JAPAN INTERNATIONAL COOPERATION AGENCY(JICA)
MINISTRY OF AGRICULTURE (MOA)
REPUBLIC OF KENYA

THE STUDY ON COMMUNITY-BASED SMALL HOLDER IRRIGATION DEVELOPMENT PROJECT FOR PROMOTION OF HORTICULTURAL PRODUCTION IN THE FOOTHILLS OF MT.KENYA

ANNEX-II



MARCH, 1999

SANYU CONSULTANTS INC

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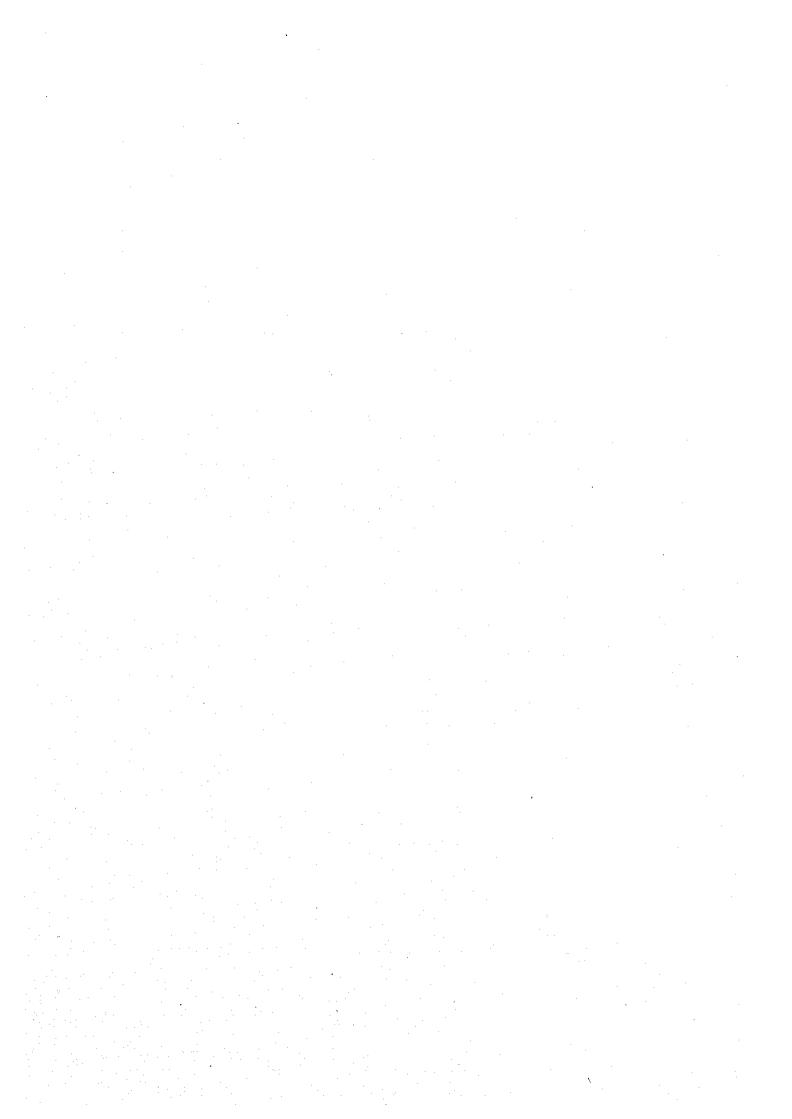
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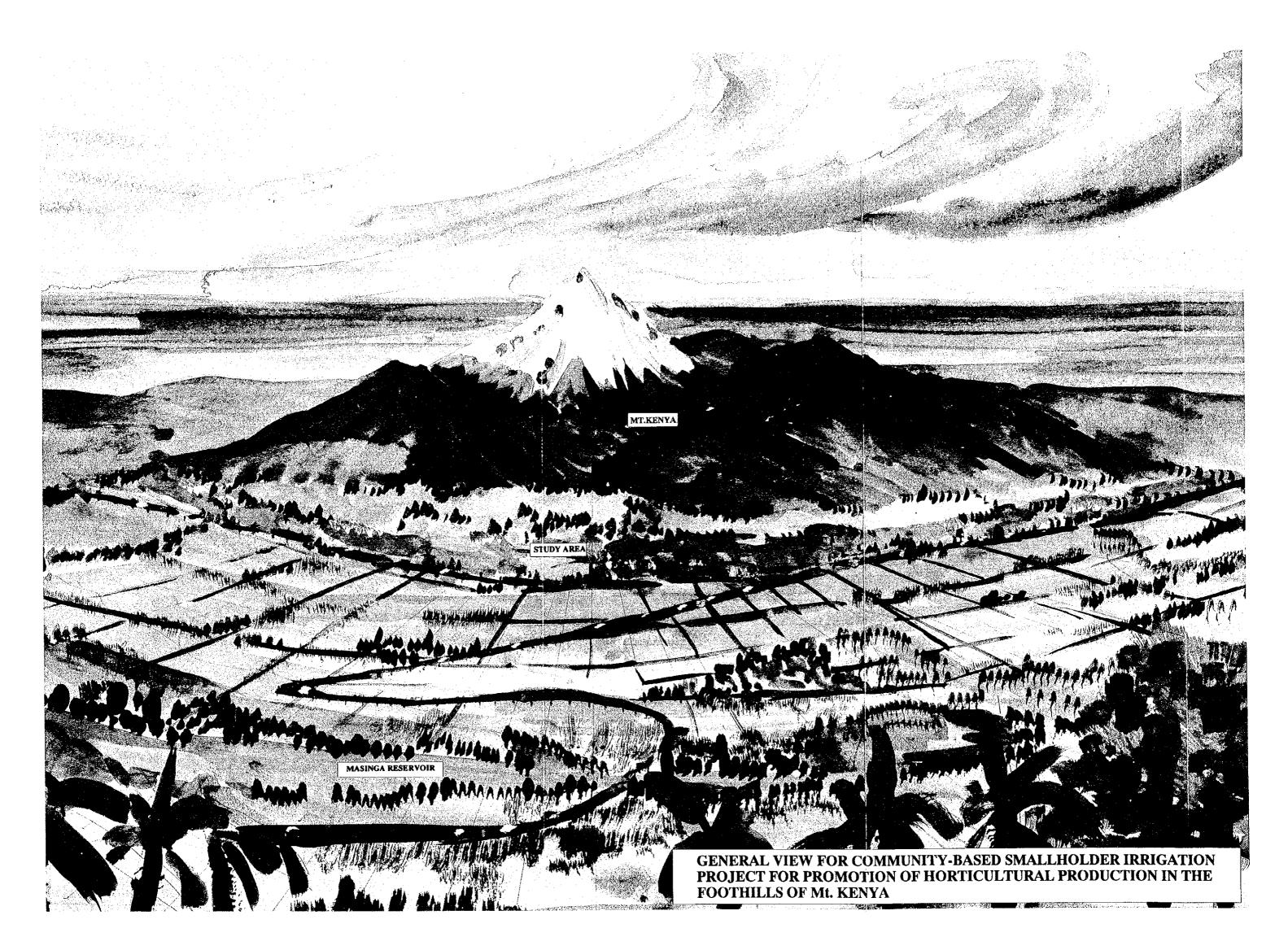
ANNEX-II

MARCH. 1999

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Table L.1-1 Present Condition of Irrigation Scheme and Estimated Irrigation Potential by Sub-basin

		Irrigated	Scheme		Unirrigates	1 Scheme	Tot	al	Estimated
		Irrigated 1	Unimigated			Proposed			Irrigation
	Number	Area	Area	Sub-total	Number	Area	Number	Area	Potential
	(nos)	(ha)	(ha)	(ha)	(nos)	(ha)	(nos)	(ha)	(ha)
4AA	11	608	401	1,009	10	1,500	21	2,509	468
4AB	1	18	9	27	4	1,205	5	1,232	385
4AC	1	2	22	24	2	52	3	76	76
4AD	1	10	. 4	14	7	790	8	804	804
4BB	4	103	85	188	7	493	11	681	342
5BA	0	0	0	0	. 2	110	2	110	17
5BB	3	85	155	240	3	1,843	6	2,083	260
5BC	8	431	780	1,211	2	180	10	1,391	191
SBE -	1	120	0	120	2	130	3	250	54
Sub-total	30	1,377	1,456	2,833	39	6,303	69	9,136	2,597
Well	1	4	2	. 6	0	0	1	6	4
Total	31	1,381	1,458	2,839	39	6,303	70	9,142	2,601

		Imigated t	gated Sche			rigated Scho Proposed	n	Total	Estimated Irrigation
	Number (nos)	Area (ha)	Area (ha)	Sub-total (ha)	Number (nos)	Area (ha)	Number (nos)	Area (ha)	Potential (ha)
4BB	1	112	0	112	3	884	4	996	351
4BC	2	28	797	825	4	131	. 6	956	520
4DA	15	590	602	1,192	6	618	21	1,810	110
4DB	1	20	. 10	30	1	377	2	407	401
4DC	0	0	0	0	1	80	1	80	80
Total	19	750	1,409	2,159	15	2,090	34	4,249	1,468

	3.Embu Dis	trict							
	-	Irrigated U	igated Sche Jnimigated			rigated Scho Proposed	in.	Total	Estimated Imigation
	Number (nos)	Arca (ha)	Area (ha)	Sub-total (ha)	Number (nos)	Area (ha)	Number (nos)	Area (ha)	Potential (ha)
4DC	8	26	74	100	23	376	31	476	476
4EB	2	3	109	112	1	50	3	162	. 90
4EC	7	27	128	155	7	115	. 14	270	270
Total	17	56	311	367	31	541	48	908	836

		4.Mbeere D	istrict							
			Ini	gated Sche	me	Unin	rigated Sche	n	Total	Estimated
			Irrigated I	Inimigated			Proposed			Imigation
		Number (nos)	Area (ha)	Area (ha)	Sub-total (ha)	Number (nos)	Area (ha)	Number (nos)	Arca (ha)	Potential (ha)
_	4BG	5	51	189	240	1	50	6	290	290
	4DC	2	3	52	55	. 0	. 0	2	55	55
	4DD	. 4	62	448	510	4	840	. 8	1,350	745
	4EB	1	30	30	60	3	550	4	610	338
	4EC	7	24	180	204	i	145	8	349	349
	4ED	1	5	10	15	0	. 0	1	15	15
	Total	20	175	909	1,084	9	1,585	29	2,669	1,792

		Irri Irrigated U	gated Sche Inimisated			rigated Sche Proposed	n	Total	Estimated Irrigation
	Number (nos)	Area (ha)	Area (ha)	Sub-total (ha)	Number (nos)	Area (ha)	Number (nos)	Area (ha)	Potential (ha)
4EA	2	76	28	104	1	52	3	156	9
4EB	. 11	113	618	731	27	1,056	38	1,787	1,02
4FA	0	0	0	0	5	1,061	5	1,061	
4FB	. 0	. 0	0	0	2	3,800	2	3,800	
Total	13	189	646	835	35	5,969	48	6,804	1,11

	6 Meru Di	strict							
			rigated Sche Unimigated			rigated Scho Proposed	:n	Total	Estimated Irrigation
	Number (nos)	Area (ha)	Area (ha)	Sub-total (ha)	Number (nos)	Area (ha)	Number (nos)	Arca (ha)	Potential (ha)
4EA	26	846	2359	3,205	11	3,913	37	7,118	897
4EB	0	0	0	0	3	300	3	300	161
4FA	77	2,696	15052	17,748	54	7,560	131	25,308	1,701
5BE	10	222	829	1,051	3	73	13	1,124	102
5DA	6	125	291	416	6	1,429	12	1,845	208
Total	119	3,889	18,531	22,420	77	13,275	196	35,695	3,069

_		Imigated	migated Sche Unimigated			rigated Sche Proposed	n	Total	Estimated Irrigation
	Number (nos)	Area (ha)	Area (ha)	Sub-total (ha)	Number (nos)	Area (ha)	Number (nos)	Arca (ha)	Potential (ha)
4PA	14	186	731	917	4	1,039	18	1,956	117
4FB	. 14	270	1770	2,040	- 2	330	16	2,370	225
5ED	- 3	23	165	188	1	1	4	189	(
Total	31	479	2,666	3,145	7	1,370	38	4,515	342

