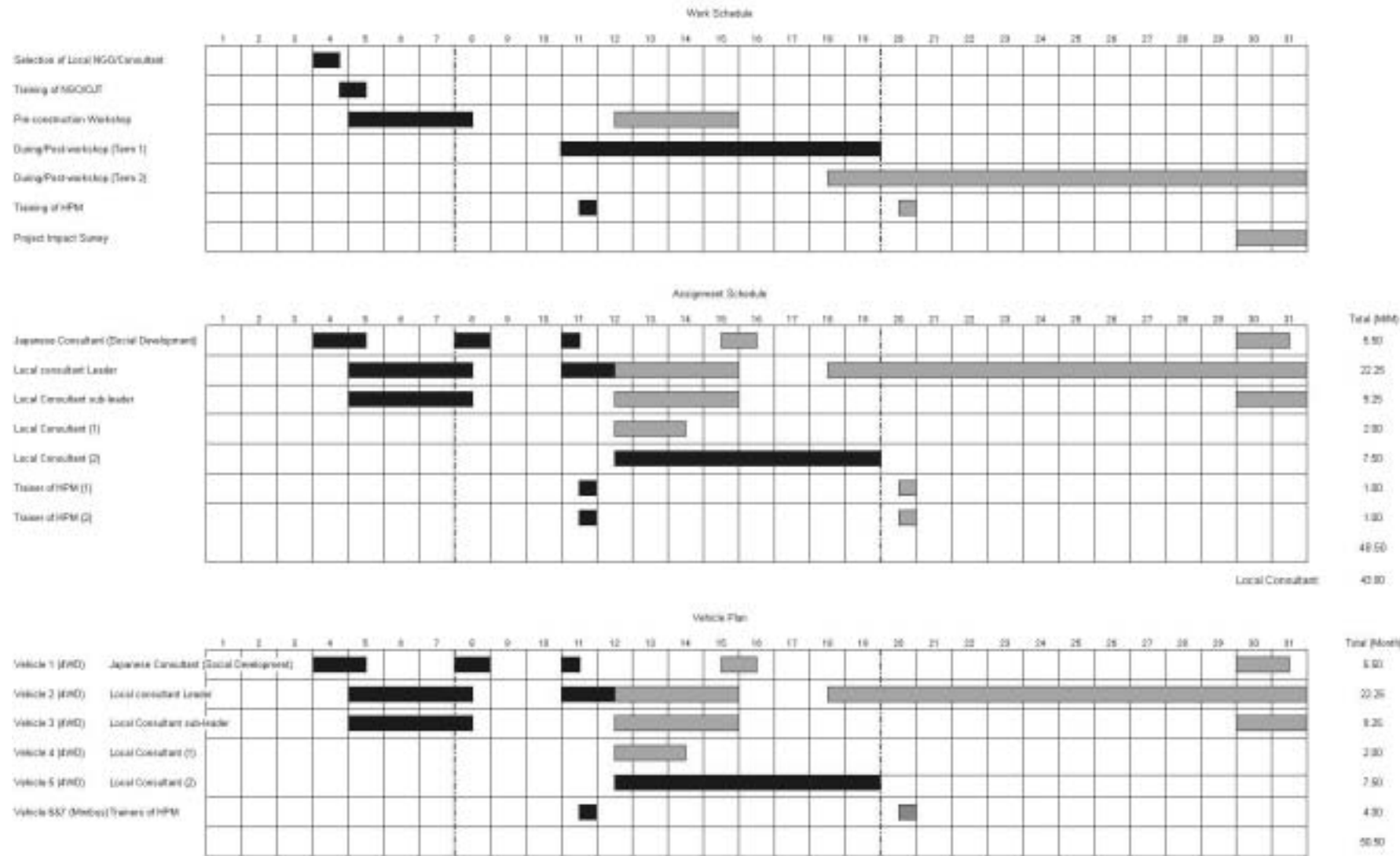
