

Table - 6.3.1 (1/4) Water Balance for Urban Water Supply

(Unit: m³/day)

Province	Code	District	Code	Urban Center Name	Water Demand		Step 1: Existing Projects			Step 2: Ongoing Projects				Step 3: Planned / Design Projects				Step 4: Rehabilitation of Existing Facilities					
					1995	2010	Supply Capacity	Deficit (1)		Project Name	Supply Capacity	Deficit (2)		Project Name	Supply Capacity	Deficit (3)		Augmented Capacity	Deficit (4)				
					1995	2010	1995	2010	1995			2010	1995			2010	1995		2010				
Nairobi	110	Nairobi	U - 1	Nairobi	331,823	721,687	319,000	12,823	402,687			12,823	402,687	Sunshine Sec. School	0	12,823	402,687	0	12,823	402,687			
Central	210	Kiambu	U - 2	Githunguri	1,205	2,480	360	845	2,120			845	2,120	Githunguri Cia Gichamu Karuri	180	665	1,940	0	665	1,940			
			U - 3	Karuri	2,259	4,649	624	1,635	4,025	Thuku Borehole (Kiambu Water Supply), Kiambu Rural	2,666	1,635	4,025	N/E	0	0	0	0	0	0			
			U - 4	Kiambu	1,213	2,498	490	723	2,008			0	0	0	0	0	0	0	0	0	0		
			U - 5	Kikuyu	1,443	2,971	1,278	165	1,693			165	1,693	Kikuyu Div. W/S (Muguga)	300	0	1,393	0	0	1,393	0	0	
			U - 7	Ndumburi	0	3,393	0	0	3,393	0	3,393	0	3,393	0	3,393	0	0	3,393	0	0			
			U - 8	Ruiru	9,035	18,598	792	8,243	17,806	Ruiru	3,669	4,574	14,137	4,574	14,137	0	4,574	14,137	0	4,574	14,137		
			U - 9	Thika	18,070	37,196	36,660	0	536			0	536	0	536	0	0	536	0	0	536		
			Sub-total				33,225	71,784	40,204	11,611	31,580			6,335	7,219	25,904	480	5,239	21,398	0	5,239	21,398	
			220	Kirinyaga	U - 12	Kerugoya/Kutus	1,320	7,175	1,446	0	5,729			5,729	0	5,729	Kutus/Kimbibi	0	0	5,729	482	0	5,247
			U - 16		Wanguru	93	506	1,512	0	0	Wanguru	450	0	0	0	16,000	0	0	1,512	0	0		
	Sub-total				1,413	7,681	2,958	0	5,729			450	0	5,729	16,000	0	5,729	1,994	0	5,247			
	230	Murang'a	U - 19	Makuyu	82	422	360	0	62			0	62		0	0	62	285	0	0			
	U - 20		Maragua	849	4,366	96	753	4,270			753	4,270	Maragua Ridge, Maragua W/S	2,295	0	1,975	48	0	1,927				
	U - 21		Muranga	3,288	16,900	2,000	1,288	14,900	Muranga	3,488	0	11,412	0	11,412	0	11,412	0	0	11,412				
	Sub-total				4,220	21,688	2,456	2,042	19,232			3,488	753	15,744	2,295	0	13,449	333	0	13,339			
	240	Nyandarua	U - 28	Nyahururu	6,834	22,906	3,000	3,834	19,906			3,834	19,906		3,834	19,906	1,500	2,334	18,406				
	U - 30		Olkalou	1,230	4,123	220	1,010	3,903	Olkalou	3,309	0	594	0	594	0	594	55	0	539				
	Sub-total				8,064	27,029	3,220	4,844	23,809			3,309	3,834	20,499	0	3,834	20,499	1,555	2,334	18,944			
	250	Nyeri	U - 32	Endarasha	0	1,150	0	0	1,150	Endarasha Settlement	2,400	0	0	0	0	0	0	0	0	0			
	U - 33		Karatina	2,045	6,203	1,300	745	4,903			745	4,903		745	4,903	0	745	4,903					
U - 36	Nyeri		5,629	34,738	5,940	0	28,798			0	28,798		0	28,798	0	0	28,798						
U - 37	Othaya		1,970	5,963	11,000	0	0			0	0		0	0	0	0	0						
Sub-total					9,644	48,053	18,240	745	34,850			2,400	745	33,700	0	745	33,700	0	745	33,700			
Total in Central Province					56,565	176,234	67,078	19,242	115,200			15,982	12,551	101,576	18,775	9,818	94,776	3,882	8,318	92,628			
Coast	310	Kilifi	U - 38	Kilifi	4,105	6,314	4,300	0	2,014			0	2,014		0	2,014	0	0	2,014				
			U - 39	Majengo	0	805	0	0	805			0	805		0	805	0	0	805				
			U - 40	Malindi	19,224	29,569	15,985	3,239	13,584			3,239	13,584		3,239	13,584	0	3,239	13,584				
			U - 41	Mamburi	272	419	432	0	0			0	0		0	0	0	0	0				
			U - 42	Mariakani	1,714	2,637	1,200	514	1,437	Mariakani	650	0	787	0	586	201	0	586	0	0	586		
			U - 43	Watamu	867	1,334	0	867	1,334			867	1,334		867	1,334	0	867	1,334				
	Sub-total				26,183	41,078	21,917	4,621	19,174			650	4,106	18,524	201	4,106	18,323	0	4,106	18,323			
	320	Kwale	U - 44	Kwale	427	1,464	7,000	0	0			0	0		0	0	0	0	0				
	U - 45		Lunga Lungu	260	893	220	40	673			40	673		40	673	37	4	637					
	U - 46		Msambweni	1,704	5,847	624	1,080	5,223			1,080	5,223		1,080	5,223	286	791	4,937					
Sub-total				2,391	8,204	7,844	1,120	5,896			0	1,120	5,896	0	1,120	5,896	323	798	5,574				
330	Lamu	U - 47	Lamu	691	4,043	575	116	3,468	Lamu/Mkowe Augmentation	2,684	0	784	0	784		0	784	216	0	568			
U - 49		Mokowe F.C.	290	1,698	120	170	1,578	Mkowe Roof Catchment	2	168	1,576	168	1,576	60	108	1,516							
Sub-total				981	5,741	695	286	5,046			2,686	168	2,360	0	168	2,360	276	108	2,084				
340	Mombasa	U - 52	Mombasa	69,374	111,951	70,000	0	41,951			0	41,951	Distribution Network Improvement and Extensions (Mombasa and Coastal Area)	344,400	0	0	0	0	0				
350	Taita	U - 54	Taveta	577	1,594	2,981	0	0			0	0		0	0	0	0	0					
U - 55		Voi	2,661	7,353	2,700	0	4,653			0	4,653		0	4,653	0	0	4,653						
U - 56		Wundanyi	1,049	2,898	1,488	0	1,410			0	1,410		0	1,410	744	0	666						
Sub-total				4,286	11,845	7,169	0	6,063			0	0	6,063	0	0	6,063	744	0	5,319				
360	Tana River	U - 58	Garsen	1,513	4,429	100	1,413	4,329			1,413	4,329	Garsen	1,300	113	3,029	33	79	2,996				
U - 59		Hola	1,361	3,986	228	1,133	3,758			1,133	3,758	Hola	1,300	0	2,458	152	0	2,306					
Sub-total				2,874	8,415	328	2,546	8,087			0	2,546	8,087	2,600	113	5,487	185	79	5,302				
Total in Coast Province					106,089	187,235	107,953	8,573	86,218			3,336	7,940	82,882	347,201	5,507	38,130	1,528	5,091	36,603			

Table - 6.3.1 (2/4) Water Balance for Urban Water Supply

(Unit: m³/day)