Table L.1-2 Key Data of Irrigation Scheme in Seven District

Code Sub-ba 10.		rial imber	Priject Name	Division	Gross Area (fia)	Net Area	Fully Ini. Scheme (ha)	Irrigated Area Partially Irri Scheme (ha)	Sub-total (ha)		Initrigated Area Proposed S Scheme (ha)	Sub-total (ha)	Total Area (ha)	Present No. of Imiting Farmers (hh)	Proposed No. of Irriting Farmers (hh)	(1 of 8) Water Source
	T TOTAL			7070		(tu)		70 37	25 A CHARLES TO 1883							
1 4AA			Gáthirna	KIENI EAST	- 60	24	19		19	0		o	19	25		t, Cithure
2 4AA			Njaroba Itikere	KIENI EAST	32	24	8		. 8	0		0	8	5	25 9	t.R. Linlemere
3 4AA		ıY-	Kirinyaga Nyange	KIENI EAST	1,440	134		67	67	63		63	130	336		E Nairobi
4 4AA		U I	Mangima & Tagwa	KIENI EAST	736	360		0	0		360	360	360	0		C. Sagana
5 4AA			l Ngogithi	KIENI EAST	84	63		24	24	39	20	39	63	60		l. Nairobi
6 4AA			2 Kaburaini	KIENI EAST	1,200	152		5	0		76	76	76	0		ł. Nairobi ł. Sagana
7 484			5 Gikanga	KIENI EAST	108 1,800	88 600		0	0		. 41 300	44 300	44 300	0		C. Sagana C. Thigu
8 4AA			6 Thigu 8 Ndathi Mbiriri	KIENI EAST KIENI EAST	548	410	55		55	0	300	0	55	192		R. Sagana
10 4AA			9 Geberabe	KIENI EAST	1,200	800	80	ŏ	80	ŏ		ŏ	80	400		L Neirobi
11 444			? Waraza Lusci	KIENI EAST	128	183	•	61	61	299		299	360	153		R. Nairobi
12 4AA			3 Island	KIENI EAST	750	300	150	0	150	0		0	150	375	375 I	t. Thigu
13 4A			9 Mutheithis	MATHIRA	180	160		0	0		40	40	40	. 0		R. Muthira
14 4,4,7			5 Ruturu	MATHIRA	480	432		0	0	_	80	80	80	0		R. Sagana
15 4A/		4Y 4	6 Ѕадала	MATHIRA	300	260	120		120	0		0	120	250		R. Ragati R. Kamunya Stor
16 4A/			7 Kagati	MATHIRA	51 450	46 405	16	0	16 0	U	20	20	16 20	41		r. Kambunya stor R. Sagama (Tana)
17 44/			0 Sagama Magazajo il Biku	MATHIRA MATHIRA	110	100		0	ě		30	30	30	0		R. Muthira
18 4A/ 19 4A/			2 huni	MATHIRA	600	540		0	Õ		100	100	100	. 0		R. Sagana (Tana)
20 4A/				MUNICIPALITY	600	480		ŏ	ō		450	450	450	ō		R. Amboni
21 4A			4 Kiabiti	TEIU	8	8	8		8	0		0	8	0		R. Seguna
Sub-te					11,165	5,569	456	152	608	401	1,500	1,901	2,509	1,837	7,842	
22 4AI	R >	NY.	O Honi Ralotie	KIENI WEST	70	27		18	18	. 9		9	27	0	24	R. Ruhotie
23 4A1			4 Mweiga division	KIENI WEST	28,000	4,000		0	0		1,060	1000	1,000	0	10,000	R. Amboni
24 4A1		17	6 Njengu Nyanbo	MUNICIPALITY	1,200	1,000		0	. 0		125	125	125	0		R. Murigato
25 4A1				MUNICIPALITY	600	490		0	. 0		60	60	60	0		R. Segana
26 4A3 Sub-ti		NY- (55 Nyeri Hill	TETU	210 30,080	80 5,587		0 18	0 18	9	20 1,205	20 1,214	20 1,232	0		R. Murigato
200-6	KARN				30,000	3,307		1 10	10	,	1,205	1,414	1,131	•	11,104	
27 4AG			3 Kagumo	TEIU	12	12		0	0		12	12	12			Kiunya Dem
28 4A0			66 Kibora	TETU	250	100		0	0		40	40	40			R. Kagumo
29 4A0		NY- (69 [thuthi	TETU	46 308	39 15t) 2	2	22 22	52	22 74	24 76			R.Kagumo
Sub-t	H/CELL				,00		,	, .		**	,,2	7.4	70		"	
30 4A	D 1		54 Thiha Sagana	MUKURWEINI	128	120		0	0		120	120	120			
31 4AI			55 Galdindo	MUKURWEINI	140	85		0	0		85	85	85			R. Gikira
32 4A			59 Karuthi	AYAHTO	720	648		0	G		180	180	180			R. Chinga Darn
33 4A			50 Gikeu	OTHAYA	48 420	43 378		01	10		150	150	14 150			R. Thothi Overfic R. Murawe
34 4A 35 4A			61 Kamoko 62 Kittondo General	OTHAYA	22	12		0	ő		1.50	4	4			R. Muniwe
36 4A			67 Kanyu	TETU	30	20		ŏ	ŏ		20	20	20			R. Kamyu
37 4A			58 Aguthi Gaki	TETU	460	400		ó	ŏ		231	231	231			R. Gura
Sub-1					1,968	1,706		10	10	4	790	794	804	20	3,442	
38 4B	er i	NY.	? Kariithi	MATHIRA	1,080	972		. 0	0		90	90	90		900	R. Ragati
39 4B			36 Ihwagi Greenland	MATHIRA	200	180		40	40	80		80	120	100		R. Ragati
40 4B	B 3	NY-	37 Kimbina Kogongo	MATHIRA	78	70			13			0	. 13	65		R. Ragati
4) 4B	BB 1	NY-	38 Kangocho - farrow	MATHIRA	90	81		10	10			. 5	15			R. Ragati
42 4B			40 Kanjuri	MATHIRA	240	108			40			. 0	40			R. Ragati
43 4B			41 Gikore	MATHIRA	120	108		0	0		20 32	20 32	20			R. Ragati
44 4B 45 4B			42 Gitunduti 43 Uppez Magutu	MATHIRA MATHIRA	200 3 5 0	. 170 324		0	0		. 61	61	32 61			R. Ragačí R. Ruštuštu
46 4B		NY.	44 Geikaryu/Kiengima	MATHIRA	160	120		ō	Ö		120	120	120			R. Ragati
47 4B			49 West Magnetu	MATHIRA	720	648		ŏ	ō		90	90	90			
48 48	3B		53 Kiamariga	MATHIRA	480	432		0	: 0		80	80	80			R. Ragati
Sub-	total		•		3,728	3,213	5	3 50	103	85	493	578	681	420	3,538	
49 5B			31 Kirryniti	KIENI WEST	1,120	896		0	0		. 80	- 80	90			R. Thuru Tharu
50 5B		NY-	32 Muthuid	KIENI WEST	118	40 936		0 0	0		30	30 110	30 110			R. Moyo Zukazu
Sub-t	(UCB)				1,238	9.90	,	• •			110	110	110	` .	, 442	
51 SB			26 Watuka	KIENI WEST	3,408	1,700		43	43			127	170			R. Ewasonyiro
52 5B			27 Lamuria (Rurichu)	KIENI WEST	600	250		36	36			14	. 50			R. Nyarengiro
53 5B			28 Kiugu	KIENI WEST	41	30		6	6		1	14	20			R Karemeno
54 5B			29 Karigumi(Zuka Zuka)	KIENI WEST	50	7.00		0	0		3	3				R. KaR. Karigur
55 5B 56 5B			33 Gatarakwa Muganda 35 Kabimdera	KIENI WEST KIENI WEST	10,800 460	7,000 160		0	0		1,800 40	1800 40	1,800		2 4,300 0 200	R. Ewisonytro R. Ewisonytro
Sub-			37 KROUKREE	MEN WEST	15,379	9,151		0 85				1,998	2,083			ic z
				urry n.a-	-	-							-			D D
57 58 58 58		NY- NY-	2 Gatune 2 Minorini Citero	KIENI EAST KIENI EAST	250 1,200	221 401		ю 0 0			90	80	80 80			R. Burguret R. Birguret
59 58		NY.	3 Njoguini Gitero 4 Barguret	KIENI EAST	3,600	600		10				290	300			R. Waguthiru
60 5B		NY-	6 Naromoru W.	KIENI EAST	2,060	160		5 0				0	. 500			R. Tienthi
6) 5B		NY-	7 Natumora A	KIENI EAST	800	320		120	120			200	320			R. Narumoru
62 5B	BC	NY-	9 Gitwe	KIENI EAST	572	100) 3	ю 0	30	• ()	0	30	30	0 300	R. Tagithi
63 5B			17 Mwicuire	KIENI EAST	350	140	0	0			001	100	100			R. N. Tigithi
			20 Muzeru	KJENI EAST	1,600	1,44		30				170	200			P. Biggreet
	BC BC		21 KabundaNyange 24 Kabendera	KIENI EAST KIENI EAST	720 240	64 21		120 16 0)	120	240 30			R Tigithi R. Tigithi
	-lolal	4-1-	~ - Nevernie	ALL THOU	11,392	4,24						960	1,391			
		111°	12 1/ D	VIELE PART												
	BE BE		13 Mwea B 14 Kaga	KIENI EAST KIENI EAST	172 1,078	12 49		0)	32 98	32 98	32			R. Nanyuki R. Nanyuki
	BE.		25 Hukus	KJENI EAST	1,000	24						. 0	120			R. Nanyuki
					2,250	85					130	130	250			
	~ LUNIAU															
69 51 Sub-		NV.	70 Mutaro	TETTE	30	2	0			4	2	9		6 1	1 . 2	Shallow Welk
69 51 Sub-	riotal rells ≻total	NY-	70 Mutaro	TETU	30 30		0	0 4			2 2 0	2 2		6 1 6 1	3 2	Shallow Wells

								Ironted Area			Unimented Are	·		Present	Proposed	(2 of 8)
ode No	082	Seriel Number	Project Name	Division	Gross Ares (ha)	Net Area (ha)	Fully Int. Schene (ha)	Partially Int. Scheme (ba)	Sab total	Perticity Irri. Scheme (hs)	Proposed Scheme (ha)	Sub-sotali (ha)	Total Area (ha)	No. of Isting 1 Farmers (hh)	No. of turing Farmers (hh)	Water Source
KU	dny ac	200	s author and ready the little	San against an					and a		adotica.					
1	4BB	Kt. 2	23 Ruksago	MWEA	3,100	2,486			0		809	809	809			R. Ragati
2	4B8	KJ- 3	30 Kibirigwi	NDIA	423	335	F12		112			9	117			R. Ragati
3	468	KI- 3	11 Kénnacu	NDIA	120	70			0		30	30	30			R. Residence
4			33 Wakulima	NDIA	- 54	45			0		45	45	4:			R. Ka myirizi
	\$u	b-total			3,697	2,930	112	0	112	0	884	884	998	5 277	1,378	
3	₫BC	K!	11 Gakindu	MWEA	220	176			0		44	44	1 4			R. Resemuthambi
6	4DC	KI- 2	25 Baricho Y. Group	ND!A	61	56		8	8			17	2:			R. Rwamuthambi
7	4BC	K3+ 2	26 Getuya	NDIA	120	40		•	C		20	20	20			R. Renda
8	4BC	K1- 2	27 Kahahoini	NDIA	40	26			0		15	15	I:			R. Rusdu
9	4BC		29 Kiamucuku	NDIA	526	52		_			52	52	57			R. Researchembi
10			34 Githukaki	NDIA	1,000	800		20	20			780	80			R. Rwamuthambi
	Su	b-tetal			1,970	1,150	0	28	28	797	131	928	95	6 149	1,045	
11	4DA	KI-	Kandakame	CENTRAL	180	60	30	1	30		0	0	34			R. Kangaita
12	4DA	KI-	2 Gato	GICHUGU	70	24		14	14			10	2			R. Kaboyo
13	4DA	KI-	3 Gatugura	CICHUGU	160	70		40	40			30	7			R. Kiringa
14	4DA	KI-	4 Cikumbo	GICHUGU	136	65		30	30			5	3:			R. Thibe
15	4DA	K3-	5 Kagures	GICHUGU	20	14		6	•			8				R. Kiringa
16	4DA	K1-	6 Kiemiciri	GICHUGU	180	160		24	24			96	12			R. Kiringa
. 17	4DA	KI-	7 Mathiga	GICHUGU	1,000	300					160	160	16			R. Kiringa
18		KI-	8 Rukenya	GICHIXIX	700	240		175	175			25	20			R. Thirtha R. Mukindu
19		KI-	9 Thimu-Gata	GICHUGU	120	60		25	2:		24	35 24	6			R. Nyaikungu
20			12 Gitocini	MWRA	200	22 254		70	70			50	12			R. Thiba
21			13 Karikomi	MWEA	283	150		12				58	8			R. Thiba
22			14 Kathiga	MWEA MWEA	200 430	350		12	1		50	50	3			R. Thile
23			iS Kiarukangu/ Kanyang In KaiMeranduko	MWEA	1,000	200		30	31			140	17			R. Kiiye
24			18 Kithindi/ Rwambiti	GICHUGU	400	176		75	7:			25	10			R. Gukomeoro
25 26			19 Mithuthini	MWEA	138	69		32				37	6			R. Musubara
27			20 Mitocini-Kombuini	MWEA	334	300					266		26		329	R. Thiba
28			21 Muchangondi	MWEA	210	28		14	3-	1 14	ļ.	14	2	8 35		R. Thiba
29			22 Nyangati/ Ngomano	MWEA	400	200		13	j		1	59	1	2 66		R. Gakuo/Munibar
30			28 Kaki	NDIA	176	132			· · ·)	50	50	5			R. Kiwe
31			32 Mbeti	NDIA	320	68				3	68	68	6	8 0		R. Kangnita
		ub-total			6,657	2,942	34	560	59	602	618	1,220	. 1,81	0 1,110	3,457	
	4DB	L/a	17 Kiratina/ Kiumbui	MWEA	1,180	800					377	377	37	7 0	476	R. Nyaminali
32			24 Togonye	MWEA	250	200		20				10		io 30		R Rechange
3.1		ab-total	AT 10BOINE	MARK	1,430	1,000							40		506	
				oranner:	•					0	80	80		90 O	100	R. Kiye
34		K]- ab-totul	10 Commbaga	GICHUGU	150 150-	80 80		0 0)). (× 0	100	
		rend Tota	_		13,904	8,102	14	2 608	: 75	0 1,409	2,090	3,499	4.24	1,557	6.496	