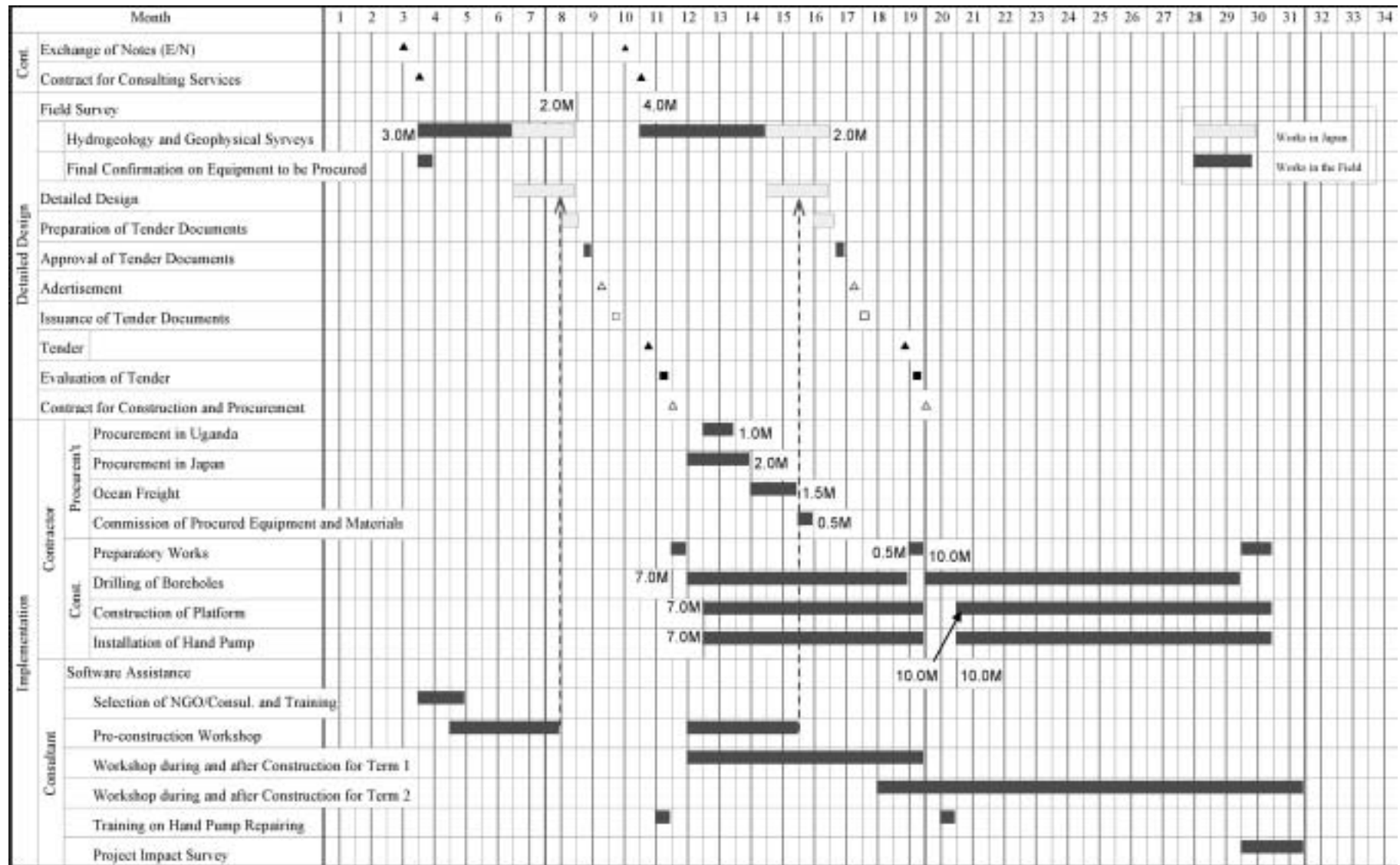