Province	Code	District	Code	Urban Center Name	Water Demand		Step 1 : Existing Projects			Step 2 : Ongoing Projects				Step 3 : Planned / Design Projects				Step 4 : Rehabilitation of Existing Facilities					
					1995	2010	Supply Capacity	Deficit (1)		Project Name	Supply Capacity	Deficit (2)		Project Name	Supply Capacity	Deficit (3)		Augmented Capacity	Deficit (4)				
								1995	2010			1995	2010			1995	2010		1995	2010			
Eastern	410	Embu	U - 60	Embu	4,823	14,031	4,058	765	9,973			765	9,973	Embu Water Supply		765	9,973	676	88	9,297			
			U - 61	Runyenjes	590	1,717	135	455	1,582			455	1,582		455	1,582	23	433	1,560				
		Sub-total				5,413	15,748	4,193	1,220	11,555		0	1,220	11,555		0	1,220	11,555	699	521	10,856		
	420	Isiolo	U - 63	Isiolo	5,341	13,882	4,356	985	9,526			985	9,526		985	9,526	0	985	9,526	0	0	0	
			U - 64	Modo Gashe	0	1,015	0	0	1,015	Madogashe W/P	1,050	0	0	0	0	0	0	0	0	0	0	0	
			U - 65	Merti	174	452	69	105	383			105	383		105	383	0	105	383	0	105	383	
	Sub-total				5,515	15,350	4,425	1,090	10,925		1,050	1,090	9,910		0	1,090	9,910	0	1,090	9,910	0	1,090	9,910
	430	Kitui	U - 68	Kitui	1,553	5,166	3,000	0	2,166	Masinga Kitui Water Supply	5,619	0	0			0	0	0	0	0	0	0	
	440	Masaku	U - 69	Athi River	1,783	6,458	2,000	0	4,458			0	4,458	Athi River Water Supply	3,300	0	1,158	0	0	1,158	0	0	1,158
			U - 71	Machakos	11,411	41,329	5,800	5,611	35,529			5,611	35,529	Machakos Urban Water Supply	8,300	0	27,229	0	0	27,229	0	0	27,229
U - 74			Matuu	1,426	5,166	480	946	4,686			946	4,686		946	4,686	180	766	4,506	180	766	4,506		
U - 77			Kangundo/Tala	2,068	7,491	441	1,627	7,050			1,627	7,050		1,627	7,050	165	1,462	6,885	165	1,462	6,885		
Sub-total				16,689	60,444	8,721	8,185	51,723		0	8,185	51,723		11,600	2,574	40,123	345	2,228	39,777	345	2,228	39,777	
Eastern	450	Marsabit	U - 79	Kargi	1,046	2,654	160	886	2,494	Kargi	645	241	1,849		241	1,849	60	181	1,789	60	181	1,789	
			U - 80	Korr	1,046	2,654	0	1,046	2,654	Korr	825	221	1,829		221	1,829	0	221	1,829	0	221	1,829	
			U - 82	Marsabit	2,582	6,552	300	2,282	6,252	Marsabit	3,750	0	2,502		0	2,102	75	0	2,027	75	0	2,027	
			U - 83	Moyale	1,307	3,317	61	1,246	3,256	Moyale Lami	1,275	0	1,981		0	1,981	15	0	1,966	15	0	1,966	
			U - 84	North Horr	327	829	21	306	808			306	808		306	808	5	301	803	5	301	803	
			U - 85	Soloto	850	2,156	21	829	2,135	Soloto	1,290	0	845		0	845	5	0	840	5	0	840	
	Sub-total				7,157	18,162	563	6,594	17,599		7,785	767	9,814		400	767	9,414	161	702	9,253	161	702	9,253
	460	Meru	U - 86	Meru	2,203	17,398	4,730	0	12,668			0	12,668		0	12,668	0	0	12,668	0	0	12,668	
			U - 87	Nkubu	674	5,327	329	346	4,998			346	4,998		346	4,998	192	154	4,806	192	154	4,806	
	Sub-total				2,877	22,725	5,059	346	17,666		0	346	17,666		0	346	17,666	192	154	17,474	192	154	17,474
470	Nyambene	U - 89	Maua	326	1,225	400	0	1,325			0	1,325		0	1,325	0	0	1,325	0	0	1,325		
480	Tharaka Nithi	U - 90	Chuka	1,103	2,577	355	748	2,222			748	2,222	Chuka	1,000	0	1,222	0	0	1,222	0	0	1,222	
490	Mwingi	U - 91	Mwingi	1,900	5,129	300	1,600	4,829			1,600	4,829		1,600	4,829	300	1,300	4,529	300	1,300	4,529		
4A0	Makueni	U - 93	Kibwezi	0	1,052	0	0	1,052			0	1,052		0	1,052	0	0	1,052	0	0	1,052		
		U - 98	Mtito Andei	2,383	6,748	3,000	0	3,748			0	3,748		0	3,748	0	0	3,748	0	0	3,748		
Sub-total				2,383	7,800	3,000	0	4,800		0	0	4,800		0	0	4,800	0	0	4,800	0	0	4,800	
Total in Eastern Province					44,916	154,826	30,016	19,782	124,810		14,454	13,956	113,844		13,000	7,597	100,844	1,697	5,996	99,147	1,697	5,996	99,147
North Eastern	510	Garissa	U - 104	Garissa	4,587	12,257	1,440	3,147	10,817	Garissa	12,000	0	0		0	0	480	0	0	480	0	0	0
			U - 105	Liboi	816	2,179	123	693	2,056			693	2,056		693	2,056	41	652	2,015	41	652	2,015	
	Sub-total				5,403	14,436	1,563	3,840	12,873		12,000	693	2,056		0	693	2,056	521	652	2,015	521	652	2,015
	520	Mandera	U - 108	Elwak	0	2,169	0	0	2,169	Elwak	300	0	1,869		0	1,869	0	0	1,869	0	0	1,869	
			U - 109	Mandera	1,099	4,604	500	599	4,104	Mandera	300	299	3,804		0	804	167	0	637	167	0	637	
			U - 110	Rhamu	1,077	4,513	140	937	4,373	Rhamu	300	637	4,073		637	4,073	47	591	4,027	47	591	4,027	
Sub-total				2,177	11,286	640	1,537	10,646		900	937	9,746		3,000	637	6,746	213	591	6,533	213	591	6,533	
530	Wajir	U - 113	Bute	0	775	202	0	573			0	573		0	573	51	0	522	51	0	522		
		U - 114	Eldas	652	1,717	65	587	1,652			587	1,652		587	1,652	16	571	1,636	16	571	1,636		
		U - 116	Wajir	196	9,152	48	148	9,104			148	9,104		148	9,104	16	132	9,088	16	132	9,088		
Sub-total				848	11,644	315	735	11,329		0	735	11,329		0	735	11,329	83	703	11,246	83	703	11,246	
Total in North Eastern Province					8,427	37,367	2,518	6,111	34,849		12,900	2,364	23,132		3,000	2,065	20,132	817	1,945	19,794	817	1,945	19,794
Nyanza	610	Gusii	U - 117	Kisii	6,475	16,960	6,000	475	10,960			475	10,960		475	10,960	2,000	0	8,960	2,000	0	8,960	
			U - 119	Ahero	68	124	23	46	102			46	102		46	102	8	38	94	8	38	94	
	620	Kisumu	U - 120	Kisumu	41,244	75,315	14,565	26,679	60,750			26,679	60,750		26,679	60,750	0	26,679	60,750	0	26,679	60,750	
			U - 121	Maseno	4,406	8,045	0	4,406	8,045			4,406	8,045		4,406	8,045	0	4,406	8,045	0	4,406	8,045	
			U - 122	Muhoroni	734	1,341	720	14	621	Songhor/Muhoroni W/P	1,400	0	0		0	0	0	0	0	0	0	0	
	Sub-total				46,452	84,826	15,308	31,144	69,518		0	31,144	69,518		1,400	31,130	68,897	8	31,123	68,889	8	31,123	68,889
630	Siaya	U - 123	Asiro	0	1,334	0	0	1,334			0	1,334		0	1,334	0	0	1,334	0	0	1,334		
		U - 125	Siaya	1,655	8,132	770	885	7,362	Rehabilitation and Augmentation of Siaya Water Project	2,695	0	4,667		2,695	0	4,667	257	0	4,410	257	0	4,410	
Sub-total				1,655	9,467	770	885	8,697		0	885	8,697		2,695	0	6,002	257	0	5,745	257	0	5,745	
640	Homa Bay	U - 129	Homa Bay	6,482	13,524	1,500	4,982	12,024			4,982	12,024		4,982	12,024	500	4,482	11,524	500	4,482	11,524		
		U - 130	Kendu Bay	1,508	3,145	720	788	2,425			788	2,425		788	2,425	240	548	2,185	240	548	2,185		
		U - 131	Mbita	0	1,639	0	0	1,639			0	1,639		0	1,639	0	0	1,639	0	0	1,639		
		U - 133	Oyugis	4,523	9,435	5,760	0	3,675			0	3,675		0	3,675	1,920	0	1,755	1,920	0	1,755		
Sub-total				12,512	27,743	7,980	5,770	19,763		0	5,770	19,763		0	5,770	19,763	2,660	5,030	17,103	2,660	5,030	17,103	

Table - 6.3.1 (3/4) Water Balance for Urban Water Supply

(Unit: m³/Day)