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1 Months Serial Private Reads Months Mon																	
August A	5	Sub-basi	Serial	Project Name	Division	Gross				Sub-total			Sub-total				Water Source
1 ALC BM- 1 Kasapau CERTRAI. 10 9 5.0 5.0 2 2 7 15 20 Ras 20 CE BM- 2 9 15 15 15 15 15 15 15			Number							d.s.			(ha)				Source
1			Section (Section 1987)	orac contract and a second	*****				and the second	()'M/	()#/	2000					
1						ES SOCIETA		CONTRACTOR	AL PROPERTY OF THE PROPERTY OF	alignation) region of	344/3/28/4:34021	er Extra contratant	Bilde and city of the Company of the	ABOUT NO CONTRACTOR	earce xiles as a earliceasa.		
2 410C EM-6 Sichaeping in MANYATTA 40 36 100 100 10 4 4 4 0 9 60 15 R. M. A 10C EM-6 Sichaeping in MANYATTA 40 36 100 100 10 4 4 4 0 9 60 15 R. M. A 10C EM-6 Sichaeping in MANYATTA 40 36 100 100 10 4 4 4 0 0 15 R. M. A 10C EM-6 Sichaeping in MANYATTA 40 36 100 100 0 2 2 2 0 0 20 R. M. A 10C EM-6 Sichaeping in MANYATTA 40 36 100 100 0 10 1 2 12 12 12 12 0 33 R. M. A 10C EM-6 Sichaeping in MANYATTA 40 30 27 0.00 0.00 12 12 12 12 12 0 33 R. M. A 10C EM-6 Sichaeping in MANYATTA 30 27 0.00 0.00 0 12 12 12 12 12 0 33 R. M. A 10C EM-6 Sichaeping in MANYATTA 30 27 0.00 0.00 0.00 12 12 12 12 12 0 33 R. M. A 10C EM-6 Sichaeping in MANYATTA 30 27 0.00 0.00 0.00 12 12 12 12 12 0 33 R. M. A 10C EM-6 Sichaeping in MANYATTA 30 27 0.00 0.00 0.00 12 12 12 12 12 0 33 R. M. A 10C EM-6 Sichaeping in MANYATTA 30 27 0.00 0.00 0.00 12 12 12 12 12 0 0 33 R. M. A 10C EM-6 Sichaeping in MANYATTA 30 27 0.00 0.00 0 25 2 28 3 28 37 R. M. A 10C EM-6 Sichaeping in MANYATTA 30 27 0.00 0.00 0 35 5 28 3 35 0 0 0 60 60 R. M. A 10C EM-6 Sichaeping in MANYATTA 30 27 0.00 0.00 0 35 5 35 35 35 0 0 80 R. M. A 10C EM-6 Sichaeping in MANYATTA 38 16 0.00 0.00 12 12 12 12 12 0 0 30 R. M. A 10C EM-6 Sichaeping in MANYATTA 38 16 0.00 0.00 12 12 12 12 12 0 0 30 R. M. A 10C EM-6 Sichaeping in MANYATTA 38 16 0.00 0.00 12 12 12 12 12 12 0 0 30 R. M. A 10C EM-6 Sichaeping in MANYATTA 38 16 0.00 0.00 12 12 12 12 12 12 12 12 12 12 12 12 12	1	4DC	6M- 1	Karieero	CENTRAL.	10	9	•	5.0								R. Kaningazi
3 OC EM- 8 Golsmange MANYATTA 40 36 100 100 10 10 10 10 10	_				CENTRAL	64	58	3	0.0								
4 DC EM- 10 Izari MANYATTA 4 3 0.0 0.0 0.0 4 4 4 4 0 15 R. N. S.	-				MANYATTA	40	36	5	10.0	10.0) 10		10				
5 ADC EM-10 Itani MANYATTA	_					7	5	•	0.0	0.0	D						
6 ADC EM-11 Iriani MANYATTA 20 15 00 0.0 18 18 18 8 8 0 25 R. M. 7 ADC EM-12 Kagerna MANYATTA 30 27 0.0 0.0 12 12 12 12 0 33 R. M. 8 ADC EM-13 Kamwindi MANYATTA 30 27 0.0 0.0 12 12 12 12 12 0 33 R. M. 8 ADC EM-14 Kambero MANYATTA 10 9 0.5 0.5 5 4.6 5 22 37 R. M. 10 ADC EM-15 Kamwin MANYATTA 10 29 0.5 0.5 5 4.6 5 22 37 R. M. 11 ADC EM-15 Kamwin MANYATTA 10 29 0.5 0.5 5 4.6 5 22 37 R. M. 12 ADC EM-16 Kamyini MANYATTA 10 29 0.5 0.5 5 4.6 5 22 37 R. M. 12 ADC EM-16 Kamyini MANYATTA 10 11 0.0 0.0 0.0 0.0 10 10 10 10 10 10 10 10 10 10 10 10 10						4	3	3	0.0								
7 4DC EM-12 Kagena MANYATTA 30 27 00 00 12 12 12 12 0 33 K. R. K. B. C. EM-13 Kamerina MANYATTA 33 30 00 00 00 12 12 12 12 12 2 3 33 K. R. K. B. C. EM-13 Kamerina MANYATTA 10 9 0.5 0.5 0.5 5 4.6 5 2 2 37 R. K. B. C. EM-14 Kamero MANYATTA 10 9 0.5 0.5 0.5 5 5 2.5 2 3 2 3 7 R. K. B. C. EM-14 Kamero MANYATTA 10 9 0.5 0.5 0.5 0.5 5 2 2 5 5 3 2 2 7 R. K. B. C. EM-14 Kamero MANYATTA 30 27 0.0 0.0 0.0 10			EM- 11	Irienú	MANYATTA	20	15	5	0.0								
8 DC EM-1 3 Karnwirchi MANYATTA 33 30 00 00 0.0 12 12 12 12 0 73 K.R. M. P. D. D. S. D.			EM- 12	Kacuma	MANYATTA	30	27	,	0.0								
9 ADC EM-14 Kambrevo MAYATTA 10 9 0.5 0.5 0.5 5 4.5 5 23 37 K M O D ADC EM-15 Kamrin MAYATTA 30 27 0.0 0.0 0 25 25 25 25 0 0 60 R Ki AL D ADC EM-15 Kamrin MAYATTA 12 11 0.0 0.0 0 10 10 10 10 10 16 R K M O R Ki AL D ADC EM-15 Kamrin MAYATTA 12 11 0.0 0.0 0 10 10 10 10 10 16 R K M O R Ki AL D ADC EM-15 Kamrin MAYATTA 18 16 30 37 0.0 0.0 0 35 55 55 35 0 80 R Ki AL D ADC EM-15 Kamrin MAYATTA 18 16 30 30 30 3 3 3 6 2 27 36 R Ki AL D ADC EM-15 Kamrin MAYATTA 18 16 30 0.0 0 0 14 4 4 4 0 0 80 R K Ki AL D ADC EM-15 Kamring MAYATTA 18 16 0.0 0.0 0 15 16 K M 14 0 0 80 R K Ki AL D ADC EM-15 Kamring MAYATTA 18 16 0.0 0 0 0 15 16 K M 14 0 0 12 R K M 15 16 16 16 16 16 16 16 16 16 16 16 16 16	8		FM- 13	Kemevindi	MANYATTA	33	30)	0.0	0.0	0	12					
10 ADC EM- 15 Kammin MANYATTA 30 27 0.0 0.0 25 25 25 25 0 60 R. M. I					MANYATTA	10	5)	0.5								
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12 AIC Color 15 Keringsazi MANYATTA 40 37 0.0 0.0 35 35 35 35 0 80 K. M.	Ħ		HM- 16	Kanvirini	MANYATTA	12	11	l	0.0	0.	0						
13 ADC EM. 18 Xarangi MANYATTA 18 16 3.0 3.0 3 3 6 27 20 16 NA						40	31	7									R. Kapıngazi
14 ADC EM. 19 Kersu MANYATTA 8 6 0.0 0.0 4 4 4 4 0 20 K.H.					MANYATIA	18	10	6	3.0								
15 10 10 10 10 10 10 10					MANYATTA	8	4	6									
15 ADC EM- 2 Kathiongondu MANYATTA 5 4 0.0 0.0 12 12 12 12 12 13 14 13 14 15 14 15 14 15 14 16 16 16 17 17 17 17 17	15	4DC	EM- 20	Kathigari	MANYATTA	36	33	2	0.0						-		
17 ADC EM- 22 Kathanir MANYATTA 15 14 0.0 0.0 12 12 17 0 18 K II 18 ADC EM- 22 Kathanir MANYATTA 30 27 1.0 1.0 5 5 5 6 30 45 K M M M M M M M M M M M M M M M M M M					MANYATTA	5		4									
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19 10C EM. 24 Kinedari MANYATTA 30 27 1.0 1.0 5 5 6 30 43 K.W.			EM- 23	Kiambuai	MANYATTA	8		7	0.0	0.							
20 ADC EM. 25 Kibagu MANYATTA 150 120 00 0.0 10 10 10 0 20 R. M. ANYATTA 14 13 0.0 0.0 10 10 10 0 0 20 R. M. ANYATTA 10 9 0.0 0.0 40 4 4 8 35 67 R. K. ANYATTA 10 9 0.0 0.0 0.0 7 7 7 7 0 35 R. R. S.					MANYATTA	30	2	7									
21 ADC EM. 26 Kirahs			EM- 25	Kibugu	MANYATTA	150	12	0									
22 ADC EM. 27 Kij			EM- 26	Kierisha	MANYATTA	14	1	3	0.0								
23			EM- 27	Kii	MANYATTA	20	1	8	4.0								
24 AUC EM - 29 Makongero					MANYATTA	10		9	0.0	0	.0						
25 ADC EM- 30 Mwiria					MANYATTA	10		9	0.0								R. Rupingar
26 4DC EM- 31 Nidaari MANYATTA 20 18 0.0 0.0 10 10 10 10 0 43 R.N. 27 4DC EM- 32 Nitrumbiri MANYATTA 35 30 0.0 0.0 20 20 20 20 0 150 R.T. 28 4DC EM- 33 Rigaraciri MANYATTA 40 36 1.0 1.0 35 3 3 3 0 12 R.R. 30 4DC EM- 33 Rigaraciri MANYATTA 40 36 1.0 1.0 35 5 55 36 18 200 R.R. 31 4DC EM- 35 Remayage MANYATTA 40 36 1.0 1.0 35 5 55 36 18 200 R.R. 31 4DC EM- 35 Remayage MANYATTA 80 70 0.0 0.0 4 4 4 4 0 18 R.R. 31 4DC EM- 35 Remayage MANYATTA 80 70 0.0 0.0 80 80 80 80 0 300 R.T. 31 4DC EM- 35 Remayage MANYATTA 80 70 0.0 0.0 50 50 50 50 0 20 20 R.K. 32 4EB EM- 3 Greenga KYENI 10 9 0.4 0.4 6 5.6 6 1 27 R.G. 33 4EB EM- 4 triani KYENI 150 70 0.0 0.0 50 50 50 50 0 200 R.K. 34 4EB EM- 7 Karin KYENI 126 114 2.5 2.5 104 103.5 106 10 533 R.T. 35 4EC EM- 5 Rimbogo KYENI 27 24 9.0 80 12 12 20 25 40 R.R. 36 4EC EM- 6 Kanyange KYENI 30 25 0.0 0.0 18 18 18 18 18 0 40 R.N. 37 4EC EM- 37 Rimbo SKENI 14 13 0.0 0.0 18 18 18 18 18 0 40 R.N. 38 4EC EM- 5 Rimbogo KYENI 30 25 0.0 0.0 18 18 18 18 18 0 40 R.N. 39 4EC EM- 39 Kevote NEMBURE 14 13 0.0 0.0 15 15 15 15 0 44 R.N. 4EC EM- 41 Kingluki NEMBURE 40 36 0.0 0.0 15 15 15 15 0 48 R.N. 4EC EM- 41 Kingluki NEMBURE 40 36 0.0 0.0 15 15 15 15 0 48 R.N. 4EC EM- 43 New Karuruno NEMBURE 40 36 0.0 0.0 12 12 12 12 0 35 R.E. 4EC EM- 43 New Karuruno NEMBURE 40 36 0.0 0.0 15 15 15 15 0 48 R.R. 4EC EM- 43 New Karuruno NEMBURE 40 36 0.0 0.0 15 15 15 15 0 48 R.R. 4EC EM- 43 New Karuruno NEMBURE 40 36 0.0 0.0 12 12 12 12 0 35 R.E. 4EC EM- 43 New Karuruno NEMBURE 40 36 0.0 0.0 15 15 15 15 0 48 R.R. 4EC EM- 43 New Karuruno NEMBURE 60 54 5.0 5.0 15 16 61 63 10 315 R.E. 4EC EM- 43 New Karuruno NEMBURE 50 30 3.0 3.0 4 4 4 7 2 28 40 R.E. 4EC EM- 47 Nwanga-Kiri RUNYENIES 50 30 3.0 3.0 3.0 27 27 30 66 60 R.R. 4EC EM- 47 Nwanga-Kiri RUNYENIES 50 30 30 3.0 30 27 27 30 66 60 R.R. 4EC EM- 48 Nomange RUNYENIES 30 10 30 3.0 30 27 27 30 66 60 R.R. 4EC EM- 48 Nomange RUNYENIES 30 10 30 30 30 30 30 4 30 30 30 30 30 30 30 30 30 30 30 30 30					MANYATTA	30	2	7	1.5								R. Rupingaz
27 ADC EM- 32 Nihumbiri MANYATTA 35 30 0.0 0.0 0.0 20 20 20 0 150 R. II						20	1	8	0.0	0	.0						R. Nyanjara
28 4DC EM- 33 Riemaciri MANYATTA 15 14 0.0 0.0 3 3 3 3 0 12 R. R. S.					MANYATTA	35	3	0	0.0			20					R. Thambar
29 4DC EM- 34 Rupingazi MANYATTA 40 36 1.0 1.0 35 35 36 18 200 R.						15	1	4	0.0	0							R. Riamacir
30 4DC EM- 35 Rwaryage MANYATTA 32 29 0.0 0.0 4 4 4 4 0 18 R. R.							3	6	1.0	1	.0 3:	5	35				R. Rupinga
Sub-total Sub-						32	2	9	0.0	0	.0	4					R. Rusnyng
Sub-total 876 766 0 26 26 74 376 450 416 243 2,286 32 4EB EM. 3 Groengs KYENI 10 9 0.4 0.4 6 5.6 6 1 27 R.G 33 4EB EM. 4 Iriani KYENI 150 70 0.0 0.0 0.0 50 50 50 0 200 R.K 34 4EB EM. 7 KATRU KYENI 126 114 2.5 2.5 104 103.5 106 10 533 R.T Sub-total 286 193 0 3 3 109 50 159 162 11 760 35 4EC EM. 5 Rimbogo KYENI 27 24 9.0 8.0 12 12 20 25 40 R.R 36 4EC EM. 6 Kanyange KYENI 30 25 0.0 0.0 0.0 18 18 18 18 0 40 R.R 37 4EC EM. 37 Rimdo NEMBURE 14 13 0.0 0.0 18 18 18 18 0 40 R.R 38 4EC EM. 38 Kammaru NEMBURE 40 16 0.0 0.0 15 15 15 15 0 47 R.R 39 4EC EM. 39 Vevote NEMBURE 35 33 0.0 0.0 15 15 15 15 0 47 R.R 40 4EC EM. 40 Kianjuki NEMBURE 40 36 0.0 0.0 15 15 15 15 0 48 R.R 41 4EC EM. 41 Kianjuki NEMBURE 20 26 18 0.0 0.0 0.0 12 12 12 12 12 12 12 12 12 12 12 12 12						80	7	0	0.0	0	.0						R. Thember
Second S						876	76	6	0 26	:	26 7	4 376	450	47	6 243	2,286	
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35 4EC EM- 6 Kanyange KYENI 30 25 0.0 0.0 18 18 18 18 0 40 R.N. 37 4PC EM- 6 Kanyange KYENI 30 25 0.0 0.0 0.0 13 13 13 13 0 30 R.E 37 4PC EM- 37 Kindou NEMBURE 14 13 0.0 0.0 0.0 15 15 15 15 0 44 R.E 40 4PC EM- 40 Kiandundu NEMBURE 35 33 0.0 0.0 0.0 15 15 15 15 0 85 R.E 41 4EC EM- 41 Kianjuki NEMBURE 40 36 0.0 0.0 0.0 15 15 15 15 0 85 R.E 41 4EC EM- 41 Kianjuki NEMBURE 30 26 0.0 0.0 0.0 15 15 15 15 0 85 R.E 41 4EC EM- 41 Kianjuki NEMBURE 20 18 0.0 0.0 0.0 12 12 12 12 0 35 R.E 41 4EC EM- 42 Makerigi NEMBURE 20 18 0.0 0.0 0.0 12 12 12 12 0 35 R.E 41 4EC EM- 43 New Katurumo NEMBURE 60 54 5.0 5.0 15 15 16 20 10 75 R.E 41 4EC EM- 44 Era RINYENIES 160 144 2.0 2.0 61 61 61 63 10 315 R.E 41 4EC EM- 45 Kaningu RUNYENIES 160 144 2.0 2.0 61 61 61 63 10 315 R.E 41 4EC EM- 45 Kaningu RUNYENIES 15 14 3.0 3.0 3.0 4 4 4 7 28 40 R.E 41 4EC EM- 45 Kaningu RUNYENIES 20 5 1.0 1.0 4 4 4 5 15 5 0 0 R.E 41 4EC EM- 47 Mwaugu-Kiriu RUNYENIES 20 5 1.0 1.0 4 4 4 5 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			Sub-total		•	200	15	73	• ,		, 10	, ,,	137	•	-		
36 4EC BM-6 6 Kanyange KYENI 30 25 0.0 0.0 18 18 18 0 40 R. N. 37 4EC BM-1 37 (Early) NEMBURE 14 13 0.0 0.0 13 13 13 0 30 R. K. 38 4EC EM-38 Kammurau NEMBURE 40 16 0.0 0.0 16 16 16 0 30 R. K. 39 4EC EM-39 Kewtoe NEMBURE 35 33 0.0 0.0 15 15 15 0 44 R. N. 40 4EC EM-40 Kiandurdu NEMBURE 40 36 0.0 0.0 15 15 15 0 38 S. E. 41 42 EM-41 Kianjuki NEMBURE 30 26 0.0 0.0 12 12 12 12 12 12 0 35 R. E. 42 4EC EM-41 Kianjuki	25	3EC	6M. 5	Stephogo	KYENI	27	. 2	24	8.0	ŧ	1.0	2					R. Itimbog
37 4EC EM- 37 Kindu NEMBURE 14 13 0.0 0.0 13 13 13 13 0 30 R. E						30	2	25	0.0	0	0.0	18	18				R. Nyange
38 4EC FM- 38 Kammanu NEADURE 40 16 0.0 0.0 16 16 16 0 30 R. K 39 4EC EM- 39 Kevote NEBBURE 35 33 0.0 0.0 15 15 15 15 0 44 R. K 40 4EC EM- 40 Kianjuki NEADURE 40 36 0.0 0.0 15 15 15 15 0 85 R. E 41 4EC EM- 41 Kianjuki NEADURE 30 26 0.0 0.0 26 26 26 26 0 60 R. K 42 4EC EM- 42 Makerngi NEADURE 20 18 0.0 0.0 12 12 12 12 12 0 35 R. E 43 4EC EM- 43 Now Kasurumo NEADURE 60 54 5.0 5.0 15 16 20 10 75 R. K 44 4EC EM- 44 Ena RUNYENIES 16 144 2.0 2.0 61 61 63 10 315 R. E 45 4EC EM- 45 Kamingu RUNYENIES 15 14 3.0 3.0 4 4 7 7 4E EM- 45 Kamingu RUNYENIES 15 14 3.0 3.0 3.0 4 4 7 7 4E EM- 45 Kamingu RUNYENIES 15 14 3.0 3.0 3.0 4 4 7 7 4E EM- 47 Mwaugu-Kirii RUNYENIES 20 5 1.0 1.0 1.0 4 4 5 15 20 R. E 48 4EC EM- 47 Mwaugu-Kirii RUNYENIES 30 30 3.0 3.0 27 27 37 30 60 60 R. R 48 4EC EM- 48 Ndarnunge RUNYENIES 30 10 5.0 5.0 5.0 5 5 10 40 40 R. I							1	3	0.0	•	0.0	13					
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40 4EC EM- 40 Kandundu NEMBURE 40 36 0.0 0.0 15 15 15 0 85 8.E 41 4EC EM- 41 Kandundu NEMBURE 30 26 0.0 0.0 26 26 26 26 0 0 60 R.F. 42 4EC EM- 43 New Kantunno NEMBURE 20 18 0.0 0.0 12 12 12 12 0 35 R.F. 43 4EC EM- 43 New Kantunno NEMBURE 60 54 5.0 5.0 15 15 20 10 75 R.F. 44 4EC EM- 44 Env RUNYENIES 160 144 2.0 2.0 61 61 63 10 315 R.F. 45 4EC EM- 45 Kantingu RUNYENIES 15 14 3.0 3.0 4 4 7 28 40 R.F. 45 4EC EM- 46 Kigaritho RUNYENIES 20 5 1.0 1.0 4 4 7 28 40 R.F. 46 4EC EM- 47 Wangu-Kirii RUNYENIES 30 30 3.0 3.0 27 27 30 60 60 R.F. 48 4EC EM- 48 Ndamunge RUNYENIES 30 10 5.0 5.0 5.0 5 5 10 40 40 R.F. 48 4EC EM- 48 Ndamunge RUNYENIES 30 10 5.0 5.0 5.0 5 5 10 40 40 R.F. 48 4EC EM- 48 Ndamunge RUNYENIES 30 10 5.0 5.0 5.0 5 5 10 40 40 R.F.						35	- 1	33	0.0	. (0.0	15	15				R. Kimunun
41 4EC EM- 41 Kanjuki NEMBURE 30 26 0.0 0.0 26 26 26 0 60 R. R. A.						40		36	0.0	. (0.0	1.5	15				
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43 4EC EM- 43 New Kasurumo NEMBURE 60 54 5.0 5.0 15 15 20 10 75 R.R. 44 4EC EM- 44 Enx RUNYENIES 160 144 2.0 2.0 61 61 63 10 315 R.R. 45 4EC EM- 45 Kamingu RUNYENIES 15 14 3.0 3.0 4 4 7 28 40 R.R. 45 4EC EM- 46 Kigaritho RUNYENIES 20 5 1.0 1.0 4 4 5 15 20 R.R. 47 4EC EM- 47 Mwaugu-Kirii RUNYENIES 50 30 3.0 3.0 3.0 27 27 30 60 60 R.R. 48 4EC EM- 48 Ndamunge RUNYENIES 30 10 5.0 5.0 5.0 5 5 10 40 40 R.R. 48 4EC EM- 48 Ndamunge RUNYENIES 30 10 5.0 5.0 5.0 5 5 10 40 40 R.R.									0.0		0.0	12	12				R. Kinurun
44 4EC EM- 44 Enx RUNYENIES 160 144 2.0 2.0 61 61 63 10 315 R.E. 45 4EC EM- 45 Kamingu RUNYENIES 15 14 3.0 3.0 4 4 7 28 40 R.E. 46 4EC EM- 46 Kigaritho RUNYENIES 20 5 1.0 1.0 4 4 4 5 15 20 R.E. 47 4EC EM- 46 Kigaritho RUNYENIES 50 3.0 3.0 3.0 27 27 30 60 60 R.E. 48 4EC EM- 48 Ndamunge RUNYENIES 30 10 5.0 5.0 5 5 10 40 40 R.E. 48 4EC EM- 48 Ndamunge RUNYENIES 30 10 5.0 5.0 5 5 10 40 40 R.E. 48 4EC EM- 48 Ndamunge RUNYENIES 30 10 5.0 5.0 5 5 10 40 40 R.E.											5.0 1	15					R. Karuru
45 4EC EM- 45 Kamingu RUNYENIES 15 14 3.0 3.0 4 4 7 28 40 R.E. 46 4EC EM- 46 Kigaritho RUNYENIES 20 5 1.0 1.0 4 4 5 15 20 R.E. 47 4EC EM- 47 Mwaugu-Kirii RUNYENIES 50 30 3.0 3.0 3.0 27 27 30 60 60 R.F. 48 4EC EM- 48 Ndamunge RUNYENIES 30 10 5.0 5.0 5 5 10 40 40 R.E. 48 4EC EM- 48 Ndamunge RUNYENIES 30 10 5.0 5.0 5.0 5 5 10 40 40 R.E.									2.0		2.0	61	61				
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40 45C Day to Rosenburge (COTTENTION) 100 Old													. 5				R. Ena
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Opend Total 1;733 1,407 0 56 56 311 541 852 908 442 3,960				. •		1,000		0.7	0 64		SK 31	11 541	957	٥	OR 44	2 396	9