Fig. 2.2.5 PROJECT IMPLEMENTATION SCHEDULE



CHAPTER 3 PROJECT EVALUATION AND RECOMMENDATIONS

CHAPTER 3 PROJECT EVALUATION AND RECOMMENDATIONS

3.1 Project Effect

The baseline survey on socio-economical conditions was conducted in each village (hearing by interviewers). Rural water coverage rate, served population in rural areas, and number of WSC are considered as the project impact indices, and it is desired to grasp the project impact by surveying on these indices in the manners such as hearing by interview at the proper time often the project implementation. Present situations and constraints and direct and indirect impacts of the project are summarized in the following table.

Project Effects and Extent of Improvement by the Project

Present Situation and Constraints		Measures Taken by the Project (Project Components)	Project Effects and Extent of Improvement
Direct Effects			
1.	<ul style="list-style-type: none"> Most of the Villagers use the water in ponds and shallow dug wells, and the sanitation conditions are poor resulting in high infection rate of water borne diseases. The present water coverage rate in Mukono, Kayunga and Masaka districts are as low as 59.1 %, 48.6 % and 34.5 %, respectively. 	<ul style="list-style-type: none"> Construction of approx. 120 deep boreholes with hand pump units 	<ul style="list-style-type: none"> 36,000 villagers will receive the safe drinking water. The water coverage rate in the Mukono, Kayunga and Masaka districts will be improved for 60.8 %, 50.9 % and 36.3 %, respectively.
2.	<ul style="list-style-type: none"> The organization of villagers has not progressed yet, since their sensitization on operation and management of water supply facilities, collection of water charge and health and sanitation is not considered high. 	<ul style="list-style-type: none"> The software assistance will be carried out in all the project villages before, during and after the facility construction utilizing the local NGOs/consultants in facilitation of villagers. 	<ul style="list-style-type: none"> 120 WSCs will be established. Villagers will be sensitized in collection of water charge, health and sanitation. The water charges will be collected and reserved, and the operation and maintenance system will be established in each WSC.
3.	<ul style="list-style-type: none"> Repairing of hand pumps is made by Sub-county's HPMs on the contract basis with WSC. However, there are counties where no HPM is assigned, and some HPMs are not able to repair the hand pumps well because they do not know how to repair those installed under the 1st. Phase project. 	<ul style="list-style-type: none"> The tools necessary for repairing and inspecting the hand pumps installed under the Project will be procured, and the district offices will lend them to the HPMs in charge of the sub-counties where new hand pumps are planned to be installed under the Project. The technical training on the repair facilities with hand pump units will be conducted in the course of the software assistance of the Project. 	<ul style="list-style-type: none"> The technical skills of the HPMs in charge of the sub-counties where the water supply facilities are planned to be constructed under the Project will be improved. Consequently, repairing and inspection of such new hand pumps will be made by them, and the supporting system of villagers will be reinforced toward the sustainable operation and maintenance of the water supply facilities.
Indirect Effects			
1.	<ul style="list-style-type: none"> In Uganda, fetching water is a task of women and children. Since the distance to their water source is so long that they have to spare long time for fetching. 	<ul style="list-style-type: none"> Approx. 120 deep boreholes with hand pump units will be constructed. 	<ul style="list-style-type: none"> Since the boreholes will be drilled in each village area, they do not need to go out of village area for fetching water shortening time for fetching.
2.	<ul style="list-style-type: none"> There are still discrimination and prejudice to women in the rural areas in Uganda, their voices are weak in WSCs, and villagers are sensitized poorly in health and sanitation. 	<ul style="list-style-type: none"> The software assistance for facilitating villages will be conducted utilizing local NGOs/consultants, and such assistance will include sensitization in the aspects of gender, health, sanitation, etc. 	<ul style="list-style-type: none"> The villagers will be sensitized in gender and sanitation aspects, and the number of women assigned for members of WSC will be increased. Sanitary will be increased.
3.	<ul style="list-style-type: none"> Under the recent movement of political decentralization, various powers are being transferred from 	<ul style="list-style-type: none"> Software assistance will be carried out involving the water officers of the district office as well as CDAs. 	<ul style="list-style-type: none"> The capacity building of the district water offices will be made. The quality and quantity of the

Project Effects and Extent of Improvement by the Project

Present Situation and Constraints	Measures Taken by the Project (Project Components)	Project Effects and Extent of Improvement
<p>DWD, having taken the leadership of rural water supply projects so far, to the district water offices, and the district offices have to take responsibility for the implementation of the rural water supply projects from planning to implementation and monitoring. However, they face the serious shortage of staff experienced enough to implement such projects.</p> <ul style="list-style-type: none"> • There are sub-counties where no CDA is assigned though CDAs are considered to play a role in facilitation of villagers. CDAs belong to the Ministry of Gender, Labors and Social Development, but not to DWD to which the water officers of the district offices belong, and it is considered difficult to coordinate each other. 	<ul style="list-style-type: none"> • The equipment and materials for facilitation of villagers such as motorcycles, hand pump cut models, those for operation and maintenance of the existing boreholes and groundwater monitoring will be procured. 	<p>staff participating in rural water supply will be improved, and the facilitation system of villagers will be prepared in the district offices, realizing sustainable operation and maintenance by villagers in the villages other than those of the Project.</p> <ul style="list-style-type: none"> • The facilitation system of villagers and operation and maintenance system as well as monitoring system will be established by utilizing those equipment to be procured.