Province	Code	District	Code	Urban Center Name	Water Demand		Step 1: Existing Projects			Step 2: Ongoing Projects				Step 3: Planned / Design Projects				Step 4: Rehabilitation of Existing Facilities				
					1995	2010	Supply Capacity	Deficit (1)		Project Name	Supply Capacity	Deficit (2)		Project Name	Supply Capacity	Deficit (3)		Augmented Capacity	Deficit (4)			
								1995	2010			1995	2010			1995	2010		1995	2010		
Nyanza Province	650	Migori	U - 134	Awendo	0	2,274	0	0	2,274			0	2,274	Awendo	20,000	0	0	0	0	0		
			U - 135	Kenhacha	814	2,083	44	770	2,039			770	2,039	0	0	Migori/Kenhacha, Kenhacha	150,250	0	0	15	0	0
			U - 136	Migori	907	2,321	960	0	1,361			0	1,361	0	0	Migori/Ndhiwa	2,250	0	0	320	0	0
			U - 137	Nyabikaye	0	1,167	0	0	1,167			0	1,167	0	1,167		0	0	0	0	1,167	
			U - 138	Rongo	887	2,271	497	390	1,774			390	1,774	390	1,774		166	225	1,608			
		Sub-total			2,609	10,116	1,501	1,161	8,615		0	1,161	8,615		172,500	390	2,941	500	225	2,775		
	660	Nyamira	U - 139	Keroka	0	762	0	0	762			0	762		0	762		0	0	0	762	
			U - 140	Nyamira	2,396	5,229	466	1,930	4,763			1,930	4,763	2,064	0	2,699		0	0	0	2,699	
		Sub-total			2,396	5,991	466	1,930	5,525		0	1,930	5,525		2,064	0	3,461		0	0	3,461	
	Total in Nyanza Province					72,098	155,102	32,025	41,364	123,077		0	41,364	123,077		178,659	37,765	112,022	5,425	36,377	106,933	
Rift Valley	710	Kajiado	U - 141	Kajiado	701	3,294	2,000	0	1,294			0	1,294			0	1,294	667	0	628		
			U - 142	Magadi	1,403	6,589	1,364	39	5,225			39	5,225	455	0	4,770		0	4,770			
			U - 143	Namanga	631	2,965	780	0	2,185			0	2,185	450	0	1,735		0	1,735			
			U - 144	Ngong	842	3,953	1,260	0	2,693	Ngong	450	0	2,243	8,460	0	0	210	0	0			
			U - 145	Loitokitok	2,805	13,177	1,440	1,365	11,737	Ronga (Loitokitok)		1,365	11,737		1,365	11,737	480	885	11,257			
			U - 146	Ongata Longai	1,010	4,744	3,600	0	1,144			0	1,144		0	1,144	2,700	0	0			
		Sub-total			7,392	34,722	10,444	1,404	24,278		450	1,404	23,828		8,910	1,404	21,135	4,511	885	18,390		
	720	Kipsigis	U - 148	Kericho	8,197	22,167	8,460	0	13,707			0	13,707		0	13,707		0	0	13,707		
			U - 149	Kipkelion	209	566	48	161	518	Kipkelion	1,425	0	0		0	0	16	0	0			
			U - 151	Londiani	558	1,510	756	0	754	Londiani	1,737	0	0		0	0	252	0	0			
U - 152			Sotik	0	1,453	0	0	1,453			0	1,453		0	1,453		0	1,453				
	Sub-total			8,965	25,697	9,264	161	16,433		3,162	0	15,161		0	0	15,161	268	0	15,161			
730	Laikipia	U - 153	Nanyuki	5,936	19,187	6,800	0	12,387			0	12,387		0	12,387		2,267	0	10,120			
		U - 154	Rumuruti	441	1,425	0	441	1,425			441	1,425	1,378	0	47		0	0	47			
	Sub-total			6,377	20,612	6,800	441	13,812		0	441	13,812		1,378	0	12,434	2,267	0	10,167			
740	Nakuru	U - 155	Elburgon	853	2,297	391	462	1,906			462	1,906		462	1,906		130	331	1,776			
		U - 156	Gilgil	1,137	3,063	760	377	2,303			377	2,303		377	2,303		253	124	2,050			
		U - 157	Molo	1,421	3,829	775	646	3,054			646	3,054		646	3,054		258	388	2,796			
		U - 158	Naivasha	6,537	17,614	762	5,775	16,852			5,775	16,852		5,775	16,852		254	5,521	16,598			
		U - 159	Nakuru	43,284	116,618	28,969	14,315	87,649			14,315	87,649		14,315	87,649		12,070	2,244	75,578			
		U - 160	Njoro	711	1,915	224	487	1,691			487	1,691		487	1,691		75	412	1,616			
	Sub-total			53,942	145,336	31,881	22,061	113,455		0	22,061	113,455		0	22,061	113,455	13,041	9,020	100,414			
750	Narok	U - 163	Narok	1,641	10,873	1,315	326	9,558			326	9,558		326	9,558		0	326	9,558			
760	Trans Nzoia	U - 164	Kitale	8,732	33,317	12,739	0	20,568			0	20,568		0	20,568		4,250	0	16,318			
770	Uasin Gishu	U - 165	Burnt Forest	249	1,105	600	0	505	Burnt Forest	600	0	0		0	0	200	0	0				
		U - 166	Eldoret	12,393	54,928	37,400	0	17,528			0	17,528		0	17,518		0	17,518				
		U - 167	Lemok	0	1,627	0	0	1,627			0	1,627		0	1,627		0	0	1,627			
		U - 169	Moi's Bridge	139	616	600	0	16	Moi's Bridge	1,500	0	0		0	0	400	0	0				
		U - 170	Simat	0	3,015	0	0	3,015			0	3,015		0	3,015		0	0	3,015			
		U - 172	Turbo	337	1,495	300	37	1,195			37	1,195		37	1,195		200	0	995			
	Sub-total			13,119	62,787	38,900	37	23,887		2,100	37	23,366		10	37	23,356	800	0	23,156			
790	Transmara	U - 174	Kilgoris	1,476	3,886	864	612	3,022			612	3,022		612	3,022		288	324	2,734			
810	Baringo	U - 178	Elda Ravine	2,675	4,501	6,700	0	0			0	0		0	0	2,233	0	0				
		U - 179	Karbarnet	17,050	28,696	2,042	15,008	26,654			15,008	26,654		15,008	26,654		681	14,328	25,974			
		U - 180	Maji Mazuri	267	450	260	7	190			7	190		7	190		87	0	103			
		U - 181	Marigat	163	274	366	0	0			0	0		0	0		244	0	0			
		U - 182	Mogotio	669	1,125	686	0	439			0	439		0	439		0	0	439			
	Sub-total			20,824	35,047	10,054	15,016	27,284		0	15,016	27,284		0	15,016	27,284	3,245	14,328	26,516			
820	Elgeyo Marakwet	U - 183	Iten	279	2,110	460	0	1,650			0	1,650	Iten Yogot Dam	2,850	0	0	153	0	0			
830	Nandi	U - 185	Kapsabet	992	6,303	624	368	5,679			368	5,679	Kapsabet/Kipsigak Water Supply	4,011	0	1,668	208	0	1,460			
840	Samburu	U - 188	Maralal	294	1,200	529	0	671			0	671		0	671		309	0	362			
		U - 189	Wamba	1,354	5,523	181	1,173	5,341	Wamba	600	573	4,741		573	4,741		144	429	4,597			
	Sub-total			1,649	6,722	710	1,173	6,012		600	573	5,412		0	573	5,412	452	429	4,960			
850	Turkana	U - 190	Kakuma T.C	2,966	4,597	1,080	1,886	3,517			1,886	3,517	Kakuma	200	1,686	3,317	360	1,326	2,957			
		U - 191	Kalokol	297	460	72	225	388	Kalokol	1,350	0	0		0	0	54	0	0				
		U - 194	Lodwar	4,449	6,896	1,506	2,943	5,390	Lodwar	5,250	0	140		0	140		0	0	140			
		U - 195	Lokitaung	593	919	240	353	679	Lokitaung	815	0	0		0	0	180	0	0				
	Sub-total			8,305	12,872	2,898	5,407	9,974		7,415	1,886	3,657		1,400	1,686	3,457	594	1,326	3,097			
860	West pokot	U - 197	Kapenguria	749	3,752	360	389	3,392			389	3,392		389	3,392		210	179	3,182			
		U - 198	Makutano	708	3,547	262	446	3,285			446	3,285		446	3,285		98	348	3,187			
	Sub-total			1,457	7,299	622	835	6,677		0	835	6,677		0	835	6,677	308	527	6,369			
Total in Rift Valley Province					135,149	407,583	127,585	47,841	282,289		13,728	43,559	273,127		18,559	42,550	263,185	30,385	27,165	238,299		

Table - 6.3.1 (4/4) Water Balance for Urban Water Supply

(Unit: m³/day)

Province	Code	District	Code	Urban Center Name	Water Demand		Step 1 : Existing Projects			Step 2 : Ongoing Projects				Step 3 : Planned / Design Projects				Step 4 : Rehabilitation of Existing Facilities			
					1995	2010	Supply Capacity	Deficit (1)		Project Name	Supply Capacity	Deficit (2)		Project Name	Supply Capacity	Deficit (3)		Augmented Capacity	Deficit (4)		
								1995	2010			1995	2010			1995	2010		1995	2010	1995
Western	910	Bungoma	U - 199	Bungoma	4,895	15,066	3,000	1,895	12,066			1,895	12,066	Bungoma Rural I & II	1,586	309	10,480	1,000	0	9,480	
			U - 200	Cheptais	0	1,142	2,400	0	0			0	0			0	0	800	0	0	
			U - 202	Kimilili	12,755	39,255	2,200	10,555	37,055			10,555	37,055			10,555	37,055	733	9,822	36,321	
			U - 203	Malakisi	0	1,215	0	0	1,215			0	1,215			0	1,215	0	0	1,215	
			U - 205	Webuye	5,439	16,740	1,800	3,639	14,940			3,639	14,940			3,639	14,940	0	3,639	14,940	
		Sub-total			23,090	73,417	9,400	16,090	65,275		0	16,090	65,275		1,586	14,504	63,689	2,533	13,461	61,956	
		920	Busia	U - 206	Busia	2,325	14,794	2,072	253	12,722	Busia /mundika	7,500	0	5,222	Busia hills	300	0	4,922	691	0	4,231
	U - 207			Malaba Town	0	1,252	0	0	1,252	Malaba /Kocholia	13,256	0	0	Malaba H.C W/P	0	0	0	0	0	0	
	U - 208			Nambale	178	1,135	159	19	976			19	976			19	976	0	19	976	
		Sub-total			2,504	17,181	2,231	273	14,950		20,756	19	6,198		300	19	5,898	691	19	5,207	
		930	Kakamega	U - 209	Butere	682	4,300	264	418	4,036	Butere W/S	251	167	3,785			167	3,785	132	35	3,653
	U - 210			Kakamega	3,796	23,929	7,000	0	16,929			0	16,929			0	16,929	2,333	0	14,596	
	U - 211			Mumias	1,697	10,698	1,498	199	9,200	Mumias W/S	2,250	0	6,950			0	6,950	0	0	6,950	
		Sub-total			6,175	38,927	8,762	617	30,165		2,501	167	27,664		0	167	27,664	2,465	35	25,198	
		940	Vihiga	U - 213	Maseno/Luanda	9,326	24,763	1,192	8,134	23,571			8,134	23,571			8,134	23,571	397	7,737	23,174
	U - 214			Mbale	2,727	7,241	960	1,767	6,281			1,767	6,281	Mbale III	22,501	0	0	240	0	0	
U - 215	Vihiga/Majengo			1,636	4,344	63	1,573	4,281			1,573	4,281	Vihiga-Hamisi	156,000	0	0	32	0	0		
	Sub-total			13,689	36,349	2,215	11,474	34,134		0	11,474	34,134		178,501	8,134	23,571	669	7,737	23,174		
	Total in Western Province				45,458	165,874	22,608	28,454	144,524		23,257	27,750	133,270		180,387	22,824	120,822	6,358	21,252	115,535	
	TOTAL IN KENYA				800,525	2,005,907	708,783	184,190	1,313,652		83,656	162,308	1,253,595		759,581	140,949	1,152,598	50,091	118,966	1,111,626	