															Proposed	(4 of 8)
ula (Sub-besin	Serial	Project Name	Division	Gross	Net		Imigated Area Partially Imi	Sub-total	Partially Imi	Unimigated a Proposed	Area Sub-total	Total	Present No. of Israing b		Water
0.		Number	110,000 112.20	221-0.00	Area	Area	Scheme	Schame		Scheme	Scheme		Area	Farrners	Fermore	Source
					(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(bh)	(hh)	*******
Ü	EERE	20 (20) 20 (40)										entra de la companya de la companya La companya de la co				
ı	483	MB- 18	Karabe	MWEA	100	80		5.0	5.0			45.0	50.0			Tana
2	43G	MB- 20	Makima Kithesa	MWEA	200	180		25.0	25.0			55.0	80.0			: Tana
3	4BG	MB- 22	Moondoni	NWEA	80	40		8.0	8.0			12.0	20.0			. Tana
4	4BO	MD- 24	Nthingira	MWEA	60	40		6.8	8.0			32.0	40.0			LTana
5	4BO	MB- 25	Wachoro	MWRA	100	80		5.0	5.0			45.0	50.0			L. Tame
6	4BG	MB- 26	WangoRinkanau	MWBA	100	80			0.6		50.0	50.0	50.0			L Tana
	Sub-total		_		640	500	0	51	51	189	50	239	290	161	334	
7	4DC	MB- 14	Rupingazi Y.S.H	OACHOKA	30	20		2.0	2.0			13.0	15.0			L Rupinguz
8	4DC		Rwika Rupingazi	GACHOKA	50	35		1.0	1.0			39.0	40.0			Ruomga:
	Sub-total				80	55	0	3	-	3 52	0	52	55	5 35	110	
9	4DD	MB- 10	Kamugongo	GACHOKA	100	90			0.0		10.0	10.0	10.0			L. Thiba
10	4DD	мв- п	Kianuriaa	GACHOKA	40	35		2.0	2.0			48.0	50.0			t. Thiba
11	4DD	MB- 12	Ndunda	GACHOKA	50	40	l		0.0)	20.0	20.0	20.6			t. Thios
12	4DD	MB- 13	Rugongwe	GACHOKA	50	40			0.0)	10.0	10.0	10.0			E. Thiba
13	4DD	MB- 16		MWEA	640	240	,	50.0	50.9	350.0	l .	350.0	400.0			t Thibe
14	4DD		Kampunyawa	MWEA	150	100	1	5.0	5.1	35.0		35.0	40.0			t. Thiba
15			Mashamba	MWEA	2.000	800	,		0.	•	800.0	800.0	800.6			₹ Thibe
16			Ngecha	MWEA	30	25		5.0	5.1	15.0	,	15.0	20.4			₹ Thibs
••	Sub-total	2	- 8		3,060	1,370	• 6	62	б	2 448	840	1,288	1,35	0 541	2,713	
17	4EB	MB- 1	Ishiara/Kathisi	EVURORE	200	150)	30.0	30.	0 30.0	,	30.0	60.			R. Thuci
18			Mla-chaki	EVURORE	900	600)		0.	0	300.0	300.0	300.			R. Thuci
19	,		Gekou	EVURORE	200	150)		O.	0	100.0	100.0	100.			R. Thuci
20			Kagandari	EVURORE	110	60)	•	0.	0	150.0	150.0	150.			R. Thuci
~~	Sub-total			21011112	1,410	960		30	3	0 30	550	580	61	0 85	600	
21	4EC	MB- 2	: Karerema	EVURORE	112	88	3		0.	0	. 145.0		145.			R. Ena
22			Karuthanju	EVURORE	30	28		0.4	0.	4 24.6	5	24.6	25.			R. Ena
23			Murineri	EVURORE	90	80)	0.4	0.	4 37.6	5	37.6	38.			R, Ena
24			Karuriri	EVURORE	240	200)	0.4	0.	4 24.6	5	24.6	25.			R. Enz
25			Kathiga Gaoeru	EVURORE	107	100)	20.0	20.	0 80.0	•	80.0	100.			R. Erm
26			Getitu	SIAKAGO	17	12		2.0	2.	0 3.0) .	3.0		.0 34		R. Ema
27			Kangondi .	SIAKAGO	10	7		0.5	0.	5 1.5	5	1.5		.0 28		R. Ens
28			Kannu	SIAKAGO	15	12	2	0.5	0.	5 8.5		8.5		.0 30		R. Ena
20	Sub-total				621	52		24	2	4 180	145	325	34	9 236	359	
29	4ED	MB- 19	9 Kikumini/Karura	MWEA	40	2:	5	5.0	S.	0 10.0		10.0	15			R. Tens
2	Sub-total				40	2:) 5		5 10	0	10	1	5 4	20	
	Grand Total				5.851	3,43) 175	. 17	5 905	9 1,585	2,494	2.66	59 1,062	4.136	

de Sub-bas)	i Serial Numb	Project Name	Division	Gross	Net	Fully for	Irrigated Area Partially Irri	Sub total	Sartially You	Unirrigated		Total	Present	Proposed	
	Numb					* mail mir	CALLEDY MAC			1100000	-300-10021	10(8)	No. of Imiting i	NO. OI BITING	Water
174VV7		Ħ		Area	Area	Scheme	Scheme		Scheme	Scheme		Atea	Farmers	Farmers	Source
**********	7712	nesis en		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(lia)	(ha)	(hh)	(bh)	arana aran
1 4BA	TN- 4	Ngaru Oskirwe PH1	THARAKA SOUTH	500	260	52		52			0	52	130	130 2	R, Thingit
2 4EA	TN- 4	Nganu Gakirwe PH2	THARAKA SOUTH	1,000	600		24	24	28		28	52	60	130 1	R. Kithim
3 4EA		Nguaru Gakuwa PH3		800	400			0		52	52	52	0		R. Kithira
Sub-tota	1			2,300	1,260	52	24	76	28	52	80	156	190	390	
4 4BB	m- I	Ciembernea	CHUKA	900	67.5	52		52			0	52	122	122.1	R. Naka
5 488	TN-		CHUKA	32	14		4	. 4	10		10	14	19		R. Kathe
6 4EB	TN		CHUKA	450	300		•	ō		12	12	12	ő		R. Kurug
7 4EB	1N- 4		CHUKA	250	50		10	10			30	40	70		R. Krieu
8 4EB	TN- 5		CHUKA	40	30			0.0		20	20	20	. 0		R. Ingu
9 4EB	TN- 6	Kathima Muchego	CHUKA	45	38			0.0		20	20	20	0		R. Kathir
10 4EB	TN- 7		CHUKA	20	15			0		10	10	. 10	0		R. Kather
11 4EB	TN. 8		CHUKA	2,250	800			0		160	160	160	0	800 1	R. Maan
12 4EB	TN- S		CHUKA	50	40			0.0		40	40	. 40	0	60 1	R. Rugui
13 4EB	TN- 1		CHUKA	1,800	1,400			0		100	100	100	0		R. Tungu
14 4EB	TN- I		CHUKA IGAMBA NOOMBE	300 40	100 15		2	0		60	60 8	60 10	0		R. Tung.
15 4EB 16 4EB		2 Kammene 3 Kandondo	IGAMBA NOOMBE	30	26		2	0		26	26	26	19		R. Rugut R. Thuci
10 4EB	TN- I		IOAMBA NOOMBE	35	30			. 0		30	30	30			r∟inuci R.Mena
18 4EB	TN- I		IGAMBA NOOMBE	64	20			ő		54	54	54	ő		r. Mada R. Thucl
19 4EB	TN I		IGAMBA NGOMBE	28	19			ŏ		18	18	18	ŏ		R. Thuc
20 4EB	TN- 1		IGAMBA NGOMBE	30	10			0		10	10	10			R Mara
21 4BB	1N- 1		IOAMBA NGOMBE	31	18			6		18	18	18	0		R. Muto
22 4EB	TN- 1		IGAMBA NGOMBE	• 40	30			0		30	30	30	0		R. Mara
23 4EB	TN- 2		IGAMBA NGOMBE.	400	140			0		140	140	140	. 0	350	R. Thuc
24 4EB	TN- 2		IGAMBA NGOMBE	28	20			. 0		26	26	26			R. Naka
25 4EB	TN- 2		IGAMBA NGOMBE	29	20			0		20	20	20			R. Mara
26 4EB	TN- 2		IGAMBA NOOMBE	45	40			0		40	40	40			R. Mara
27 488	TN- 2		IGAMBA NGOMBE	26	20			. 0		20	20	20			R. Rugu
28 4EB	TN- 2		MAGUMONI	35	28			0		28	28	28			R. Mini
29 4EB 30 4EB	TN- 2 TN- 2		MAGUMONI MAGUMONI	20 23	10 13			0		10 13	10 13	10 13			R. Thuc R. Kamu
31 4EB	TN- 2		MAGUMONI	40	15			0		7	7	7	0		R. Mwir
32 4EB	TN- 2		MAGUMONI	600	450			0		24	24	24			R. Ruges
33 4EB	TN- 3		MADUMONI	25	10		7	ž			- 3	10			R. Mwi
34 4EB	TN :		MAGUMONI	51	40		5	5.0			ő	š			R. Kathi
35 4EB	TN- 3		MAGUMONI	840	400)	. 5	5.0			75	80			R. Gitua
36 4EB	TN- 3	3 Gitambani	MWIMBI	300	250)		0)	70	70	70	0	50	R. Karig
37 4EB	TN- 3		MWIMBI	704	400		12	12			353	365			R. Nime
38 4EB	TN- 3		MWIMB!	200	80		2	2	78		78	80			R. Nima
39 4EB	TN- 3		MWIMBI	20	. 5		2	2			3	5			R Numu
40 4EB	TN- 1		MWIMBI	600	450			0		50		50			R Keme
41 4EB Sub-tot	TN- :	S Thingas	MWIMBI	105 10,526	70 6.091		12 2 61	12 113			58	70			R. Kinus
500-100	181			10,526	0,031	32	. 61	113	018	1,056	1,674	1,787	460	6,156	
42 4FA	TN-	9 Nkondi	THARAKA CENTRAL	1,710	400)		0	;	365	365	365	0	380	R. Kathi
43 4FA		O Rusingu	THARAKA CENTRAL	1,000	400)		Ċ		66		66			R. Third
44 4FA	TN-	ii Tumburu	THARAKA CENTRAL	1,200	500)		0)	250	250	250	. 0	350	R. Kath
45 4FA			THARAKA SOUTH	120	80			C		80		. 80			R. Rugu
46 4FA		8 Nkarini Prop.	THARAKA SOUTH	800	300			C		300		300			R. Thing
Sub-tot	tal			4,830	1,680) () 0	C) (1,061	1,061	1,061	0	1,274	
47 4FB	TN-	2 Thanantu	THARAKA NORTH	6,000	3,000))	3,000	3000	3,000	0	1,500	R. Than
48 4FB		3 Una	THARAKA NORTH	1,600	800			č		800		800			R. Rung
Sub-tot				7,600	3,800		0	Č				3,800		1,900	
Onworld	Total			25,256	12,831	104	\$ 85	189	9 646	5 5,969	6,615	6,804	650	9,720	
						-									