3.2 Recommendations

In order to continue the sustainable and smooth operation and maintenance of the deep borehole water supply facilities with hand pump units to be constructed under the Project and the equipment and materials for facilitating villagers, the following items should be particularly considered by the Uganda side.

(1) Constant Allocation of Budget for Implementing Rural Water Supply Schemes and Reinforcement of District Water Offices

The Government of Uganda has to continue its effort to construct many water supply facilities even after approx. 120 boreholes are constructed under the Project in order to achieve the target set in SIP15. It is important to allocate the enough budget necessary for continuing rural water supply projects. It is also important for the district water offices to increase the number of staff, and to build their capacity to implement such projects playing a core role of the implementation. For this purpose, the effects of capacity building by on-going TSU should be shown as immediately as possible. The software assistance of the Project is expected to include OJT of the staff of local administrations in order to boost the effects of the capacity building conducted by TSU having commenced its activities recently.

(2) Coordination with the Other Organizations for Effective Facilitation of Villagers

The villagers who are considered to bear responsibility for operation and maintenance have to be sensitized to ensure the sustainability of the water supply facilities. It is difficult for the county water officers to facilitate villagers and to monitor their activities, because the number of officers is limited, and then CDAs assigned for each sub-county by MGLSD are to conduct field activity in coordination with the water officers. Therefore, it is necessary for MWLE, incharge of rural water supply, and MGLSD to coordinate each other in order to proceed the facilitation activities of villagers efficiently, and such coordination and exchange of information are required on various administration levels such as districts, counties and sub-counties as well as the central level.

(3) Management of Data Base on Existing boreholes and Water Quality Monitoring

There may be the cases that change of water quality, and exudation and contamination of pollutant are found when the boreholes are used long time. To avoid such situation it is necessary to establish a water quality monitoring system conducting a periodical monitoring as well as to take the best effort to keep the surrounding areas of borehole clean, and in such case the measures such as limitation or restriction of usage of such polluted boreholes should be considered. In addition, the many data on boreholes which are shown on the data base being prepared by DWD are found lacking important items such as coordinates indicating the locations of boreholes. The data base of the existing boreholes are considered quite essential to proceed with the further groundwater development effectively, and more substantial and complete data preparation is necessary.

(4) Adequate Operation and Maintenance Charge Ensuring Sustainability of Facilities

The amount of community contribution is set at 100,000 UGS per community based on the amount of initial contribution for PAF water supply projects. In Uganda the operation and maintenance charge collected from villagers is set at the level on which the periodical replace of spare parts and small repairing are covered putting emphasis on the establishment of a water charge collection system.

However, it is necessary to level up the amount collected from villagers to the amount that covers large repair and replacement of hand pump unit in order to increase the sustainability of the facilities. Therefore, it is necessary to facilitate villagers considering that the present amount, with expecting the subsidy of the government, should be increased in the future to the amount being able to cover major repair and replacement of pump units, etc.

(5) Staff Number Securing Sustainable Repair and Inspection of Hand Pump Unit

The HPMs who are key persons of repair and inspection of hand pump units work on the contract basis with WSCs, but there are many sub-counties where there is no HPMs because of job changes, closing his business and moving to other sub-counties; Situations of HPMs are not grasped well even by the district water offices. Then, there are some villages of which broken hand pump unit is not able to be repaired, and this situation must be improved urgently. Therefore, it is necessary to grasp the present situation of HPMs and to assign new HPMs for the sub-counties where there is no HPM. Meanwhile, it is necessary to establish the system by which hand pump repair is a regular occupation in the private sector together with the establishment of spare parts supply system.