Source : The Aftercare Study Team

Table - 6.3.2 Water Balance for Large Scale Rural Water Supply

(Unit: m³ / day)

Province	Code	District	Water Demand for		Step 1: Existing Projects		Step 2: Ongoing Projects		Step 3: Planned/Designed Projects		Step 4: Rehabilitation	
			LSRWS		Supply	Deficit	Supply	Deficit	Supply	Deficit	Augmented	Deficit
			1995	2010	Capacity	2010	Capacity	2010	Capacity	2010	Capacity	2010
Central	210	Kiambu	26,631	47,828	139,931	0	16,046	0	10,912	0	4,890	0
	220	Kirinyaga	20,998	25,817	32,969	0	4,127	0	7,161	0	9,633	0
	230	Murang'a	18,897	22,055	38,875	0	80,856	0	0	0	9,210	0
	240	Nyandarua	4,699	5,832	41,145	0	31,566	0	2,426	0	3,715	0
	250	Nyeri	7,013	6,775	9,808	0	24,638	0	19,113	0	261	0
Sub-total			78,237	108,306	232,727	0	157,232	0	39,642	0	27,709	0
Coast	310	Kilifi	1,866	3,161	2,416	745	21,300	0	4,024	0	805	0
	320	Kwale	1,102	2,166	2,160	6	0	6	2,350	0	828	0
	330	Lamu	441	472	1,085	0	3,967	0	400	0	362	0
	340	Mombasa	5,800	9,360	1,053	8,307	2,250	6,057	2,600	3,457	351	3,106
	350	Taita	3,410	4,649	4,620	29	4,354	0	173	0	1,603	0
	360	Tana River	1,103	5,364	6,400	0	1,875	0	1,300	0	2,633	0
Sub-total			13,721	25,172	17,734	9,068	33,746	6,063	10,847	3,457	6,582	3,106
Eastern	410	Embu	7,768	13,564	32,020	0	5,625	0	1,249	0	586	0
	420	Isiolo	799	799	256	543	12,164	0	0	0	85	0
	430	Kitui	1,937	10,135	645	9,490	12,712	0	1,751	0	310	0
	440	Masaku	6,929	13,639	31,451	0	23,283	0	3,978	0	9,972	0
	450	Marsabit	3,433	2,872	783	2,088	16,328	0	1,275	0	261	0
	460	Meru	7,762	8,472	4,080	4,392	16,939	0	0	0	0	0
	470	Nyambene	12,445	24,922	13,066	11,836	11,312	524	0	524	3,286	6
	480	Tharaka Nithi	6,642	18,292	8,896	9,395	9,133	262	2,200	0	965	0
	490	Mwingi	2,412	10,674	243	10,432	3,113	7,319	90	7,229	414	6,815
	4A0	Makueni	2,989	11,458	3,673	7,813	22,840	0	31,779	0	105	0
Sub-total			53,137	111,856	95,136	55,988	133,447	8,106	42,321	7,753	15,985	6,815
North-Eastern	510	Garissa	1,973	3,070	667	2,403	7,275	0	800	0	264	0
	520	Mandera	1,637	5,653	494	5,159	0	5,159	2,400	2,759	165	2,594
	530	Wajir	7,243	6,314	1,805	4,509	2,925	1,584	249	1,336	671	665
Sub-total			10,853	15,037	2,966	12,070	10,200	6,742	3,448	4,095	1,100	3,258
Nyanza	610	Gusii	2,061	6,018	4,428	1,590	13,508	0	22,008	0	1,476	0
	620	Kisumu	18,573	27,261	16,042	11,219	4,050	7,169	4,288	2,881	12,297	0
	630	Siaya	15,584	34,045	12,554	21,491	66,375	0	21,353	0	3,624	0
	640	Homa Bay	9,976	39,544	2,117	37,427	54,086	0	3,000	0	472	0
	650	Migori	904	7,513	409	7,104	19,125	0	1,782	0	136	0
	660	Nyamira	2,301	5,215	1,347	3,867	5,400	0	53,367	0	370	0
Sub-total			49,399	119,596	36,897	82,699	162,545	7,169	105,798	2,881	18,375	0
Rift Valley	710	Kajiado	3,586	4,710	5,380	0	3,225	0	0	0	2,437	0
	720	Kipsigis	322	780	887	0	1,581	0	29,178	0	33	0
	730	Laikipia	313	1,644	21	1,624	28,194	0	8,766	0	7	0
	740	Nakuru	5,670	6,339	1,754	4,585	1,883	2,703	4,044	0	301	0
	750	Narok	2,289	11,486	2,049	9,437	2,436	7,001	340	6,661	686	5,975
	760	Trans Nzoia	0	0	0	0	4,402	0	11,240	0	0	0
	770	Uasin Gishu	7,074	8,379	8,367	12	9,339	0	18,471	0	3,548	0
	780	Bomet	1,329	4,319	2,873	1,445	2,469	0	3,403	0	958	0
	790	Transmara	820	8,281	25	8,255	1,125	7,130	0	7,130	8	7,122
	810	Baringo	2,342	1,715	1,411	303	7,713	0	2,753	0	681	0
	820	Elgeyo Marakwet	1,695	5,737	3,223	2,514	11,085	0	35,830	0	180	0
	830	Nandi	1,931	5,069	1,092	3,977	6,113	0	35,200	0	364	0
	840	Samburu	3,796	4,580	3,872	708	465	243	553	0	2,381	0
850	Turkana	2,976	5,919	1,076	4,843	1,718	3,125	0	3,125	582	2,544	
860	West Pokot	2,687	9,061	3,114	5,946	49,163	0	750	0	1,115	0	
Sub-total			37,030	78,017	35,146	43,649	130,910	20,202	150,528	16,916	13,301	15,644
Western	910	Bungoma	21,591	30,685	10,883	19,802	9,077	10,726	10,291	435	1	433
	920	Busia	5,477	6,892	3,532	3,360	20,306	0	1,243	0	472	0
	930	Kakamega	6,492	10,648	11,072	0	465	0	11,776	0	2,771	0
	940	Vihiga	5,782	9,224	2,509	6,715	0	6,715	0	6,715	116	6,599
Sub-total			39,345	57,449	27,997	29,817	29,847	17,449	23,310	7,149	3,361	7,032
Total			281,725	518,433	448,602	233,371	657,926	65,722	375,894	42,252	86,412	35,852
Number of Districts Facing Water Deficit						36		15		11		9

Source: The Aftercare Study Team

Note: Deficits above imply balance between designed production capacity and estimated water requirements by planned population served.

Table - 6.3.3 Water Balance for Small Scale Rural Water Supply

(Unit : m³ / day)