Code Sub-besi No.	Serial Numb		Division	Gross Area (ha)			Irrigated Area Partially Irri Scheme (ha)	Sub tota (ha)	Sch	ally lui.Pr	nimigated Ar reposed scheme (ha)	Sub-total (ha)	Total Area (ha)	Present No. of Irrieng Farmers (lih)	Proposed No. of Iming Farmers (hh)	Water Source
		76 Barenge Water Proj	ABOGETA ABOGETA	360 200	220 120		30 36		30 30	120 50		120 50	150 80	180 190		R. Kithino R. Gachuma
3 4EA	ME-	77 Gatankene 78 Giantugwara W Farrew 79 Gitinda W. Project	ABOGETA ABOGETA	240 380	200 100		1:		0 15	35	100	100 35	100 50	60	200	Muluo Stream Gakoo Stream
5 4EA	ME-	80 Gitune Weter Proj.	ADOGETA	400	250 360		•		0	•	120 280	120 280	120 280	0	300	R. Muthanjiri R. Kithino
	ME-	81 Igokine Water Ass. 82 Kangochine W. Farrow	ABOGETA ABOGETA	600 380	200		6		60	90	280	90	150	318 26	318	R. Kithino Karigi Stream
	NŒ-	83 Kanigi Water Proj. 84 Kathuku Water Farrow	ABOGETA ABOGETA	41 200	20 180		6	1	60	2 120		120	180	300	300	R. Kithino
		85 Kirambui Water Proj 86 Kirie Water Proj	ABOGETA ABOGETA	360 200	300 100		64 14	}	60 10	40 30		40 30	100 40	300 30	100	R. Kithino R. Kithino
12 4EA	ME-	87 Kithino Mari 88 Lower Chunt/Baranga	ABOGETA ABOGETA	600 250	320 75		6 2:		60 20	156 70		156 70	216 90	539 120	300	R. Kithino R. Kithinu
14 4EA	ME-	89 Lower Kithangari Water. 90 Maras		150 3,500	120 100		· 2	?	12 10	108		108 110	120 120	250 50		R. Kathirla R. Kithini
16 4EA	ME-	91 Mburi W. Proj.	ABOGETA	240 440	150 300				0		100 260	100 260	100 260			Kirogiwe Furrow R. Irana
18 4EA	ME-	92 Muruine 93 Mutwatine W. Proj.	ABOGETA ABOGETA	200	150		6)	60	40	30	40 30	100	300	300	R. Kithino R. kimbene
20 4EA	ME-	94 Nyombe yn Kagie 95 Nyombe Yathi W.Proj.	ABOGETA ABOGETA	50 500	30 300				0		260 121	260 121	260 121		300	R. Kithino R. Kithini
22 4EA	ME-	96 Lower Kiithangari 101 Muguna W.P	ABOGETA BUURI	1,600 100	120 60		4)	40	20		20 120	60 120	89	120	R. Kethima R. Thinksi
	ME-	103 Gakirene self help 104 Gikoi Mweru Im.	(GO))	800 11,900	700 3,000				0		120 2,400	2400	2,400		6,000	R. Mutonga R. Mutonga
25 4EA 26 4EA	ME-	105 Mutonga W. Fairow 106 Mutunguru Water Pro.	IGOII	24 100	10 60			6)	6 10	24 30		24 30	30 40	5	50	R. Mutonga
		107 Maari/Gilui W.P 111 Kathigu MCK Water	IGOJI IGOJI	500 800	425 200		4	0	0 40	60	122	122 60	. 122	40	0 400	R. Muthorga R. Nthinkwe
29 4EA	ME-	162 Kigene Kaguru W.Furrov 163 Ciornujjogra (Nkm)		1,000	50 200			Dr G	20 60	60 90		60 90	80 150			R. Kithima R. Kithino
31 4EA	ME-	164 Ithembera Water Proj 165 Kaguru Kirongine	NKUENE NKUENE	300 260	250 200		2	0	20 30	480 70		480 70	500 100			R. Mariara R. Kithino
33 4EA	ME	168 Kithare Musegu W.P	NKUENE	200 535	100 350		3	0	30 60	50 240		50 240	80 300	10		R. Thingithu R. Thegera
35 4£A	ME-	170 Kithino Green W.P 171 Magundu Water Proj.	NKUENE NKUENE	300	160		1	0	10	134		134 20	144	l 5	0 90	R. Wethite Spring
36 4EA 37 4EA	ME- ME- Sub-to	178 Mutonge Mutone W.P 179 Ngonyi Water Proj.	nkuene nkuene	400 350 28,760	280 150 9,910	í	1	0 0 6	80 10 846	20 110 2,359	3,913	110 6,272	120 7,118) 30	0 300	R. Ketheno
38 4EB 39 4EB	ME	108 Thigina Water Proj. 109 Galuru Harambee Wate	IGOJI	2,400 810	1,800 610				0		100 100	100 100	200 100)	0 150	R. North Mara 5 Geloru Marra :
40 4EB	ME- Sub-to	110 Kinngun Water Proj.	IGOJI	1,200 4,410	300 2,716	. (0	0	0	100 300	100 300	100 300		0 850	D. R. Maara North D. R. Mariara D. R. Mariara
41 4FA 42 4FA 43 4FA	ME- ME- ME-	 Ciontare Water Proj. Kairebi Water Proj. Kamenya Water Proj. 	ABO CENTRAL ABO CENTRAL ABO CENTRAL	. 80	210 50 250	•		0 5 2	40 5 2	160 45 198		160 45 198	200 50 200) 3	6 150	D. R. Ganari D. R. Gatimbi
44 4FA 45 4FA	ME- ME-	4 Kathenju self help 5 Central Abothoguchi	ABO CENTRAL ABO CENTRAL	100	90 2670		2	0	0 200	5,400	80	. 80 5400	5,600			0 R. Gasongi 0 R. Maciana
46 4FA	ME-	6 Kiegucha Gatimbi	ABO CENTRAL	5,000	400 440		. 3	3	300 3	1,500 157		1500 157	1,800 160			0 R. Thingitha 0 R. Thamba Ng
47 4FA 48 4FA	ME-	7 Kithambaru S.H Group 8 Mukika Water Proj.	ABO CENTRAL	. 690	300			2	2	198	500	198 500	200 500	12	27 1,50	DR. Gazimobi OR. Mariara
49 4FA . 50 4FA	ME-	9 Nkuene Kathai Water 10 Nkuu Njumo Water Ass		. 100				0	Ö		60	60 13	66	0	0 20	0 R. Mariara 0 R. Gatanga
51 4PA 52 4FA	ME-	 Niugene Water proj. Niurioru Water Proj. 	ABO CENTRAL ABO CENTRAL	875	650			20 29	20 29	13 22		22 40	. 5	£ :	57 12	5 R. Mariara O R. Gibuspa
53 4FA 54 4FA	ME-	 Kariene Water Assoc. Geitu Kaguma W.P 	ABO CENTRAL ABO EAST	1,600	1280			15 10	15 10	40 990		990	1,00	0 4	00 1,20	0 R. Mariara
55 4FA 56 4FA	ME- ME-	15 îgune Kathigau W.P 16 îthari W.P	ABO EAST ABO EAST	820 240				10 8	10 8	210 172		210 172	22 19	0	18 12	0 R. Thingichu 0 R. Mariara
57 4FA 58 4FA	ME- ME-	17 Kanja Self hep W.P 18 Karaene W.P	ABO EAST ABO EAST	960 1,600					0		750 240	750 240	75 24	0	0 3,00	O R. Mariara O R. Mariara
59 4FA 60 4FA	ME-	19 Kiiga Water Proj. 20 Marigano W.P	ABO EAST ABO EAST	300 720	225				0		180 600	180 600	18 60	0	0 45	OR, Rwaéri OR, Kathita
61 4FA	ME-	21 Maguma Mbajone W.P 22 Mutethia Gituri S.H	ABO EAST ABO EAST	2.50 100	200				0		150 25	150 25	15 2		0 2	0 R. Gustu 0 R. Noliisis
63 4FA	ME-	23 Mujwa Mututa W.P	ABO EAST	3,000	2,900			2 30	2 30	438 370		438 370	44 40	ю.		O.R. Thingichu. O.R. Murius
64 4FA 65 4FA	ME-	24 Mutura Women W.P 25 Muugano Women W.P		1,000 650	600			30	0	310	500 400	500 400	50 40	0	0 40	0 R. Guito 0 R. Thingithu
66 4FA 67 4FA	ME- ME-	26 Ngonga Makandune 27 Ndumene W.P	ABO EAST ABO EAST	2,500 300	200				0		. 200	200	20	10	0 45	io R. Kangangog io R. Kagithu
68 4FA 69 4FA	ME-	28 Tabeta W.P 29 Mujua Kathigau W.P	ABO EAST	1,200 40:					0		60 81	. 60 81	8	60 81	0 20	OR. Thirpathu
70 4FA 71 4FA	ME- ME-	30 Kimste Water Proj. 31 Ithambura Water Associ	ABO EAST	4,500 1,600			:	3 00	3 300	197 200		197 200	20 50	XO 7	50 1,20	08 R. Maciera 00 R. Mediera
72 4FA 73 4FA	ME-	32 Multanga Water 33 Multane Water Project	ABO WEST	90 134	64			S 34	5 34	25 18		25 18			56 .5	90 R. Mariara 96 R.Muthara
74 : 4FA 75 4FA	ME- ME-	34 Muruugi self help 35 Angeers Water	ABO WEST	14-	1 76			36 4	36 4	28 96		28 96	10	54 XO		48 R. Gilkoromor XV R. Mariara
76 AFA	ME-	37 Gultando Women	ABO WEST	80	600			10 41	10 41	70 84		70 84		30 1		00 R. Luguso 05 R. Kathaba
77 4FA 78 4FA	ME-	38 Geturitune 39 Gidhougo Water	ABO WEST	411 600	500	,			40	60	200		20	00	0 50	00 R. Marinea 00 R. Marinea
79 4FA 80 4FA	ME-	40 Githongo/Karogwa 41 Kabutii Water Ass.	ABO WEST	14 7	90			40	0		30			30	Q I	10 R. Nisteraku 00 R. Kaibi
81 4FA 82 4FA		42 Kaibi Water Project 43 Kambura Water	ABO WEST	9 20	0 120)		15	15 0	45	80	80		80	0 4	00 R. Kathéta-Mi 00 R. Kirimbebe
83 4FA 84 4FA		44 Katimbene W. Proj. 45 Kathangaris W. Proj.	ABO WEST	20 21	0 200)		7	7 0	[13	160		10	20 60	0 2	00 R. Mubes
85 4FA 86 4FA		46 Katheri/Kionyoo 47 Katheri/Nthimbiri	ABO WEST	40				12 148	12 148	18 52		18 52	2		500 2,5	50 R. Rwain 00 R. Kathita-Mi
87 4FA 88 4FA	ME-	46 Kathiran Water Proj.	ABO WEST	20 1,60				10 22	10 22	110 378		110 378		20 00		00 R. Kathien 00 R. Kathite
. 89 4FA	ME-	50 Kathita Mpun	ABO WEST	40 3,10	0 350)			0	• • •	240 700			40 00		00 R. Kathita 00 R. Kathita
91 4FA	ME-	52 Kibakanyaki W.P	ABO WEST	16	0 10)		25	25	55	ı	55 4		80 6		00 R. Meriera 30 R. Kiboroko
92 4FA 93 4FA	ME-	54 Kiigime Cirimu	ABO WEST	41	6 216)		2	0	4 390	150			50	0 . 7	50 R. Kathita 00 R. Kathita
94 4FA 95 4FA	ME	56 Kinondone W.P	ABO WEST		0 4	5		10 8	8	12		12		20	20	30 R. Kinandon 00 R. Kathita
96 4FA 97 4FA	ME-	58 Kirima Kia Albi	ABO WEST ABO WEST	24 40	0 30				0	_	100 200	200	2	90 90 .	0 7	100 R. Kambaba
98 4FA 99 4FA	. ME	59 Kinangurune W.P	ABO WEST		10 7. 30 5			30 20	30 20	30 20)	30 20		60 40	49	00 R. Gokoroms 150 R. Mariera
100 4FA	ME-	61 Mariene Water Proj.	ABO WEST		13 2	0		11 40	11 40	4 20		4 20		15 60	48 5	100 R. Gilkoromo 500 R. Rwaini
102 4FA	· ME	63 Muiro Water Proj.	ABO WEST	16	10 5 12 2	ō		15 16	15 16	5	•	5		20 23	28	00 R. kanthengs 60 R. Kanthang
103 4FA	ME	65 Moteure Water	ABO WEST		50 3	5		16 24	16 24	14 96		14 96		30 120	24	100 R. Kethin 200 R. Marines
105 4FA	ME.	- 70 Mwonokin Katheri	ABO WEST		90 9	ō.		74 12	12	48	3	48		60 80	120	500 R. Kithanje 240 R. Kirimbeb
107 4FA	. ME	- 75 Wers Water Proj.	ABO WEST	. 8	50 10 30 17	Ö		16	0 16	134		134		150	80 :	500 R. Kathita
109 4FA 110 4FA	ME	- 112 Woru W.P - 113 Kiora Giaki W.P	MM EAST MM EAST	5	62 15 96 48	Q			0		2: 10:	0 190	1	25 100		60 R. Kuniru 250 R. Kathim
111 4F/ 112 4F/	ME ME	- 114 Ragome W.P - 115 Ciombura Water Proj			63 13 60 4	0			0	_	21 1-	4 14	l	28 14	0	300 R. Riiji 32 Kioru spzing 150 P. Kushina
113 4F/	ME.	 116 Gathus Farming W.P. 		4	60 34 78 16	0 .		12 8	12 8	84 10		85 16		100 24	1 12	150 R. Kathite 60 Kuuru
114 4F/	∖ ME	III/ CHEMINO														