APPENDICES

Appendix-1	Member List of the Study Team
Appendix-2	Itinerary of Study Team
Appendix-3	List of Officials Concerned
Appendix-4	Minutes of Discussions and Technical Notes
Appendix-5	Basic Design Drawings
Appendix-6	Results of Geophysical Survey
Appendix-7	Results of Scio-economic Survey
Appendix-8	References

Appendix-1 Member List of the Study Team

<Basic Design Study >

Name	Assignment	Position	Remarks
1 . Mr. S. Matsuura	Leader	Deputy Resident Representative, JICA Kenya Office	Feb. 17 - 20, 2003
2 . Ms. J. Uno	Project Planning	First project management Div., Grand Aid management Dept., JICA	Feb. 11 - 23, 2003
3 . Mr. S. Yumoto	Chief Consultant/Aid State Study	Pacific Consultants International	Feb. 11 - Mar. 22, 2003
4 . Mr. I. Hamada	Groundwater Development / Facility Planner	Pacific Consultants International	Feb. 11 - Mar. 22, 2003
5 . Mr. J. Sasaki	Hydrogeology / Geophysical Survey (1)	Mitsubishi Materials Natural resources Development Corp.	Feb. 21 - Mar. 22, 2003
6 . Mr. K. Sugawara	Geophysical Survey (2)	Mitsubishi Materials Natural resources Development Corp.	Feb. 21 - Mar. 22, 2003
7 . Ms. N. Morikawa	Socio-economic Study / Management Planner	Pacific Consultants International	Feb. 11 - Mar. 22, 2003
8 . Mr. K. Watanabe	Procurement / Cost Estimation Planner	Pacific Consultants International	Feb. 28 - Mar. 22, 2003
9 . Ms. R. Sawada	Coordinating Staff	Pacific Consultants International	Feb. 11 - Mar. 22, 2003

<Explanation of Draft Basic Design>

Name	Assignment	Position	Remarks
1 . Mr. S. Matsuura	Leader	Deputy Resident Representative, JICA Kenya Office	Aug. 4 - 10, 2003
2 . Ms. J. Uno	Project Planning	First project management Div., Grand Aid management Dept., JICA	Aug. 2 - 10, 2003
3 . Mr. S. Yumoto	Chief Consultant/Aid State Study	Pacific Consultants International	Jul. 30 - Aug. 10, 2003
4 . Mr. I. Hamada	Groundwater Development / Facility Planner	Pacific Consultants International	Jul. 30 - Aug. 10, 2003
5 . Ms. N. Morikawa	Socio-economic Study / Management Planner	Pacific Consultants International	Jul. 30 - Aug. 10, 2003

Appendix-2 Itinerary of Study Team

<Basic Design Study >

Date	Mr. Matsuura	Ms. Uno	Mr. Yumoto	Ms. Sawada	Ms. Morikawa	Mr. Hamada	Mr. Sasaki	Mr. Sugawara	Mr. Watanabe
Feb.11 Tue.		Narita-London				Narita-Amsterdam			
Feb.12 Wed.						Amsterdam (London) -Nairobi, Courtesy call on JICA Kenya Office			
Feb.13 Thu.						Nairobi-Entebbe, Courtesy calls on Embassy of Japan, JOCV Office, MFA, MFPED, and MWLE. Discussion with JOCV			
Feb.14 Fri.						Discussion with DWD and MWLE			
Feb.15 Sat.						Site Inspection			
Feb.16 Sun.									
Feb.17 Mon.	Nairobi-Entebbe					Discussion with DWD			
Feb.18 Tue.						Discussion with DWD			
Feb.19 Wed.						Donors (SIDA, DANIDA, EU) Coordination Meeting in Swedish Embassy, Discussion with DWD for M/D			
Feb.20 Thu.	Signing on M/D, Report to Embassy of Japan and JOCV Office, Entebbe-Nairobi					Signing on M/D, Report to Embassy of Japan and JOCV Office	Data Collection		
Feb.21 Fri.		Entebbe-Nairobi, Report to JICA Kenya Office Nairobi-London				Meeting with DWD, Data Collection from Donors and NGOs, Preparation for Interview Survey, Water Quality Test etc.	Narita-Amsterdam		
Feb.22 Sat.		London-Narita				Preparation of Field Survey.	Amsterdam-Nairobi-Entebbe		
Feb.23 Sun.						Team Meeting			
Feb.24 Mon.							Courtesy call on DWD, JOCV Office, and Preparation for Field Survey		
Feb.25 Tue.									
Feb.26 Wed.									
Feb.27 Thu.									
Feb.28 Fri.									Narita-Amsterdam
Mar. 1 Sat.									Amsterdam-Nairobi-Entebbe
Mar. 2 Sun.									Preparation for Survey
Mar. 3 Mon.									Meeting with DWD. Courtesy call on JOCV Office
Mar. 4 Tue.									
Mar. 5 Wed.									
Mar. 6 Thu.									Market Survey
Mar. 7 Fri.									
Mar. 8 Sat.									
Mar. 9 Sun.									Field Survey
Mar.10 Mon.									
Mar.11 Tue.									
Mar.12 Wed.						Donor Coordination meeting in Japanese Embassy			
Mar.13 Thu.									
Mar.14 Fri.									
Mar.15 Sat.									
Mar.16 Sun.									
Mar.17 Mon.									
Mar.18 Tue.									
Mar.19 Wed.									
Mar.20 Thu.									
Mar.21 Fri.									
Mar.22 Sat.									