Province	Code	District	Water Demand for		Step 1 : Existing Projects		Step 2 : Ongoing Projects		Step 3 : Planned/Designed Projects		Step 4 : Rehabilitation	
			SSRWS		Supply	Deficit	Supply	Deficit	Supply	Deficit	Augmented	Defocot
			1995	2010	Capacity	2010	Capacity	2010	Capacity	2010	Capacity	2010
Central	210	Kianbu	6,073	14,786	6,073	8,713	0	8,713	1,983	6,730	0	6,730
	220	Kirinyaga	431	2,168	431	1,737	865	872	3,123	0	0	0
	230	Murang'a	16,616	28,936	16,616	12,321	0	12,321	1,843	10,478	0	10,478
	240	Nyandarua	4,189	7,654	4,189	3,466	975	2,491	2,952	0	0	0
	250	Nyeri	10,542	14,625	10,542	4,084	1,551	2,532	11,877	0	0	0
Sub-total			37,850	68,170	37,850	30,320	3,391	26,929	21,777	17,208	0	17,208
Coast	310	Kilifi	9,592	24,135	9,592	14,543	525	14,018	214	13,804	0	13,804
	320	Kwale	7,227	21,254	7,227	13,527	1,200	12,327	444	11,883	0	11,883
	330	Lamu	1,144	1,772	1,144	628	122	507	300	207	0	207
	340	Mombasa	12,700	6,976	12,700	0	0	0	0	0	0	0
	350	Taita	1,603	1,929	1,603	326	1,462	0	922	0	0	0
	360	Tana River	265	1,239	265	974	0	974	280	694	0	694
Sub-total			33,032	57,306	33,032	29,998	3,309	27,826	2,160	26,588	0	26,588
Eastern	410	Embu	2,119	7,355	2,119	5,236	180	5,056	1,362	3,694	0	3,694
	420	Isiolo	919	915	919	0	291	0	986	0	0	0
	430	Kitui	1,415	7,050	1,415	5,634	522	5,112	0	5,112	0	5,112
	440	Masaku	3,231	11,556	3,231	8,325	540	7,785	0	7,785	0	7,785
	450	Marsabit	1,043	1,395	1,043	351	2,986	0	863	0	0	0
	460	Meru	5,106	11,294	5,106	6,189	6,716	0	0	0	0	0
	470	Nyambene	2,745	7,962	2,745	5,217	855	4,362	0	4,362	0	4,362
	480	Tharaka Nithi	247	913	247	666	41	626	0	626	0	626
	490	Mwingi	1,038	5,670	1,038	4,633	1,332	3,301	316	2,985	0	2,985
	4A0	Makueni	6,375	15,617	6,375	9,242	1,351	7,892	221	7,671	0	7,671
Sub-total			24,238	69,727	24,238	45,493	14,813	34,133	3,748	32,234	0	32,234
North-Eastern	510	Garissa	1,661	2,255	1,661	594	330	264	113	151	0	151
	520	Mandera	632	2,432	632	1,799	600	1,199	0	1,199	0	1,199
	530	Wajir	279	331	279	51	0	51	0	51	0	51
Sub-total			2,572	5,017	2,572	2,444	930	1,514	113	1,402	0	1,402
Nyanza	610	Gusii	11,560	59,729	11,560	48,170	959	47,211	175	47,036	0	47,036
	620	Kisumu	1,222	4,919	1,222	3,697	188	3,509	26	3,483	0	3,483
	630	Siaya	153	868	153	716	150	566	3,200	0	0	0
	640	Homa Bay	869	4,463	869	3,594	0	3,594	750	2,844	0	2,844
	650	Migori	2,539	22,110	2,539	19,571	0	19,571	85	19,486	0	19,486
	660	Nyamira	3,010	9,565	3,010	6,555	225	6,330	170	6,160	0	6,160
Sub-total			19,352	101,655	19,352	82,302	1,521	80,781	4,406	79,009	0	79,009
Rift Valley	710	Kajiado	5,529	6,907	5,529	1,379	518	861	300	561	0	561
	720	Kipsigis	5,943	27,456	5,943	21,543	392	21,151	953	20,199	0	20,199
	730	Laikipia	1,269	5,176	1,269	3,908	451	3,457	78	3,379	0	3,379
	740	Nakuru	11,491	15,428	11,491	3,937	0	3,937	1,559	2,378	0	2,378
	750	Narok	1,443	10,550	1,443	9,107	166	8,941	5,954	2,987	0	2,987
	760	Trans Nzoia	5,058	21,873	5,058	16,815	457	16,358	0	16,358	0	16,358
	770	Uasin Gishu	4,973	5,343	4,973	370	1,199	0	3,768	0	0	0
	780	Bomet	5,463	30,816	5,463	25,353	297	25,056	729	24,327	0	24,327
	790	Transmara	400	4,511	400	4,111	600	3,511	4,550	0	0	0
	810	Baringo	1,310	4,366	1,310	3,056	555	2,501	4,963	0	0	0
	820	Elgeyo Marakwet	1,825	9,362	1,825	7,537	2,672	4,865	210	4,655	0	4,655
	830	Nandi	7,071	25,705	7,071	18,635	533	18,102	280	17,822	0	17,822
	840	Samburu	638	638	638	0	1,665	0	967	0	0	0
850	Turkana	1,078	2,992	1,078	1,914	1,838	77	120	0	0	0	
860	West Pokot	592	2,158	592	1,566	450	1,116	3,444	0	0	0	
Sub-total			54,081	173,311	54,081	119,230	11,792	109,933	27,873	92,666	0	92,666
Western	910	Bungoma	2,521	7,420	2,521	4,899	519	4,381	0	4,381	0	4,381
	920	Busia	7,168	13,537	7,168	6,369	720	5,649	400	5,249	0	5,249
	930	Kakamega	17,796	42,811	17,796	25,015	0	25,015	473	24,543	0	24,543
	940	Vihiga	6,608	15,537	6,608	8,930	240	8,690	0	8,690	0	8,690
Sub-total			34,093	79,305	34,093	45,213	1,479	43,734	873	42,862	0	42,862
Total			205,218	554,491	205,218	355,001	37,234	324,850	60,948	291,969	0	291,969
Number of Districts Facing Water Deficit						46		42		34		34

Source : The Aftercare Study Team

Note: Deficits above imply balance between designed production capacity and estimated water requirements by planned population served.

Table - 6.3.4 Water Balance for Livestock Water Supply

(Unit : m³/day)

Province	Code	District	Production Capacity for Livestock	Livestock Water Demand		Deficit	
				1995	2010	1995	2010
Central	210	Kiambu	2,907	3,633	4,095	727	1,188
	220	Kirinyaga	1,723	2,154	2,428	431	704
	230	Murang'a	3,098	3,872	4,364	774	1,266
	240	Nyandarua	5,110	6,388	7,199	1,278	2,089
	250	Nyeri	3,116	3,895	4,390	779	1,274
Coast	310	Kilifi	1,943	2,428	2,737	486	794
	320	Kwale	4,468	5,585	6,294	1,117	1,826
	330	Lamu	735	918	1,035	184	300
	340	Mombasa	140	176	198	35	57
	350	Taita	944	1,180	1,330	236	386
	360	Tana River	9,413	11,767	13,261	2,353	3,847
Eastern	410	Embu	3,298	4,123	4,646	825	1,348
	420	Isiolo	751	939	1,058	188	307
	430	Kitui	8,995	11,244	12,671	2,249	3,676
	440	Masaku	6,881	8,601	9,693	1,720	2,812
	450	Marsabit	6,603	8,253	9,301	1,651	2,698
	460	Meru	3,406	4,257	4,797	851	1,392
	470	Nyambene	2,943	3,679	4,146	736	1,203
	480	Tharaka Nithi	3,550	4,437	5,000	887	1,451
	490	Mwingi	4,337	5,421	6,109	1,084	1,772
	4A0	Makueni	53,214	66,518	74,963	13,304	21,749
North-Eastern	510	Garissa	44,381	55,476	62,520	11,095	18,138
	520	Mandera	10,132	12,665	14,272	2,533	4,141
	530	Wajir	17,413	21,766	24,530	4,353	7,117
Nyanza	610	Gusii	5,469	6,837	7,705	1,367	2,235
	620	Kisumu	7,270	9,087	10,241	1,817	2,971
	630	Siaya	7,826	9,783	11,025	1,957	3,199
	640	Homa Bay	4,392	5,490	6,187	1,098	1,795
	650	Migori	2,644	3,305	3,725	661	1,081
	660	Nyamira	4,890	6,112	6,888	1,222	1,998
Rift Valley	710	Kajiado	18,467	23,084	26,015	4,617	7,548
	720	Kipsigis	4,198	5,248	5,914	1,050	1,716
	730	Laikipia	4,923	6,153	6,935	1,231	2,012
	740	Nakuru	44,364	55,455	62,495	11,091	18,131
	750	Narok	10,476	13,095	14,758	2,619	4,282
	760	Trans Nzoia	2,364	2,955	3,330	591	966
	770	Uasin Gishu	6,552	8,190	9,230	1,638	2,678
	780	Bomet	7,440	9,300	10,481	1,860	3,041
	790	Transmara	3,939	4,924	5,549	985	1,610
	810	Baringo	29,367	36,709	41,370	7,342	12,002
	820	Elgeyo Marakwet	1,565	1,956	2,205	391	640
	830	Nandi	6,528	8,160	9,195	1,632	2,668
	840	Samburu	7,841	9,801	11,045	1,960	3,205
	850	Turkana	5,417	6,771	7,631	1,354	2,214
860	West Pokot	7,652	9,565	10,780	1,913	3,127	
Western	910	Bungoma	5,377	6,721	7,575	1,344	2,198
	920	Busia	3,323	4,153	4,680	831	1,358
	930	Kakamega	7,867	9,833	11,082	1,967	3,215
	940	Vihiga	3,376	4,220	4,755	844	1,380
TOTAL			414,006	517,508	583,210	103,502	169,204

Source : The Aftercare Study Team

Remarks : The present situation is assumed that 80 % of the 1995 demand is being fed from the existing facilities.

Table - 6.3.5 Required Water Resources Development by District

(Unit : m³ / day)