											18 T T. 18 T T			Ni	Name of Street	(7 of 8)
s	ab besi	Serial Numbe	Project Name r	Division	Gross Area	Area	Fulfy Ini. Scheme	Imigated Area Partially Ini. Scheme		Partially Ini.	Scheme	Sub-total	Total Area	Present No. of Irrifing Farmers	Farmers	Water Source
					(<u>.</u>)	(jva)	(ha)	(jis)	(lu)	(ha)	(lu)	(hs)	(ha)	(lih)	(hh)	
115 116			8 Gankere Water Project 9 Giatune Rutunthune WP	MM EAST MM EAST	400 260	180 40		15	15		40	35 40	50 40			R. Ngaciuma R. Gieto Spring
117	4FA	ME- 12	Cichunge Water Prop.	MM EAST	255	130		8	8			112	120 200			R. Ngacauma
			i Kasi 2 Kathirane Mujogia	MM EAST MM EAST	1,050 3,3 0 0	280 2,400		50 15	50 15			. 150 105	120			R. Kianyaritha
		ME- 12	3 Kranjagi W.P	MM EAST	600	300		20	20	60		60	80	300		R. Riji
121			4 Kiburine Furrow LP 5 Kiburine Mutetha	MM EAST MM EAST	600 405	150 385			0		100 80	80 100	80 100			R. Kuuni R. Kuuni
123	4FA	ME- 12	6 Kiegimo Weter Proj.	MM EAST	20	20		2	2	8		8	10	4	30	R. Karinkumu
124 125			17 Kiom Rungene 19 Kiom Water Broker	MM EAST MM EAST	3,600 72	800 70			0		200 24	200 24	200 24			Kabunure Spring Girlo Spring
125			8 Kirusi Water Project 9 Kirboka Mutethia W.P	MM EAST	400	100			0		40	40	40		200	Mukunga Spring
127	4FA	ME 13	O Lower Chungu	MM EAST	1,250	500			0		60	60	60 50			R. Kerumanthi Gioto Spring
128 129	4FA 4FA		11 Memeu Water Project 12 Muguna Mhenjone[8]	MM EAST MM EAST	800 1,500	100 128		10	10		60	40 60	60			R. Gustu
130	4FA	ME- 13	3 Mukers Water Project	MM EAST	183	180			0		24	24	24			R. Inyarita
131 132			34 Mulanthankari 35 Mutagosan W.P	MM EAST MM EAST	370 76	150 68	17		0 17		60	60 0	60 17			R. Mulingo Spring R. Karamanjigiri
133	4FA	ME- 13	6 Mwimenyi SH.	MM EAST	112	100	•		. 0)	20	20	20	0	60	Mukera Spring
134			17 Na ngithia Wate r Proj. 18 Ndekera	MM EAST MM EAST	240 60	120 60		12 24	12 24			48 11	60 35			R. Aguckana R. Riiji
135 136	4FA		9 Nobine Wenigia	MM EAST	400	150		10	io	70		70	80	100	200	R. Kathita
137	4FA		10 Nitembure Factory	MM EAST	1,000	340		2	2		12	48	50 13			R. Kathita R. Mbirikene
138 139	4FA 4FA		41 Nkurene W.P 42 Thuura Central W.P	MM EAST MM EAST	121 100	115 90			Č		40	12 40	46			R. Kathita
140	4FA	ME- I	43 Thum South	MM EAST	1,400	800		4	4			156	160			R. Kathita
141	4FA		44 Tusi Water Project 45 Mbusta Water Project	MM EAST MM EAST	800 486	250 462		12 4	12			148 20	160			R. Kuuru R. Kuuru
142 143	4FA 4FA		16 Magana Musethia	MM EAST	234	50		15	15			35	50	234	760	R. Kvuru
144	4FA		17 Umbatha Men. W.P	MM EAST	45	40					20	20 26	20			R. Kimaritha G. Gatobora
145 146	4FA 4FA		48 Ment Children 49 Gatemana Water	MM WEST MM WEST	32 450	28 120		1.2	1.5		90	90	90			R. Rwain
147	4FA	ME- 1	50 Kaaga Selfhelp	MM WEST	162	81			(81	81	8			R. Ngaciuma
148 149	4FA 4FA		51 Nkugus Water Project 52 Galumbo Water	MM WEST	202 3,350	167 800		4! 150	41 150			81 450	12 60			Kathita Kathita
150	4FA	ME- 1	53 Kiringa Wendo W.P	MM WEST	540	80		-,-)	50	50	- 5) () 180	R. Kathita
151	4FA		54 Kiritangi W.P	MM WEST	147 900	100 450					96 15	98 15	9			R. Riiji R. Mariara
152 153	4FA 4FA		55 Mariara W.P 56 Muguna Igori Water	MM WEST MM WEST	660	180					88	88	8	8 (220	
154	4FA		57 Mwiteria Kathin W.P	MM WEST	270	84) 5 225	70	70 225	25			R. Kathita R. Kathita
155 156	4FA 4FA		58 Mworosa W.P 59 Ngachuma W.P	MM WEST MM WEST	309 100	210 40		25 20	2. 24			5	23			R. Ngachuma
157	4FA	ME- I	60 Mugundu W.P	MM WEST	900	200		30	3	0 210)	210	24	0 120	400	R. Wathita
158 159	4FA 4FA		61 Kiambogo Factory 66 Kamenchu Water Proj.	MM WEST NKUENE	50 250	30 225		7		0 7 33	30	30 33	3			R, Kathata R, Gözangana
160	4FA		67 Kauniugi Water Project	NKUENE	100	20		20	21	0 10	:	10	3	0 -1¥) 80	R. Marimba/Kamencho
161	4FA		69 Kitharu Water Proj.	NKUENE	80 500	70 140		20 78	2.			. 0 92	2 12			Tharu Stream
162 163	4FA 4FA		72 Mberanthiga Water 73 Mitanme/Giankama	nkuene nkuene	2,500	1,450		10	4. I			40	5			R. Mukiya Tri. Thingitin
164	4FA	ME- I	74 Mitunguu Irrigation	NKUENE	500	500			40		_	0	40			R. Thengutu
165 166	4FA 4FA		75 Muchege Integrated 76 Muguru Water Proj.	nkuene Nkuene	2,400 84	200 50		10	3	0 191 û) 50	· 190 50	20 5			R. Milamiiri R. Thingithu
167	4FA	ME-	77 Materia Rugumo Water	NKUENE	2,300	45				0	45	45	4	5 1	100	R. Thingithu
168 169	4FA 4FA		80 Njurene 81 Nkwiga Umoja Water	NKUENE NKUENE	600 750	400 70		80	8	0 226 6 7-		220 74	30			R. Marimba R. Kauruge
170	4FA		82 Rugemo Nana Water Pro		2,500	150		·		0	150	150	15	o	9 200	R. Mukia
171	4FA	ME-	83 Thingithu W.P	NKUENE	192	100				0	80		8			R. Thingithu
		Sub-tot	r.		94,849	48,654	417	2,279	2,69	6 15,05	2 7,560	22,612	25,30	7 17,34	1 83,860	
172			72 Numburi W. Proj.	ABO WEST	640	400		10		0 39		390	40			R. Timeu
173 174	SBE SBE		84 Kabubungi W. Project 185 Kiguru I. Project	TIMAU TIMAU	50 300	30 200				5 4 0 4		40	8	9 . 2		R. Ngusishi R. Tignan
175	SBE		86 Kitherhom W.P	TIMAU	2,500	1,000)	10	3	0 20)	20	. 3	0 5	0 200	R. Teleswarii
176	5BE		187 Milimani B.W. Proj.	TIMAU	740 1,200	500 690		37 18		7 16 B 14		163 142	20 16			R. Timeu R. Kutugune
177 178	SBE SBE		188 Muguma Water Proj. 189 Mukuria Water Proj.	TIMAU TIMAU	1,700 60	30				6	L	0		6 1		R. Teleswani
179	SBE	ME-	190 Matunyi Water Proj.	TIMAU	350	300		70		D 3		30	10			R. Rugusu
180 181	5BE 5BE		191: Mwicheiri W. Proj. 192: Kithima Kie Murtyi	TIMAU TIMAU	6,600 240	50 100		24		0 A 2	30 4) 30 24		10 18 11		5 R. Kongoni 5 Kutawa Mwayi Spring
182	SBE		193 Mwiksithia Water Proj.	TIMAU	50	30		•		0	28	28	2	18	0 2	1 R.Gachoro
183	5BE		194 Imeni Water Proj.	TIMAU	100 120	30		;		0 2 1	. 15 6	· 15				OR.Limeni OR. Kungune
184	58E	ME- Sub-tot	196 Umoja Water Project aŭ	TIMAU	12,950	3,350							1,12			
	5DA		36 Ciantecre W. Proj.	ABO WEST	150	100				0	24	24				R. Cientocre
186 187	5DA 5DA	ME-	66 Mwan Water Proj. 67 Mwendwa W. Proj.	ABO WEST	2,000 300	1,600 290				0	1,200 50	1200	1,20			DR. mwakazita DR. Ngare Ndate
1838	5DA	ME-	68 Mwingsmi W. Proj.	ABO WEST	202	150	9	10		0 13	2	132	. 14	12 . 6	il lo	0 R. Mwinguni
189	3DA	ME-	73 Rinceme Water Proj. 74 Ruthstene W. Project	ABO WEST	46 16	30		,		0 · 1 1	25	5 25 11				9 R. Ruji Rwete Ngombe 0 R. Kimmbe
190 191			97 Kongoscheke WP	BUURI	40	4	9	20	1 :	20 1	5	15		35 3	5 14	0 R. Rugusu Spring
192	3DA	ME-	98 Kuumira Proposed Projes	BUURI	1,000					0	- 50) 50				0 R. Kinima Spring 0 R. Kanairuta
193 194			99 Muguna B 100 Nizando WP	BUURI BUURI	120 200	10 3		1-		0 14 I	80 6) 80 16				O. R. Mooroki O. R. Mooroki
195	5DA	ME-	102 Muguoko B. Water Ass.	BUURI	435	8	7	2:	: :	22 4	i3	43		65 21	5 25	5 R. Ruji Rwa Ngombe
196	5DA	ME- Sub-tot	195 Ngare Ndare al	TIMAU	300 4,803	20 2,72				58 7 25 29	14 1 1,425	74	1,8	32 20 45 59		0 R. Ngore Netare S
		Grand	l'otal		145,772	67,35	3 42	3 3,46	3,8	B9 18,53	13,27	31,806	35,6	94 24,70	4 105,47	1

														Proposed	(8 of 8)
							Irrigated Area		Partially Iro.	Uningsted /	urea Sub-total	Total	Present No. of Irring	No. of Imina	Water
ode Sub-basi			Division	Gross	Net	Fully Inc.	Partially Ini. Scheme	ZEP-IOTA	Scheme	Scheme	200-tom	Area	Farmers	Fanners	Source
0.	Num	bes		Area (ha)	Area (hd)	Scheme (ha)	SCHERC (lu)	(ha)	(ha)	(ha)	(tu)	(ha)	(bh)	(hh)	
	22200	entralia de la composición dela composición de la composición de la composición de la composición de la composición dela composición de la composición de la composición dela composición dela composición de la c	S. D. L. SYRTA W	(101) 2000 1000 100	(134)	35 S S S S			654 s 63 s 2 G						
NYAMB				Maria St. 1705	2359782	0.00 TO 4.00 Mg	24.5252336744.6642	0494,74857,855	348/00 24 BOOK 9004	GAME-ADSTRUMENT GAME	Signature of Street of Street Street	tament in a color	BLEGOV STANDONOSPOSO	24.4 \$2.00 +2.04 X 24.4	
1 4FA	NB-	11 Kathima	TIGANIA CENTRAL	16	10		4		4 6		6	10	30		R. Thenentu
2 4FA	NB-	13 Ametho I	TIGANIA CENTRAL	150	60		8		8 37		37	45	58		R. Ruruma
3 4FA	NB-	14 Ametho II	TIGANIA CENTRAL	200	70		20	2			50	70	90		R. Rimma
4 4FA	NB-	15 Athwana	TIGANIA CENTRAL	900	120				0	120	120	120	0		R. Kiiniu
5 4FA	NB-	16 Mareza	TIGANIA CENTRAL	1,600	900				0	900	900	900			R. Kithimagia
6 4FA	NB-	17 Mucaicine	TIGANIA CENTRAL	120	40				0	9	9	9			R. Kathima R. Mabika
7 4FA	NB-	18 Thegi	TIGANIA CENTRAL	8	4		1		1 3		3	. 4	10		
8 4FA	NB-	19 Thiti	TIGANIA CENTRAL	80	45				O	10	10	10			R. Thiiti
9 4FA	NB-	20 Amugaa	TIGANIA EAST	200	160		10		0 50		50	60			R. Muumba
10 4FA	N8-	22 itutha	TIGANIA EAST	150	60		3		3 17		17	20			R. Thangatha
11 4FA	NB-	31 Kamaningua	TIGANIA WEST	80	50		10		0 50		50	60			R. Kamankigua R. Kamankigua
12 4FA	NB-	32 Mbarus	TIGANIA WEST	80	50		20		0 30		30	50			R. Kuuru
13 4FA	NB-	33 Kamburu	URINGU	40	25		2		2 23		23	25 16			R. Chou
14 4FA	NB-	34 Kionde	URINGU	20	16		2		2 14		14 160	200			R. Thanata and K
15 4FA	NB-	35 Kicrimba	URINGU	350	300		40		160		. 250	300			R. Kinyeritha
16 4FA	NB-	36 Machegene	URINGU	400	300		50		50 250		40	50			R. Kathima
17 4FA	NB-	37 Magundu	URINGU	240	120		10		10 40			30 7			R. Kaneta
18 4FA	NB-	38 Uringu	URINGU	8	7		. 6		6 1		1				
	Sub-to	脑		4,642	2,337	1	186	Į:	66 731	1,039	1,770	1,956		3,140	٠.
			IGEMBE CENTRAL	60	30				0	30	30	30	, (28	R.Kathima
19 4FB	NB-	l Kithetu 2 Gakui	IGEMBE EAST	350	150		2		2 59		58	60	ı Li		R.Gatui
20 4FB	NB-	2 Gakunku 3 Gakunku	IGEMBE EAST	150	100		30		30 70		70	100	126	200	R.Gakunku
21 4FB	NB-		IGEMBE EAST	6,000	600		100		00 300		300	400	70	1,000	R Rujiwero
22 4FB	NB-	4 Kanjoo	IGEMBE EAST	900	750		30		30 250		250	280	9		R.Kitheo
23 4FB	NB-	5 Kitheo 6 Ntambiro	IGEMBE EAST	250	200		50		50 100)	100	150	10		R Muthucine
24 4FB	NB-	9 Antsbochiu	IGEMBE SOUTH	180	40		15		15		5	20) 9	3 90	R. Mooone
25 4FB	NB-	9 Annstocusi 10 Kindani/Kihili	IGEMBE SOUTH E.	1.000	300				o	300	300	300)	500) R.Kirvleni
26 4FB	NB-	10 Kinanduba	NDOLELI	1,0.0	600		. 2		2 399	B	398	400) :		3 R.Kinanduba
27 4FB	NB- NB-	21 lthanu	TIGANIA EAST	150	70		10		10 66		60	76			R. Ithaanu
28 4FS 29 4FB	NB-	23 Kamujine	TIGANIA EAST	200	75		4		4 14	6	146	150			3 R. Kithiu
	NB-	24 Kunati	TIGANIA EAST	300	250		2		2.0 191		198	20) 2		0 R. Thangatha
30 4FB 31 4FB	NB-	25 Majira	TIGANIA EAST	30	20		4		4 1	6	16	21			BR. Majira
	NB-	26 Muitha	TIGANIA EAST	120	- 40		9		5 5	5	35	4			0 R.Thanga
	NB-	27 Murichia	TIGANIA EAST	150	60		ē	i	6 8	4	84	9			0 R. Ciannatha
33 4FB 34 4FB	NB-	28 Mutine	TIGANIA EAST	150	120		10	•	10 5	0	50	6			0 R. Thanga
34 400	Sub-ti		HOME END	11,190	3,40		0 270) 2	70 1,77	0 330	2,100	2,37	0 1,33	9 4,66	1
	300-1	7161													A D. Vashima
35 5ED	NB-	7 Kathima	IGEMBE NORTH	45	2.	5	3	3		2	12	ı			0 R. Kathima 0 R. Kageta
36 5ED	NB-	8 Kitumakiuu	IGEMBE NORTH	ı					0	_ 1					0 K. Kageia 0 R.Kamathinwa
37 5ED	NB-		TIGANIA NORTH	40	3.		K			5	25	3			O R. Wasomara
38 5ED			TIGANIA NORTH	400	20	0	K		10 12		128	13			
	Sub-t			486	26	l .	0 2	3	23 16	5 1	166	18	9 15	, 31	v
*							0 479	,	179 2.66	6 1,370	4,036	4.51	5 2,3	1 837	ry
	Grane	Total		16,318	6,00	,	0 47	<u> </u>	117 2,00		1,030				

Table L.2.1-1 Monthly Rainfall at Embu Meteorological Station(9037202)