<Explanation of Draft Basic Design>

Explanation of Draft Basic Design					
Date	Mr. Matsuura	Ms. Uno	Mr. Yumoto	Mr. Hamada	Ms. Morikawa
Jul. 30 Wed			Narita - London		
Jul. 31 Thu			London - Nairobi - Entebbe		
Aug. 1 Fri			Pre-discussion on DBD		
Aug. 2 Sat		Dep. London	Site Inspection		
Aug. 3 Sun		Arr. Nairobi	Site Inspection		
Aug. 4 Mon		Greeting JICA Kenya Office Nairobi - Entebbe	Pre-discussion on DBD		
Aug. 5 Tue			Greeting EOJ, JOCV, MFPED, MOFA, MWLE		
Aug. 6 Wed	Nairobi - Entebbe	Explanation and Discussion on DBD with DWD and MWLE			
Aug. 7 Thu	Explanation and Discussion on DBD with DWD and MWLE Attending donor Coordination Meeting				
Aug. 8 Fri	Signing M/D, Report. To EOJ/JOCV Entebbe - Nairobi	Signing M/D, Reporting to EOJ and JOCV Entebbe - Nairobi - London			
Aug. 9 Sat		Arr. London Dep. London	Arr. London Dep. London		
Aug. 10 Sun		Arr. Narita	Arr. Narita		

Appendix-3 List of Officials Concerned

(1) Government of Uganda

Ministry of foreign Affairs (MFA)

- Mr. Echarles W.G. Wagaba Ambassador of Head / Asia & Pacific Dept.
- Mr. Sekindi Abdunur 3rd Secretary

Ministry of Finance, Planning and Economic Development (MFPED)

- Mr. Oode Obella Assistant Commissioner of Aid Liaison Department
- Ms. Emmanuel Katwe Senior Finance Officer of Bilateral Division

Ministry of Health (MH)

- Mr. Paul Luyima Assistant Commissioner of Health Services

Ministry of Gender, Labour and Social Development)

- Ms. Jane Mpagi Director of Gender and Community Development

Ministry of Water, Land and Environment (MWLE)

- Mr. Bezalel. K. Kabanda Permanent Secretary
- Mrs. Edith Kateme-kasajja Ag Commissioner Planning and Quality Assurance Dept.

Department of Meteorology, MWLE

- Mr. Eliphaz Bazira Assitant Commissioner for Meteorology
- Mr. Lubega F. Metrologist / Data Process Manager

Directorate of Water Development (DWD) MWLE

- Mr. Patrick Kahangire Director
- Mr. Sottie L.M. Bomukama Commissioner
- Mr. Mugisha Shillingi Assistant Commissioner
- Mr. Parata Roy Luke Principal Economist (M&E) of Planning & Quality Assurance
- Mr. Aaron M. Kabirizi PE-Development (RWS)
- Mr. Moses Kagimu Gava Senior Quality Assurance Officer
- Mr. Callist Tindimugaya Principal hydrogeolist / Head of Hydrogeology Section
- Mr. Eva Lwanga Hydrogeologist
- Mr. Musoth Reonard Hydrogeologist (Data)
- Mr. Philip Sorga Hydrogeologist (Data)
- Mr. Jackson Kitamirike Laboratory Manage
- Mr. Patrick Okuni Senior Water officer of Planning & Quality Assurance
- Mr. Ian Arebahona Senior Engineer of Planning
- Ms. Joyce Achan Monitoring Officer
- Mr. Watson Wakooli Statistician
- Mr. Kiiza Simon Data Manager Reform of the Urban Water Planner
- Mr. Kalema Joseph Senior Social Scientist
- Ms. Firmina Acuba Ajonya Community Development Specialist
- Ms. Alice Ninsima Senior Officer of Water Sanitation
- Mr. Kobusinge Marguret Principal Health Inspector
- Ms. Julian Kyomuhangi Hydrogeologist
- Mr. Kaweesa Ronnie Hydrogeologist / Geophysist
- Mr. Erisa Kyeyune Hydrogeologist / Geophysist
- Ms. Esther Okoer Engineer / Tem Leader (TSU5)
- Mr. Stanley Watenga Engineer (TSU7)
- Mr. Innocent Nknyahager