Province	Code	District	Present Water Supply Capacity					Water Demand in 2010					Required Water Resources Development	
			LWS	RWS			Total	LWS	RWS			Total		
				LSRWS	SSRWS	Roof Catchment			LSRWS	SSRWS	Total			
Nairobi	110	Nairobi	319,000	0	0	0	0	319,000	721,687	0	0	0	721,687	402,687
Central	210	Kimbu	40,204	139,931	6,073	162	146,166	156,370	71,784	47,828	14,786	62,614	134,398	0
	220	Kirinyaga	2,958	32,969	431	0	33,400	36,358	7,681	25,817	2,168	27,985	35,666	0
	230	Muranga	2,456	38,875	16,616	134	55,624	58,080	21,688	22,655	28,936	50,991	72,679	14,599
	240	Nyandarua	3,220	11,145	4,189	181	15,514	18,734	27,029	5,832	7,654	13,486	40,515	21,780
	250	Nyeri	15,240	9,608	10,542	229	20,578	35,818	48,653	6,775	14,625	21,401	69,454	30,615
Total in Central Province			67,078	232,727	37,850	705	271,283	338,361	176,234	108,306	68,170	176,476	352,711	67,014
Coast	310	Kilifi	21,517	2,416	9,592	0	12,008	33,925	41,078	3,161	24,135	27,296	68,374	34,449
	320	Kwale	7,844	2,160	7,727	14	9,901	17,745	8,204	2,166	21,254	23,420	31,625	13,879
	330	Lamu	695	1,085	1,144	0	2,229	2,924	5,741	472	1,772	2,244	7,985	5,061
	340	Mombasa	70,000	1,053	12,700	0	13,753	83,753	111,951	9,360	6,976	16,336	128,287	44,534
	350	Taka	7,169	4,620	1,603	0	6,223	13,392	11,845	4,649	1,929	6,578	18,423	5,031
	360	Tana River	328	6,400	265	0	6,665	6,993	8,415	5,364	1,239	6,603	15,018	8,023
	Total in Coast Province			107,953	17,734	33,032	14	50,779	158,732	157,235	25,172	57,306	82,478	269,712
Eastern	410	Erabu	4,193	32,020	2,119	22	34,161	38,354	15,748	13,564	7,355	20,919	36,667	0
	420	Isiolo	4,423	256	919	4	1,179	5,604	15,350	799	915	1,714	17,064	11,460
	430	Kiuri	3,000	645	1,415	7	2,068	5,068	5,166	10,135	7,050	17,185	22,351	17,283
	440	Marsaba	8,721	31,451	3,231	12	34,694	43,415	60,444	13,639	11,556	25,195	85,639	42,223
	450	Marsabit	563	783	1,043	0	1,827	2,390	18,162	2,872	1,395	4,266	22,429	20,039
	460	Meru	5,059	4,080	5,166	6	9,191	14,250	22,725	8,472	11,294	19,766	42,491	28,241
	470	Nyambene	400	13,086	2,745	36	15,866	16,266	1,725	24,922	7,962	32,884	34,608	18,342
	480	Tharaka Nithi	355	8,896	247	3	9,146	9,501	2,577	18,292	913	19,205	21,781	12,280
	490	Mwingi	300	243	1,038	5	1,285	1,585	5,129	10,674	5,670	16,345	21,474	19,889
	4A0	Makueni	3,000	3,675	6,375	6	10,056	13,056	7,800	11,488	15,617	27,105	34,905	21,849
Total in Eastern Province			30,016	95,136	24,238	101	119,475	149,490	154,826	114,856	69,727	184,583	339,409	191,606
North East	510	Garissa	1,563	667	1,661	0	2,322	3,891	14,436	3,070	2,255	5,325	19,761	15,870
	520	Mandera	640	494	632	0	1,126	1,766	11,286	5,653	2,432	8,084	19,371	17,604
	530	Wajir	315	1,895	279	0	2,085	2,400	11,644	6,314	331	6,644	18,288	15,888
Total in North Eastern Province			2,518	2,966	2,573	0	5,539	8,057	37,367	15,037	5,017	20,053	57,420	49,363
Nyanza	610	Gusii	6,000	4,428	11,560	74	16,061	22,061	16,960	6,018	59,729	65,747	82,707	60,646
	620	Kisumu	15,308	16,042	1,222	22	17,286	32,593	84,826	27,261	4,919	32,180	117,005	84,412
	630	Siaya	770	12,554	153	134	12,841	13,611	9,467	34,045	868	34,914	44,380	30,769
	640	Homa Bay	7,960	2,117	869	353	3,339	11,319	27,743	39,544	4,463	44,007	71,749	60,431
	650	Migori	1,501	409	2,539	78	3,026	4,527	10,116	7,513	22,110	29,624	39,740	35,213
	660	Nyamira	466	1,347	3,010	15	4,372	4,838	5,991	5,215	9,565	14,780	20,771	15,933
Total in Nyanza Province			32,025	36,897	19,352	675	56,924	88,949	155,102	119,596	101,655	221,251	376,332	287,403
Rift Valley	710	Kajiado	10,444	5,380	5,529	8	10,917	21,361	34,722	4,710	6,907	11,617	46,339	24,978
	720	Kipsigis	9,264	887	5,943	106	6,936	16,200	25,697	780	27,466	28,266	53,963	37,764
	730	Lakipia	6,800	21	1,269	26	1,315	8,115	20,612	1,644	5,176	6,821	27,432	19,317
	740	Nakuru	31,881	1,754	11,491	1,217	14,462	46,343	145,336	6,339	15,428	21,767	167,103	120,760
	750	Narok	1,315	2,049	1,443	72	3,564	4,879	10,873	11,486	10,550	22,035	32,908	28,029
	760	Trans Nzoia	12,749	0	5,058	28	5,086	17,835	33,317	0	21,873	21,873	55,190	37,355
	770	Uasin Gishu	38,900	8,367	4,973	6	13,346	52,246	62,787	8,379	5,343	13,721	76,508	24,263
	780	Bomet	0	2,873	5,463	349	8,686	8,686	0	4,319	30,816	35,135	35,135	26,449
	790	Transmara	864	25	400	39	464	1,328	3,886	8,281	4,511	12,792	16,677	15,350
	810	Baricho	10,054	1,411	1,310	172	2,894	12,948	35,047	1,715	4,366	6,080	41,128	28,180
	820	Elgeyo Marakwet	460	3,223	1,825	0	5,048	5,508	2,110	5,737	9,362	15,099	17,208	11,700
	830	Nandi	624	1,092	7,071	34	8,196	8,230	6,303	5,069	25,705	30,775	37,078	28,257
	840	Samburu	710	3,872	638	6	4,516	5,227	6,722	4,580	638	5,217	11,540	6,713
	850	Turkana	2,898	1,076	1,078	0	2,154	5,052	12,872	5,919	2,992	8,912	21,784	16,732
850	West Pokot	622	3,114	592	8	3,714	4,336	7,299	9,061	2,158	11,218	18,518	14,181	
Total in Rift Valley Province			127,585	35,146	54,681	2,072	91,296	216,884	407,583	78,017	173,311	251,328	658,911	440,027
Western	910	Bungoma	9,400	10,883	2,521	19	13,423	22,823	73,417	30,685	7,420	38,105	111,522	88,699
	920	Busia	2,231	3,532	7,168	5	10,705	12,936	17,181	6,892	13,597	20,429	37,610	24,674
	930	Kakamega	8,762	11,072	17,796	279	29,147	37,909	38,927	10,648	42,811	53,459	92,386	54,477
	940	Vihiga	2,215	2,509	6,608	350	9,467	11,682	36,349	9,224	15,537	24,761	61,119	49,427
Total in Western Province			22,608	27,997	34,093	653	62,742	85,356	165,674	57,449	79,305	136,755	302,628	217,278
TOTAL			78,783	448,602	205,218	4,220	658,041	1,366,824	2,005,907	518,433	554,491	1,072,924	3,078,830	1,766,358

Source : The Aftercare Study Team

Table - 7.1.1 Water Balance for Livestock Water Supply

(Unit : m³ / day)

Province	Code	District	Production Capacity for Livestock	Livestock Water Demand		Deficit	
				1995	2010	1995	2010
Nairobi	110	Nairobi	978	1,223	1,378	245	400
Central	210	Kiambu	2,907	3,633	4,095	727	1,188
	220	Kirinyaga	1,723	2,154	2,428	431	704
	230	Murang'a	3,098	3,872	4,364	774	1,266
	240	Nyandarua	5,110	6,388	7,199	1,278	2,089
	250	Nyeri	3,116	3,895	4,390	779	1,274
Coast	310	Kilifi	1,943	2,428	2,737	486	794
	320	Kwale	4,468	5,585	6,294	1,117	1,826
	330	Lamu	735	918	1,035	184	300
	340	Mombasa	140	176	198	35	57
	350	Taita	944	1,180	1,330	236	386
	360	Tana River	9,413	11,767	13,261	2,353	3,847
Eastern	410	Embu	3,298	4,123	4,646	825	1,348
	420	Isiolo	751	939	1,058	188	307
	430	Kitui	8,995	11,244	12,671	2,249	3,676
	440	Masaku	6,881	8,601	9,693	1,720	2,812
	450	Marsabit	6,603	8,253	9,301	1,651	2,698
	460	Meru	3,406	4,257	4,797	851	1,392
	470	Nyambene	2,943	3,679	4,146	736	1,203
	480	Tharaka Nithi	3,550	4,437	5,000	887	1,451
	490	Mwingi	4,337	5,421	6,109	1,084	1,772
	4A0	Makucni	53,214	66,518	74,963	13,304	21,749
North-Eastern	510	Garissa	44,381	55,476	62,520	11,095	18,138
	520	Mandera	10,132	12,665	14,272	2,533	4,141
	530	Wajir	17,413	21,766	24,530	4,353	7,117
Nyanza	610	Gusii	5,469	6,837	7,705	1,367	2,235
	620	Kisumu	7,270	9,087	10,241	1,817	2,971
	630	Siaya	7,826	9,783	11,025	1,957	3,199
	640	Homa Bay	4,392	5,490	6,187	1,098	1,795
	650	Migori	2,644	3,305	3,725	661	1,081
	660	Nyamira	4,890	6,112	6,888	1,222	1,998
Rift Valley	710	Kajiado	18,467	23,084	26,015	4,617	7,548
	720	Kipsigis	4,198	5,248	5,914	1,050	1,716
	730	Laikipia	4,923	6,153	6,935	1,231	2,012
	740	Nakuru	44,364	55,455	62,495	11,091	18,131
	750	Narok	10,476	13,095	14,758	2,619	4,282
	760	Trans Nzoia	2,364	2,955	3,330	591	966
	770	Uasin Gishu	6,552	8,190	9,230	1,638	2,678
	780	Bomet	7,440	9,300	10,481	1,860	3,041
	790	Transmara	3,939	4,924	5,549	985	1,610
	810	Baringo	29,367	36,709	41,370	7,342	12,002
	820	Elgeyo Marakwet	1,565	1,956	2,205	391	640
	830	Nandi	6,528	8,160	9,195	1,632	2,668
	840	Samburu	7,841	9,801	11,045	1,960	3,205
	850	Turkana	5,417	6,771	7,631	1,354	2,214
860	West Pokot	7,652	9,565	10,780	1,913	3,127	
Western	910	Bungoma	5,377	6,721	7,575	1,344	2,198
	920	Busia	3,323	4,153	4,680	831	1,358
	930	Kakamega	7,867	9,833	11,082	1,967	3,215
	940	Vihiga	3,376	4,220	4,755	844	1,380
TOTAL			414,006	517,508	583,210	103,502	169,204

Source : The Aftercare Study Team

Remarks : The present situation is assumed that 80 % of the 1995 demand is being fed from the existing facilities.