<u> </u>			5.	0	0			9.6		3			.]
TOTAL					0.0			1,090.6		1,289.3			1,884.1
DEC	100.2	47.3	103.9	29.8	33.9	41.5	38.1	123.8	33.3	26.7	63.5	27.2	217.9
>ON	170.6	390.6	152.4	224.9	267.7	85.0	131.6	127.6	164.6	227.6	382.0	316.3	357.2
OCT	78.9	66.1	255.9	129.2	178.1	112.5	453.6	138.6	373.9	153.0	49.0	18.5	204.1
SEP	65.5	0.09	79.6	11.2	10.1	21.0	57.7	66.2	36.5	21.7	29.2	3.7	32.5
AUG								12.5					
IOL	35.0	48.2	15.2	30.8	9.6	12.4	14.6	22.1	36.2	30.0	13.0	8.4	22.9
NOI.	131.1	14.5	36.6	44.3	4.1	19.9	29.0	34.5	7.8	24.7	38.9	64.3	50.6
MAY	41.5	201.3	65.8	243.9	216.4	298.9	264.3	152.6	15.0	197.6	141.3	159.4	214.9
APR		431.4	422.9	284.0	147.7	394.0	330.6	363.3	202.9	302.6	369.8	271.0	562.7
MAR		93.8	189.3	122.6	38.7	206.1	175.3	29.0	48.4	204.6	86.5		149.6
FEB		49.2	113.8	15.6		5.2		19.6		53.2		1.8	17.6
JAN			43.4	144.4	7.0	43	6.0	0.8	1.2	0.5	17	14.0	2.9
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
		-	-	<u> </u>	:	:	<u></u>	٠	<u> </u>		:	<u>:</u>	<u></u>

Table L.2.1-2(1)-1/2 Irrigation Water Requirement of Rupingazi Ngerwe Irrigation Scheme(Surface Irrigation)

		-		_	48	_		Ş	-		_								-	-	_	-	-	_	_
a de la companya de l	* * * * * * * * * * * * * * * * * * *	2	\$ 4 F	3	PAC PAC	\$	Z Z	3	eth 1=t 2nd	\$ \$	60 at	\$	25 25 21	P	\$ \$	ai ba	ą.	¥ \$	\$			8	X.	8	1
LETo (mm/dey) 4.0	\$ \$	3	3	3	2	2	3.6 3.6	2	3,5 3,2	25.	32 27	27 27 27	7. 2.	3	7 7 7	7. 7.	7 7 7	7.	7. 7.	2 2	34 34	2 2	3.6 3.6 3.6	2 2	7. 7.
2Crop Pactor																-					; ;	1		18 18	188
Coffee 1.05	100 1.00 1.00 1.00 1.00 1.00 1.00 1.00	8	501 501	1.00	1,00	1.05 1.05 1.05	1.00 1.00	1,05	8	4	30.1	183	100	207	8	8	8 1	97 97	8 8	9 9	80 980	080 080	80	080	8
	0.00 0.50 0.50	83	050 060 060 060	0.50 0.50 0.50	.8	06.00 09.0	0.50	080 080	0.00 0.00 0.00	80	0.90 0.90	000	000	8 1 8 1	8	0.00	3 8		8	81	8	87	8	87	8
Napier 1.00	1.00 1.00 1.00	1.00.1 00.1	1,00 1,00 1,00 1,00	1.00	871	1.00 1.00 1.00 1	1.00 1.00 1.00	81.00	200 100 100	8	81	8	8	8	8	1			240	2,0	Ę	STT STI	12	3	
Sweet Politico 0,25	3				3	250	0.es 0.75 0.75	e75 C.73	0.73 0.75 1.15	5115	21.1	3	3	8											
Peans			-			7	25 035 0.75	6.73	0.73 1.10 1.10	91	97.	0 0	8			-		000	0.0	OFF OFF	0.00 0.00 0.00	SL1 81,1 00.0	ST1 ST1 ST1	1.15 1.15 1.15	מלים סרים צורו
Maler & Bruns 0.70	0.70			3	0.40 0.40	90	020 020	000 000	21.5 2.15	21.5 21.5 2.15	57	1.15 0.70 0.70	0.00	Ra			1		0,1	0.00	ã	0.20	071	0.10	8
Presch Bases 0.70	0.78 0.78 1.10 1.10	01.10 1.10	10 110 110 030	8										-	7 P	0.00 0.40 0.40	0.00 0.00 0.00	000 000	ST 1	n	4	118	e,		
	1	-	-		+	İ			-		-									370	345 045 045	875 8.75 8.75	a.73 a.75 1.00	1.03 1.05 1.05	18 18
Carpe	050 050	1	-								9		0.0			_	3	20 22 22	0.75	0.75 0.75 1.10	1.10 1.10	011 011 011	0.70 0.70 0.70	270 0.70	
Other Cree					9	3	0.05 0.75 0.75	6.73 6.73	0.73 1.10 1.16	or or	2												-		
		+	+	1															1	-	-				•
TOTAL PROPERTY.	î	1		1		1	1		13		7	7	7 7	2	ี ม ม	ន	29 29	3,6	3.6 3.6	36 36	8	3	3	34 35 60	9
Coffee Coffee	7 7 7	2	2 2	?	2 2	2	1	1	1					;	,	7.5	22	2	7	Ä	3	2 2 3	2 2	2	7 7
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Table L. 2.1-2(1)-2/2 Irrigation Water Requirement of Rupingazi Ngerwe Irrigation Scheme(Surface Irrigation)

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Table L.2.1-2(2)-1/2 Irrigation Water Requirement of Rupingazi Ngerwe Irrigation Scheme(Sprinkler Irrigation)

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Table L. 2. 1-2(2)-2/2 Irrigation Water Requirement of Rupingazi Ngerwe Irrigation Scheme(Sprinkler Irrigation)

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Table L.2.2-1 Monthly Rainfall at Tebere Cotton Research Meteorological Station (9037179)

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Table L.2.2-2-1/2 Irrigation Water Requirement of Ngomano/Nyangati Water Furrow Project (Surface Irrigation)

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Table L.2.2-2-2/2 Irrigation Water Requirement of Ngomano/Nyangati Water Furrow Project (Surface Irrigation)

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Table L.2.3-1 Monthly Rainfall at Meru Meteorological Station(8937065)

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	JAN	FEB	MAR	APR	MAY	NOI	JOL	AUG	SEP	OCT	NOV	DEC	TOTAL
1966	9.7	417	143.0	413.1	45.0	3.6	12.3	3.8		215.7	305.0	16.9	
1967	16.8	× ×	87.4	410.9	318.4	9.89	10.4	10.0	1.9	545.3	450.1	28.8	1,967.4
1968	2	217.8	2217	397.9	100.3	17.0	3.1	10.8	1.5	290.7	524.3	176.3	
1969	101.4	227.0	286.2	92.9	216.0			11.7	106.6	199.9	301.1	19.2	
1970	130.1		113.1	190.5	42.3	12.7	11.2	16.8		47.5	325.0	70.2	
1971	32.1	1.8	52.8	325.3	54.0	14.7						***************************************	
1972	31.1	8.66	8.3	78.2	242.3	0.2		1.2	36.5	504.4	436.0	25.7	1,468.4
1973	52.1	313	2.1	179.7	57.9	11.1		34.4	3.7	58.0	262.6		
1974		50.0	130.9	336.7	22.0	14.5		4.1	41.8	78.7	387.1	95.2	
1975	16.9	18.4	23.0	213.6	133.3	12.9		9.4	27.5	186.4	176.7	49.1	884.3
1976	11.2	50.4	4.9	227.0	33.1	6.0		4.8	22.2		158.2	258.5	
1977	37.9	13.3	75.9	362.2	122.2	0.1		6.1	18.3	157.8	9.909	154.6	,
1978	70.07	74.8	526.4	4813	18.9	2.1		7.1	24.1	241.1	200.6	246.1	
1979	263.6	35.9	120.1	287.3	83.4	7.8		12.0	1.7	6.76	386.7	145.9	1,447.2
1980	78.1			121.9	124.8			10.4	3.4	130.6	383.2	23.1	
1981	4 8	25.4		274.0	168.3	11.2		10.9	23.1	150.7	225.3	54.1	•
1982	16.2	0.3		346.4	214.9	12.4		5.0	29.3	423.8	231.9	168.2	1,527.4
1983	8.7	49.3		204.0	201.8	2.3		14.5	15.3	85.9	171.4	176.3	
1984	10.6	12.1		154.4	53.2	0.2		3.7	4.4	496.2	311.6	114.3	
1985	23.3	6.2		249.9	145.7	7.7		7.7	17.8	144.6	193.4	42.3	
1986	5.6	3.6	87.6	417.2	105.6	41.5	1.1	0.5	11.8		237.8	132.3	
1987	34.9			209.8	93.3	328.1		16.8		2.2	187.1	29.4	
1988	28.6	32.5	69.4	399.4	64.0	9.1	23.1	29.0	23.0	252.2	288.4	283.5	1,502.2
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Table L. 2.3-2-1/2 Irrigation Water Requirement of Nkunjumo Water Project(Sprinkler Irrigation)

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Table L. 2.3-2-2/2 Irrigation Water Requirement of Nkunjumo Water Project(Sprinkler Irrigation)

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Table L.2.4-1 Monthly Rainfall at Marimanti Meteorological Station(9037160)

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1981			263.0	227.4	0 80				14.4	280.2	244.9	83.2	1,147.4
1982			200.7	2,456	786				0.0	46.2	26.7	121.0	536.6
1983			0 0 1	142.0	0.07				13.0	211.5	191.0	71.0	649.5
1984			1473	213.5	37.0				0.0	46.0	197.0	54.0	794.8
1985			113	0.012	52.0				0.0	36.7	339.9	147.8	855.4
1986			21.7	1573	102.7				0.0	0.0	138.9	61.4	568.6
/861			747	3808	63.9				0.4	114.2	213.6	116.6	1,009.6
1905			158.5	275.8	71.1	2.5	0.0	0.0	0.0	290.2	127.4	146.2	1,107.8
1996	36.5	0.0	144.2	18.1	0.0				0.0	0.0	242.3	0.0	445.2

Table L.2.4-2-1/2 Irrigation Water Requirement of Ruungu/Karocho Irrigation Project (Surface Irrigation)

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ANNEX M

AGRICULTURE AND RURAL INFRASTRUCTURE

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Table M.1-1 Population Served by Water Supply Projects in Seven Districts

	A.1.	7.50	- Lmb.	Mhoore	Thereka	Merri	Nvambene	Total	
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	District	DISTRICT	DISTUCT	DISTLICT		District	721120		
1. Population served by management agency						1	i d	r L	ć
a GOK/MI RRWD/C.C./NWC&PC	630,982	248,935	58,000	96,000	25,000	97,750	10,850	/16//81/1	見 り
h Community by self-belo (P/C)	13,532	44.791	30.182	30,661	115,959	234,647	177,813	647,585	36%
Commissions by some respectively.	i i	6.755	1		1	800	5,852	13,407	1 8
miveta/Others	N N	Z	N.A.	N.A.	N.A.	Ϋ́	7,920	7,920	%0
Tot	644,514	300,481	88,182	96,661	140,959	333,197	202,435	1,806,429	100%
(District Population 1997)	729,595	492,942	298,342	175,219	325,770	540,166	591,760	3,153,794	
(Coverage ratio: %)		•	30%	55%	43%	62%	34%	57%	
2. No. of projects by management agency					,	1	r	L.	Š
a. GOK/MLRRWD/C.C./NWC&PC	13	<u>ი</u>	က	က	m	`		3	R ?
b. Community by self-help (P/C)	4	16	14	4	4	120	202	394	*
c Institutions *1		80		1	1	<u>ო</u>	15	56	28
* Chicago Orivota Chicago Ch	2	Z	Z Z	Ϋ́	N.A.	Ą.	93	93	17%
F	20	00	1-	17	4.1	130	317	558	100%
ROO -	,	3	-		•				
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Source: District Water Office, MLRRWD, as of 1997 Note: 1. Data for individual/private are not available except Nyambene district.

2. *1: Institutions are for schools, training centres, hospitals, etc. 3. *2: Individual/Private include tea/coffee estates and factories.

4. *3. Population served by municipal council and county council is not included.

Table M.1-2 Present Status of Water Supply Projects under Investigation, Planning & Design

	Nyeri	Kirin- yaga	Embu ⁻	Mbeere	Tharaka Nithi	Meru	Nyam- bene	Total
1. No. of projects by funding so	urce						<u> </u>	
1) GOK/MLRRWD/C.C.	3	1	6	1	2	_	}	13
2) Self-help (P/C)	18	11	-	2	1	14	Ì	46
3) Institutional	. 1		-	· _	-	2		3
Total	22	12	6	3	3	16	N.A.	62
2. No. of projects by water sour	rce							
1) River/stream	22	12	4	1	3	9		51
2) Dam	_	-	1	1	-	_		. 2
3) Spring	-		1] 1	-	3		5
4) Others	-		-	_		4		4
Total	22	12	6	3	3	16	N.A.	62

Source: District Water Office, MLRRWD, as of 1997

Table M.1-3 Road Length of All Roads in Kenya

Class of Road	Bitumen	Gravel	Earth	Total	
	(km)	(km)	(km)	(km)	(%)
1. Classified Roads					
(A) International Trunk Roa	2, 697	717	241	3, 655	6%
(B) National Trunk Roads	1, 403	821	524	2, 748	4%
(C) Primary Roads	2, 590	3, 573	1, 996	8, 159	13%
(D) Secondary Roads	1, 187	6, 479	3, 610	11, 276	18%
(E) Minor Roads	712	7, 350	18, 643	26, 705	42%
RAR, SPR	214	8, 474	2, 432	11, 120	17%
All Classified Roads	8, 803	27, 414	27, 446	63, 663	100%
(%)	14%	43%	43%	100%	
2. Unclassified Roads	-			85, 750	
Total				149, 413	

Source: MOPWH, 1996

Note: 1, RAR, SPR include Rural access roads(R), Tea roads(T), Sugar roads(S) Wheat roads(W), Settlement roads(L), & Government access roads(G).