Water Resources Management Dept, DWD

- Mr. Nsubuga Senfuma Commissioner
- Mr. Florence G. Adongo Assitant Commissioner Water Quality
- Mr. Edward Martin Rwarinda Water Officer permits Registry
- Mr. Kyosingira W. Fred Principal Hydlogist
- Mr. Mugabe Robert Senior Analyst

Masaka District Water Office

- Mr. Jjuuko Ewas Water Officer
- Mr. Namutinda Charles County Water Officer
- Ms. Mbule Ellen Assistant Community Officer
- Mr. Lubega John Muwonge Head of Water Dep.

Mukono District Water Office

- Mr. Ronald Kato Kayizzi Senior Water Officer
- Mr. Peter Wasswa Kasumba Assistant Water Officer
- Mr. Kalule James County Water Officer
- Mr. Kavuma Vibcent County Water Officer
- Ms. Buteraba Eunice Water Officer in Charge Mobilization
- Mr. Peter Wasswa Kasumba Water Officer in Charge Hygiene & Sanitation

Kayunga District Water Office

- Mr. Bwanika Godfrey Chief Administrative Officer
- Mr. Ssebbaale Willoom Water Officer and OC in Charge water supply
- Mr. Habaasa Francis Assistant Water Officer in charge Sanitation
- Mr. Mulindwa G Assistant Water Officer in charge Mobilization

Mupigi District Water Office

- Mr. Katumwa Simon District Water Engineer
- Mr. Tetsuya Honda JOCV

Uganda Bureau of Statistics (UBOS)

- Mr. Nalukenge Rose Library Assistant

(2) Government of Japan

Embassy of Japan

- Mr. Tatsuya Miki Minister - Counsellor
- Mr. Katsuki Morihara Second Secretary
- Ms. Charies-Martin Jjuuko Programme Officer

JICA Kenya Office

- Mr. Masaaki Otsuka Resident Representative
- Mr. Shinichi Matsuura Deputy resident Representative
- Ms Misa Kemmiya Assistant Resident Representative
- Ms. Nobuko Nakamura Project Formation Advisor

JOCV Uganda Office

- Mr. Tomoaki Tsugawa Coordinator
- Ms. Michiyo Hashiguchi Coordinator
- Mr. Yasuo Sumita Program Officer

(3) Others

SIDA

- Mr. Finn Forsberg First secretary of Swedish Embassy
- Mr. Maureen K Nahwera Programme Assistant
- Mr. Gunnar Settergran Team Leader of Uganda-Sweden Rural Water and Sanitation Program
- Ms. Maritza Rivera Hifab International AB, Project Manager
- Mr. Gertrude Ngabirano Sempira Programme Officer (Lake Victoria Project)
- Dr. Wasswa Matovu Joseph Local Expert Financial System Development

- Mr. Thomas Schuppius	Programme Programme Advisor Financial System Development Programme
<u>DANIDA</u>	
- Mr. Samuel Muton	Programme Officer
<u>EU</u>	
- Ms. Dimitro Savvidou	ALAT Position in E
<u>DFID</u>	
- Mr. Simon Kenny	Programme Manager, NWS SP
<u>ADA</u>	
- Ms. Hans Schattaner	
<u>UNICEF</u>	
- Ms. Kiwe L. Sebunya	Project Officer, WES
- Ms. Charlotte Hjertstrom Abelin	Asst. Programme Officer, WES
<u>UWASNET</u>	
- Ms. Caroline Nafula Batanda	Liaison / Communication Officer
- Ms. Nabunnya Kasule Harriet	Programme Officer
<u>Water AID</u>	
- Mr. Jacinta Nekesa	Socio development Officer
- Mr. Joseph Gasana	Information officer