Table-7.2.1 New Surface Water Resources Development Potential by District

Province	Code	District	Catchment Area Code	Area (km ²)	Area of Perennial River Basin (km ²)	New Surface Water Development Potential (m ³ /day)	
Nairobi	110	Nairobi	3	693	578	16,978	
Central	210	Kiambu	2	393	393	18,095	
			3	1,923	1,602	30,457	
			4	271	271	37,349	
			Total	2,587	2,267	85,901	
	220	Kirinyaga	4	1,485	1,485	524,814	
			4	2,525	2,525	681,144	
			2	1,942	1,912	39,848	
			4	143	143	19,687	
			Total	3,373	3,373	1,265,513	
	250	Nyeri	4	2,231	2,231	134,951	
			5	1,035	1,035	796,245	
			Total	3,266	3,266	931,195	
	Coast	310	Kiifi	3	10,356	8,613	479,328
				4	2,670	2,670	720,283
				Total	13,026	11,283	1,199,611
310		Kwale	3	8,260	6,883	97,950	
330		Lamu	4	6,818	6,818	351,536	
340		Mombasa	3	282	235	623	
350		Tana	3	16,697	13,914	323,509	
			4	268	268	72,233	
			Total	16,965	14,182	395,742	
360		Tana River	4	35,782	35,000	1,804,800	
Eastern	410	Embu	4	2,805	2,805	73,432	
			4	2,894	2,894	149,213	
			Total	25,604	2,894	149,213	
	430	Kitui	3	958	799	18,555	
			4	18,934	17,489	998,960	
			Total	19,892	18,287	1,017,525	
	440	Maraka	3	4,005	3,338	79,100	
			4	2,244	2,244	605,318	
			Total	6,249	5,581	684,419	
	450	Marafit	2	10,821	0	0	
			5	61,469	0	0	
			Total	72,290	0	0	
	460	Meru	4	1,758	1,758	354,448	
			5	1,765	1,765	17,454	
			Total	3,523	3,523	371,902	
470	Nyambene	4	2,201	2,201	593,660		
		5	1,865	1,865	10,520		
		Total	4,066	4,066	604,180		
480	Thaka Nithi	4	2,295	2,295	462,672		
		4	9,911	9,911	2,673,591		
		Total	7,719	6,433	198,250		
North-Eastern	510	Garissa	4	27,981	2,981	153,700	
			5	15,411	0	0	
			Total	43,392	2,981	153,700	
520	Mandera	5	25,871	2,000	7,320		
		5	56,923	0	0		
		Total	82,794	2,000	7,320		
Nyanza	610	Gusii	1	1,252	1,112	77,127	
			1	2,077	1,845	158,894	
	630	Siaya	1	2,524	2,242	273,568	
	640	Homa Bay	1	3,105	2,739	255,577	
	650	Mogori	1	2,603	2,313	44,663	
	650	Nyamira	1	948	840	36,349	
	Rift Valley	710	Kajiado	2	7,833	7,833	362,816
3				13,873	11,561	356,306	
Total				21,706	19,444	718,922	
720		Kisumu	1	2,569	2,282	62,239	
			2	1,009	1,009	38,073	
			Total	8,153	4,124	428,749	
730		Laikipia	5	9,162	5,133	466,822	
			1	1,001	890	24,262	
			Total	6,489	6,189	233,557	
740		Nakuru	2	7,490	7,078	257,818	
			1	7,189	6,387	608,313	
			Total	7,939	7,939	138,926	
750		Narok	1	15,128	14,326	747,239	
			1	2,261	2,009	367,047	
			Total	206	206	3,316	
760		Trans Nzoia	1	2,467	2,215	270,363	
			2	206	206	3,316	
			Total	2,467	2,215	270,363	
770		Uasin Gishu	1	3,144	2,793	138,483	
			2	74	74	2,793	
	Total		3,218	2,867	141,278		
780	Bomet	1	2,371	2,106	771,855		
790	Transmara	1	2,874	2,533	243,177		
810	Baringo	1	34	30	971		
		2	10,920	10,800	1,478,599		
		Total	10,954	10,830	1,479,570		
820	Elgeyo Marakwet	1	1,153	1,024	13,380		
		2	1,896	1,896	259,562		
		Total	3,049	2,920	272,942		
830	Nandi	1	2,784	2,473	301,749		
840	Samburu	2	5,183	0	0		
		5	15,625	0	0		
		Total	20,808	0	0		
850	Tarkana	2	69,145	4,146	37,190		
		1	321	285	15,610		
		Total	8,616	8,616	434,938		
860	West Pokot	2	8,937	8,901	450,367		
		1	3,072	2,729	362,767		
		Total	1,652	1,468	69,978		
Western	910	Bungoma	1	3,072	2,729	362,767	
			1	1,652	1,468	69,978	
			1	3,020	2,683	871,712	
			Total	541	481	58,315	
TOTAL				581,787	254,419	21,217,952	

Source: The Aftercare Study Team

Table - 7.2.2 New Ground Water Resources Development Potential by District

Province	Code	District	Ground Water Safe Yield		Present Ground Water Abstraction		Potential of New Ground Water Development
			(m ³ /year)	(1000 m ³ /day)	(Million m ³ /year)	(1000 m ³ /day)	(1000 m ³ /day)
Nairobi	110	Nairobi	0	0.0	0.3	0.8	0.0
Central	210	Kiambu	772,015	2.1	0.9	2.4	0.0
	220	Kirinyaga	726,949	2.0	0.1	0.2	1.8
	230	Morang'a	2,656,352	7.3	0.1	0.3	7.0
	240	Nyandarua	1,423,619	3.9	0.2	0.5	3.4
	250	Nyeri	2,345,850	6.4	0.1	0.3	6.1
Total in Central Province			7,924,784	21.7	1.3	3.6	18.4
Coast	310	Kilifi	16,871,948	46.2	4.5	12.4	33.8
	320	Kwale	8,008,081	21.9	3.5	9.7	12.2
	330	Lamu	9,229,741	25.3	0.3	0.7	24.6
	340	Mombasa	151,009	0.4	0.1	0.3	0.1
	350	Taita	22,384,464	61.3	7.2	19.6	41.7
	360	Tana River	42,151,344	115.5	1.5	4.0	111.5
Total in Coast Province			98,796,588	270.7	17.1	46.8	223.8
Eastern	410	Embu	2,732,271	7.5	0.1	0.3	7.2
	420	Isiolo	37,007,461	101.4	0.5	1.4	100.0
	430	Kitui	25,432,970	69.7	1.1	3.1	66.6
	440	Masaku	8,567,411	23.5	1.8	4.9	18.5
	450	Marsabit	38,913,777	106.6	2.0	5.5	101.1
	460	Meru	1,517,887	4.2	0.1	0.3	3.9
	470	Nyambene	1,751,839	4.8	0.1	0.3	4.5
	480	Tharaka Nithi	988,802	2.7	0.1	0.2	2.5
	490	Mwingi	12,671,736	34.7	0.4	1.0	33.7
	4A0	Makueni	10,582,789	29.0	3.3	9.1	19.9
Total in Eastern Province			140,166,943	384.0	9.5	26.1	357.9
North-Eastern	510	Garissa	67,687,203	185.4	1.3	3.6	181.8
	520	Mandera	31,682,199	86.8	0.4	1.2	85.6
	530	Wajir	74,327,952	203.6	1.0	2.7	201.0
Total in North-Eastern Province			173,697,354	475.9	2.8	7.5	468.3
Nyanza	610	Gusii	1,747,200	4.8	0.3	0.7	4.1
	620	Kisumu	3,326,362	9.1	0.4	1.1	8.0
	630	Siaya	3,002,689	8.2	0.5	1.4	6.8
	640	Homa Bay	2,450,956	6.7	0.6	1.7	5.0
	650	Migori	2,832,594	7.8	0.5	1.4	6.3
	660	Nyamira	1,320,168	3.6	0.2	0.5	3.1
Total in Nyanza Province			14,679,969	40.2	2.5	6.9	33.3
Rift Valley	710	Kajiado	30,421,946	83.3	6.6	18.2	65.1
	720	Kipsigis	2,895,367	7.9	0.5	1.4	6.5
	730	Laikipia	6,082,168	16.7	0.2	0.6	16.0
	740	Nakuru	5,791,309	15.9	0.7	2.0	13.8
	750	Narok	12,686,723	34.8	2.1	5.9	28.9
	760	Trans Nzoia	2,214,920	6.1	0.5	1.3	4.8
	770	Uasin Gishu	1,608,293	4.4	0.6	1.7	2.7
	780	Bomet	2,672,213	7.3	0.5	1.3	6.0
	790	Transmara	2,410,209	6.6	0.6	1.6	5.0
	810	Baringo	7,348,560	20.1	1.0	2.7	17.5
	820	Elgeyo Marakwet	4,594,940	12.6	0.4	1.1	11.5
	830	Nandi	3,022,057	8.3	0.6	1.5	6.7
	840	Samburu	16,411,370	45.0	0.7	2.0	43.0
	850	Turkana	56,452,299	154.7	6.1	16.7	137.9
860	West Pokot	12,604,414	34.5	0.8	2.3	32.3	
Total in Rift Valley Province			167,216,787	458.1	22.0	60.4	397.8
Western	910	Bungoma	2,167,042	5.9	0.6	1.7	4.2
	920	Busia	2,024,905	5.5	0.3	0.9	4.6
	930	Kakamega	3,334,406	9.1	0.6	1.7	7.5
	940	Vihiga	597,322	1.6	0.1	0.3	1.3
Total in Western Province			8,123,675	22.3	1.7	4.6	17.7
TOTAL			610,606,099	1,672.9	57.2	156.7	1,517.2