2. Unclassified roads include National parks, Game reserves, Urban roads, Rural roads and Forest roads.

Table M.1-4 Road Length of Classified Roads in Seven Districts

(km)

								(41417	
	Nyeri	Kirinyaga	Embu	Mbeere	Tharaka	Meru	Nyambene	Total	
	District	District	District	District	Nithi Dis	District	District		(%)
(Class of Road)					ļ				
Class A	72	40	0	0	0	73	12 (197	3%
Class B	66	42	46	36	33	56	66	345	5%
Class C	34	47	21	32	32	45	44	255	4%
Class D	319	159	72	119	177	205	189	1,240	19%
Class E	985	353	308	242	264	411	210	2,773	42%
RAR, SPR	654	278	248	177	86	295	116	1,854	28%
Total	2,130	919	695	606	592	1,085	637	6,664	100%
(Road Surface Ty	rpe)								
Bitumen/Tarmac	342	179	46	36	34	155	75	867	13%
Gravel	1,102	420	283	110	40	478	95	2,528	38%
Earth	686	320	366	460	518	452	467	3,269	49%
Total	2,130	919	695	606	592	1,085	637	6,664	100%
	i	ľ	1	i	I	L			<u> </u>

Source: District Public Works Office and JICA Study Team

Table M.1-5 Condition of Classified Roads in Seven Districts

	Nyeri Distric	t	Kirinya Distric		Embu Distric	t	Mbeer Distric	t	Tharai Nithi D	is	Meru Distric		Nyamb Distric	t		
	km	96	km	96	km	96	km	96	km	%	km	96	km	96	km	96
1.Bitumen/	Tarmec								ļ							
-Good	95	28	108	60	46	100	36	100	0	0	73	47	12	16	370	43
-Fair	233	68	71	40	0	0	0	0	34	100	82	53	63	84	483	56
-Poor	14	4	o	0	0	0	0	0	0	0	0	0	0	0	14	2
S-Total	342		179		46		36		34		155		75		867	
2.Gravel																1
-Good	608	55	60	14	5	- 2	28	25	0	0	0	0	6	6	707	28
-Fair	438	40	191	45	161	57	77	70	36	90	338	71.	46	48	1,287	51
-Poor	56	5	169	40	- 117	41	5	5	4	10.	140	29	43	45	534	21
S-Total	1,102		420		283		110		40	<u> </u>	478	ļ	95	ļ	2,528	<u> </u>
3.Earth				1					ŀ				· _			١
-Good	434	63	35	11	15	4	45	10	0	0	0	0	0	0	529	16
-Fair	163	24	211	66	303	83	246	53	397	77	150	33	32	7	1,502	46
Poor	89	13	74	23	48	13	169	37	121	23	302	67	435	93	1,238	38
S-Total	686		320	<u> </u>	366		460	1	518	ļ	452	ļ	467	<u> </u>	3,269	╄
4.All Roads																
-Good	1,137	53	203	22	66	9	109	18	1	0		7	18	3	1,606	
Fair	834	39	473	51	464	67	323	53	467	79	570	53	141	22	3,272	49
~Poor	159	7	243	26	165	24		29	125	21	442	41	478	75	1,786	_
Total	2,130		919		695		606		592		1,085		637		6,664	

Source: JICA Study Team inventory

Table M.1-6 Road Length and Condition of Classified Roads by Road Class & Surface Type in Seven Districts

(1/2) Unit: km

	Nveri District	strict			Kirinyaga District	1 District	 		Embu District	strict			Mbeere District	District		
	Good	Fair	Poor	Total	Good	Fair	Poor	Total (Good		Poor	Total	Good	Fair	Poor	Total
1. Class A (International Trunk Roads)	nk Roads								,		•	((Ć
a. Bitumen/Tarmac		72	0	72	6	0	0	\$	0	0	0	0	0	⇒ (5 () (
b. Gravei	0	0	0	0	0	0	0	0	0	0	0	0	0	0 (0 (
c, Earth	0	0	0	0	0	0	0	0	0	0	0	0	0	اد	Э,	5
Sub-Total	0	72	0	.72	40	0	0	0	0	Ö	0	0	0	٥	0	0
2. Class B (National Trunk Roads)	oads)									,	•	;		(((
a Bitumen/Tarmac	0	99	0	99	42	0	0	4	46	0	0	46	38	0	0	
b. Grave		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
c marth	0	0	0	O	0	0	0	0	0	0	0	٥	0		0	0
Sub-Total	0	99	0	99	42	0	0	42	46	0	0	46	36	٥	0	38
3. Class C (Primary Roads)												,		,	,	•
а. Bitumen/Tarmac	က		0	**	23	24	0	4	0	0	0	0	0	0	0	0 (
b Gravei	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
o Earth	0	0	0	o	0	0	0	0	0	21	0	21	0	ຂ	12	32
Sub-Total	က	31	0	34	23	24	0	47	0	21	0	21	0	2	12	32
4. Class D (Secondary Roads)														,		•
a. Bitumen/Tarmac	57	<u>.</u>	5	118	7	4	0	4	0	0	0	0	0	0	0	0
b Grave	78	83	0		S	တ္တ	80	₹	ι.	0	0	K)		0	ιΩ	~
S tau	0	9	20	20	0	29	14	73	0	67	0	67	34	34	39	107
Sub-Total	135	144	40	319	7	130	22	159	5	67	0	72	1.7	34	44	<u>0</u>
ē						1	,	(((C	•	•		C
a. Bitumen/Tarmac	27	-13	4	4	0	9	0	တ	o	5	Э (> ;	5) 	> (> {
b. Gravel	235	203	0	438	0	25	62	114	0	ထ္တ	0	ဆို	72	37	0 ;	28
c Earth	358	76	69	503	30	150	53	233	2	207	4	270	-	3	S	184
Sub-Total	620	292	73	982	30	208	115	353	15	245	84	308	32	120	6	242
6. RAR,SPR					,	•	•	•	(Ç		•	•	•	ć	C
a. Bitumen/Tarmac	∞	0	0	∞		5	O	- ;	> (D) r	> 9	> 0	> 9	> (> 5
b. Gravel	295	172	46	513	33	8	66	263	0	123	<u> </u>	240	5 (₹ 5	> 6	₹ ;
c. Earth	9/	57	0	133	2	2	7	14	0	8		80	0	2	87	2
Sub-Total	379	229	46	654	61	111	106	278	0	131	117	248	0	149	28	177
All Roads			,			ì		7	•	(•	46	ď	•	c	ď
a. Bitumen/Tarmac	32	233	<u>+</u>	342	3	= ;	> ;	2 :	Q 1	2	1 C	2 6	3 6	> F) L	2 0
b. Gravel	809	438	29	1,102	8	6	69.	420	Ω !	191	=	283	8 :	- 5		2 8
c. Earth	434	163	83		35	211	74	320	12	303	4	စ္တ	3	2 4 0	8	36
Total	1.137	834	159	2,130	203	473	243	919	99	484	165	695	66	323	1/4	ခိုင်
Source: District Public Works Office and JICA Study Team inventory	s Office s	and JICA	Study T	eam inve	ntony		ļ-									

(2/2) Unit: km

									1	1					Chrt: Km	
	Tharaka Nithi District	Z E E E	strict		Meru Dis	District			Nyambene District	e Distric		T	ſ	_[Γ	T
	Good	Fair	Poor	Total	Good	Fair	Poor	Total	Good	⊤air	Poor	Total	Good	Fair	Poor	Totai
1. Class A (International Trunk Roads,	ik Roads					·-			,	•	•		L V	ŕ		ŗ
a. Bitumen/Tarmac	0	0	0	0	73	o	0	73	12	0 (5 6	7 0	671	7 0) C	5 0
b. Grave	0	0		0	0	0	0	0	0 (0 (5 0	5 0	5 6	> 0	<u> </u>	
o. marth	0	0	0	0	0	0	0	0	0	2	3	2	5 ;	5 6	3	2 5
Sub-Total	0	C	0	0	73	٥	٥	23	12	0	0	12	125	7.7	5))
2. Class B (National Trunk Roads,	spec)					Î	. (Ç L	((***	Ť,		070
a. Bitumen/Tarmac	0	33		8	0	28	0	ည်	-	O	5 (5 0	1 7	3 9	3 0	9 (
b. Gravel	0	0		0	0	0	0	0	0 0	0 0	÷ 6	> 8	5 0	<u> </u>) «	٠ ٢
o Earth	0	0	0	0	0	0	0	0	O	2	g	8	2	2	3 8	3
Sub-Total	0	33	0	33	0	56	0	56	0	0	99	99	124	135	8	χ, Ω,
Ë				•	,	,		ç	c	7	c	~	80	,	c	137
a. Bitumen/Tarmac	0	0	0	0	<u> </u>	7	⊃ ;	7	> (‡ (ţ ·	3 6	- <	, 5	5 6
b. Gravel	0	0		0	0	0	င္လ	8	0	O	5 (5 (> (- F	3 5	3 4
c Earth	0	32	0	35	0	0	0	0	0	0	0	Э	2	?	7	3
Sub-Total	0	32	0	32	0	12	33	45	0	44	٥	4	26	184	\$	222
4. Class D (Secondary Roads,								_		,	•	,	í	Ļ		Š
a. Bitumen/Tarmac	0	0	0	0	0	က	0	က	0	2	n :	2 5	B G	2 5	2 ;	0 0
b. Gravel	0	3			0	22	4	96	0	9	10	52	S 3	C 6	4 1	4 6
c Earth	0	85	61	146	0	8	88	98	0	30	123	153	¥,	513	3	780
Sub-Total	0	116		177	0	76	129	205	0	56	133	189	188	623	429	1.240
5. Class E (Minor Roads)					•	•	((((•	c	7	0,0	•	ç
a. Bitumen/Tarmac	0	_	<u> </u>	_	0	0	-	-	3 (D) (n ç	7 00	2 4	t o	3 6
b. Gravel	0	(C)	4	0	0	95	2	2	Э.	20	7 .	747	2007	2 3	9 6	3 6
c. Earth	0	194		254	0	136	171	307	0	0	129	8C1	414	240	255	0.00
Sub-Total	0	200	64	264	0	230	181	411	0	39	17	210	28/	1,334	7#7	2,773
6. RAR,SPR	•				C	-	c	-	C	c	C	C	Ø	•	0	0
a. Bitumen/ larmac	-	-	> C	> C) C	- 081	9 45	245	y y	0	2	27	356	633	339	1,328
D Grave	> C	9	~~~	9 4) C	9 60	43	4	0	2	87	68	8	270	165	516
C. EBITU		88		8	c	196	66	295	9	2	108	118	446	904	504	1,854
All Doads																
A Ditumen / Tarmen	0	34	0	34	73	82	0	155	12	83	0	75	370	483	7	867
	0	36		Q	0	338	5	478	Φ	46	£3	92	707	1,287	534	2,528
i c	0	397	121	518	0	150	302	452	0	32	435	467	529	1,502	1,238	3,269
	0	467	125	592	73	570	442	1,085	18	141	478	637	909,	3,272	1/86	5,664
Schuse: District Public Works Office and JICA	Office	Olly bus	A Study Tear	l۶	inventory											

Source: District Public Works Office and JICA Study Team inventory

Table M.1-7 Conditions of Access Roads to Irrigation Schemes

			Access R	oad·lmp	assable P	eriod and	Length	
Name of District	No. of	None	1 -2 Mon	ths	3 -4 Mon	ths	Over 5 M	onths
	Irrigation	No. of	No. of	Length	No. of	Length	No. of	Length
	Schemes	Schemes	Schemes	(km)	Schemes	(km)	Schemes	(km)
						. 74.5		07.0
1. Nyeri District	70	32	.25	132.0	10	71.5	3	27.0
2. Kirinyaga District	34	8	7	25.0	9	25.0	10	45.3
3. Embu District	48	36	5	4.1	7	27.2	. 0	0.0
4. Mbeere District	29	8	16	151.0	2	22.0	3	16.0
5. Tharaka Nithi	48	0	1	2.0	23	321.0	24	184.0
6. Meru District	196	48	10	51.0	69	527.0	69	408.0
7. Nyambene District	38	12	16	151.0	5	37.0	5	80.0
Total		144	80	516.1	125	1,030.7	114	760.3
Ratio (%)	100%	31%	17%		27%		25%	<u> </u>

Source: District Profile Up-date Survey by JICA Study Team

Table M.1-8 Existing Health Facilities

	1	Nyeri	Kirinyaga	Embu	Mbeere	Tharaka	Meru	Nyambene	Total
•	1	District	District	District	District	Nithi Dis.	District	District	
1. Hospitals									
- GOK			1	2	1	1	1	1 1	
- NGO/Private	-		1	3	0	. 2	. 4	2	
	Total	6	2	5	1	3	5	3	25
2. Health Centres (HCS)									
· - GOK	l	-	4	3	4	2	-	3	
- NGO/Private		-	2	0	3	7		1	
4	Total	10	6	3	7	9	6	4	45
3. Dispensaries (DISP)								1. 1	
~ GOK		_	32	17	20	11	-	5	
- NGO/Private		-	15	6	4	37	-	8	
	Total	56	47	23	24	48	18	13	229
4. Maternity/Nursing Homes & Clin	ics						4		
– GOK		-	0		-		. 0		
NGO/Private	- 1	-	11	-	-	-	4	3	
	Total	7	11	0	0	0	. 4	3	25
Rural Health Demonstration Cer	ntres	0	.0	0	0	0	0	1	1
(Total)		79	66	31	32	60	33	24	325
6. Number of Doctors		49	_	_	_	_	16	9	
7. Doctor/Population Ratio		1:14,000	1:30,611	_	1:87,000	1:28,217	1:31,892	1:65,757	

Source: District Development Plan, 1997-2001, Figures are as of 1995/96

Table M.1-9 Existing Education Facilities

								-
	Nevori	Kirinyaga	Fmbii	Mbeere	Tharaka	Meru	Nyambene	otal
	Z Z	מאל בייל מאל בייל מאל בייל מאל בייל מאל בייל בייל מאל בייל בייל בייל בייל בייל בייל בייל בי	100	10 140	Nithi Die	District	District	
	District	District	Ulstrict	DISCUEL	\$000 1000	25.6	301	2.041
1 Distance School	482	225	156	/8	400	000	- 60	
	15 180	7527	3 970	1	1	8,679	9,033	44,3/8
short slidhd to oN -		240,1	000	i	1	8.017	9,315	42,869
Siris	4,134	545,7	200			10.00	10 248	87 247
- Total	29,363	14,870	7,970	i,	1	060'01) (0) (1)	, , ,
							3.0	400
	379	189	120	183	328	341	313	000'
	0 1 1	030.01	21 052	22.030	34 308	58,559	51,290	332,643
No. of pupils - doys	82,440	000/64	300,10	20,00	00+00	61000	EA 817	245 122
S LIS I	86,160	50,219	33,838	75,267	30,120	260,10	10,10	1000
[a+o] -	171 606	99.277	65,790	44,297	70,436	120,452	108,001	00/1/10
		3 282	2.185	1,445	1,	4,704	١	
No. of teachers		2020	î		ı	1.08	1:35	
- Teacher/pupil ratio	1:29	1:30	J:30	3	1	7.) :	
					.,	0	0,	284
2 Canadan School	126	49	39	22	5	20	3	100
Secondary School	14 501	8 892	4.090	2.451	5,673	7,198	3,090	43,985
- No. of pupils - Doys	7	500	1007	90.6	5 946	9.041	3.195	45,520
Siris -	14,64/	Z60'C	700,4	2,006	2 ()	0 0	1000	202.00
- Total	29.238	12,584	9,027	4,513	11,619	6,239	0,400	200
	i	839	553	281	1	1,097	1	-
- No. of teachers		,	4.	1.18	!	7.15	1.15	
Teacher/pupil ratio	GL:L	CI:	01:1	2) :		
						c	1	α
4 Technical Training Institute	က	2	1	_	1	7 (ŧ) S
5 Youth Polytechnics	29	6	8	4	18	0		2
T. Control	_	-	1	_	1		!	÷ 1
o Farmers (railing Centre				***	_	7	1	7
7. Teachers Iraining College	7	,	-			-	-	7
8. Family Life Centre	I	_	l	-	!		!	-
9. Multi-Purpose Dev. Train. Institute	ıte	ı	1	i	l		l	· •
10 Theological Training Institute	!	I	ł	1	!	-		- ¢
11 Private Commercial College	ŀ	2	1	ı	1	ŀ	I	7
	Dian 1007-2001 Figures are as of 1995/95	journes are 8	s of 1995/	96	· .			
Source: District Development Flan,	1,007	9 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		÷				

M-7

Demand by Community Identification of water source by community Support services by WD - Water availability $4 \sim 5$ months Establishment of Project Committee (P/C) -Applicability of water permit Registration of P/C to Ministry of Culture & Social Services Certificate of P/C registration Application of water permit Open bank account of P/C Examination & recommendation Examination of water permit to Water Board by WD District Water Board - Water balance (District level) - Water quality ~ 6 months - Discharge measurement Catchment Board (River catchment level) Water Apportionment Board (National level in Nairobi) Support services by WD Issuance of authorization of water permit - Design & costing of facility - Fund source procurement Fund procurement by P/C years Construction of water supply facilities Technical support by WD

Figure M.1-1 Flow Chart of Community-Based Rural Water Supply Project

Technical support by WD

Operation & maintenance of facilities