Source : The Aftercare Study Team

Table-7.3.1 (1/3) Water Resources Development Plan for Urban Water Supply

Province	Code	District	Code	Urban Center Name	Required New Development		Water Resources Development for 1995		Water Resources Development for 2010		Future Water Source		
					1995	2010	G.W.	S.W.	G.W.	S.W.			
					(m ³ /day)	(m ³ /day)	(m ³ /day)	(m ³ /day)	(m ³ /day)	(m ³ /day)			
Nairobi	110	Nairobi	U - 1	Nairobi	12,823	402,687	0	12,823	0	402,687	Thika Dam, Nderegu, Rutru-A, Chania-B		
Central	210	Kiambu	U - 2	Githungori	665	1,940	0	665	0	1,940	Ruiru River		
			U - 3	Karuri	0	0	0	0	0	0			
			U - 4	Kiambu	0	0	0	0	0	0			
			U - 5	Kikuyu	0	1,393	0	0	0	1,393	Kikuyu Dam		
			U - 7	Njumbere	0	3,393	0	0	2,113	1,280	Boreholes, Surface Water		
			U - 8	Ruiru	4,574	14,137	0	4,574	0	14,137	Ruiru River		
			U - 9	Thika	0	536	0	0	0	536	Chania River		
			Sub-total				5,239	21,398	0	5,239	2,113	19,286	
			220	Kirinyaga	U - 12	Kerugoya/Kutus	0	5,247	0	0	0	5,247	Kiringa River, Thiba River
	U - 16	Wanguru			0	0	0	0	0	0			
	Sub-total				0	5,247	0	0	0	5,247			
	230	Meranga	U - 19	Makuyu	0	0	0	0	0	0	0		
			U - 20	Maragua	0	1,927	0	0	0	1,927	Githanji River		
			U - 21	Muranga	0	11,412	0	0	0	11,412	Maragua River		
	Sub-total				0	13,339	0	0	0	13,339			
240	Nyandarua	U - 28	Nyahururu	2,334	18,406	0	2,334	0	18,406	Nyahururu Dam			
		U - 30	Olkaria	0	539	0	0	0	539	Malwa River			
Sub-total				2,334	18,944	0	2,334	0	18,944				
250	Nyeri	U - 32	Endarasha	0	0	0	0	0	0	0			
		U - 33	Karatina	745	4,903	0	745	0	4,903	Ragati River			
		U - 36	Nyeri	0	28,798	0	0	0	28,798	Chania River			
		U - 37	Othaya	0	0	0	0	0	0	0			
Sub-total				745	33,700	0	745	0	33,700				
Total in Central Province					8,318	92,628	0	8,318	2,113	90,516			
Coastal	310	Kiifi	U - 38	Kiifi	0	2,014	0	0	0	2,014	Rare Reservoir		
			U - 39	Majengo	0	805	0	0	177	628	Boreholes, Surface Water		
			U - 40	Malindi	3,239	13,584	0	3,239	0	13,584	Sabaki Pipeline, Rare Dam		
			U - 41	Mamburui	0	0	0	0	0	0	0		
			U - 42	Mariakani	0	586	0	0	0	586	2nd Mzima Pipeline		
			U - 43	Watamu	867	1,334	0	867	0	1,334	Sabaki Pipeline		
	Sub-total				4,106	18,323	0	4,106	177	18,146			
	320	Kwale	U - 44	Kwale	0	0	0	0	0	0	0		
			U - 45	Lunga Lunga	4	637	0	4	0	637	Umba River		
			U - 46	Msambweni	794	4,937	0	794	0	4,937	Mkurumuji River		
	Sub-total				798	5,574	0	798	0	5,574			
	330	Lamu	U - 47	Lamu	0	568	0	0	0	568	Pipeline from Tana River		
			U - 49	Mokowe T.C	108	1,516	0	108	0	1,516	Tana River		
	Sub-total				108	2,084	0	108	0	2,084			
	340	Mombasa	U - 52	Mombasa	0	0	0	0	0	0			
350	Taita	U - 54	Taveta	0	0	0	0	0	0	0			
		U - 55	Voi	0	4,653	0	0	0	4,653	2nd Mzima Pipeline			
		U - 56	Wundanyi	0	666	0	0	0	666	Sigaso/Manguri River			
Sub-total				0	5,319	0	0	0	5,319				
360	Tana River	U - 58	Garsen	79	2,996	0	79	0	2,996	Tana River			
		U - 59	Hola	0	2,306	0	0	0	2,306	Tana River			
Sub-total				79	5,302	0	79	0	5,302				
Total in Coastal Province					5,091	36,603	4	5,088	1,480	35,123			
Eastern	410	Embu	U - 60	Embu	88	9,297	0	88	0	9,297	Kapingazi River, Rupingazi River		
			U - 61	Runyenjes	433	1,560	0	433	0	1,560	Era River		
	Sub-total				521	10,856	0	521	0	10,856			
	420	Kioko	U - 63	Isiolo	985	9,526	985	0	9,526	0	Boreholes		
			U - 64	Medo Gashe	0	0	0	0	0	0	0		
			U - 65	Merii	105	383	0	105	0	383	Surface Water		
	Sub-total				1,090	9,910	985	105	9,526	383			
	430	Kitui	U - 68	Kitui	0	0	0	0	0	0			
	440	Masaku	U - 69	Athi River	0	1,158	0	0	0	1,158	Upper Athi Dam		
			U - 71	Machakos	0	27,229	0	0	0	27,229	Athi River Pipeline		
U - 74			Matuu	766	4,506	0	766	0	4,506	Surface Water			
U - 77			Kangundo/Tala	1,462	6,885	0	1,462	0	6,885	Pipeline from Athi River			
Sub-total				2,228	39,777	0	2,228	0	39,777				

Table-7.3.1 (2/3) Water Resources Development Plan for Urban Water Supply

Province	Code	District	Code	Urban Center Name	Required New Development		Water Resources		Water Resources		Future Water Source
					1995	2010	Development for 1995		Development for 2010		
					(m ³ /day)	(m ³ /day)	G.W. (m ³ /day)	S.W. (m ³ /day)	G.W. (m ³ /day)	S.W. (m ³ /day)	
Eastern	450	Marsabit	U - 79	Kargi	181	1,789	181	0	1,789	0	Boreholes
			U - 80	Korr	221	1,829	221	0	1,829	0	Boreholes
			U - 82	Marsabit	0	2,027	0	0	2,027	0	Boreholes
			U - 83	Moyale	0	1,966	0	0	1,966	0	Boreholes
			U - 84	North Horr	301	803	301	0	803	0	Boreholes
			U - 85	Sololo	0	840	0	0	840	0	Boreholes
		Sub-total			702	9,253	702	0	9,253	0	
	460	Meru	U - 86	Meru	0	12,668	0	0	12,668	0	Kahita River
			U - 87	Nruru	154	4,806	0	154	4,806	0	Thingithu River
		Sub-total			154	17,474	0	154	17,474	0	
	470	Nyambene	U - 89	Maua	0	1,325	0	0	1,325	0	Ura River
	480	Tharaka Nithi	U - 90	Chuka	0	1,222	0	0	1,222	0	Tungu River
490	Mwingi	U - 91	Mwingi	1,300	4,529	0	1,300	4,529	0	Kiambere Dam	
440	Makueni	U - 93	Kibwezi	0	1,052	0	0	1,052	0	Pipeline from Athi River	
		U - 98	Mtito Andei	0	3,748	0	0	3,748	0	Surface Water	
	Sub-total			0	4,800	0	0	4,800	0		
Total in Eastern Province					5,996	99,147	1,687	4,309	18,780	80,367	
North Eastern	510	Garissa	U - 104	Garissa	0	0	0	0	0	0	
			U - 105	Liboi	652	2,015	0	652	2,015	0	Surface Water
			Sub-total		652	2,015	0	652	2,015	0	
	520	Mandera	U - 108	Elwak	0	1,869	0	0	1,869	0	Boreholes
			U - 109	Mandera	0	637	0	0	637	0	Daua River
			U - 110	Rhamu	591	4,027	0	591	4,027	0	Daua River
		Sub-total			591	6,533	0	591	1,869	4,664	
	530	Wajir	U - 113	Bute	0	522	0	0	522	0	Boreholes
			U - 114	Eldas	571	1,636	571	0	1,636	0	Boreholes
			U - 116	Wajir	132	9,088	132	0	9,088	0	Boreholes
		Sub-total			703	11,246	703	0	11,246	0	
	Total in North Eastern Province					1,945	19,794	703	1,242	13,115	6,679
Nyanza	610	Gusii	U - 117	Kisii	0	8,960	0	0	8,960	0	Bunyonyu Dam
			U - 119	Ahero	38	94	0	38	94	0	Nyando River
			U - 120	Kisumu	26,679	60,750	0	26,679	60,750	0	Kibos Dam
			U - 121	Maseno	4,406	8,045	0	4,406	8,045	0	Edzawa Dam
			U - 122	Muhoroni	0	0	0	0	0	0	
		Sub-total			31,123	68,849	0	31,123	68,849	0	
	630	Siaya	U - 123	Asiro	0	1,334	0	0	1,334	0	Surface Water
			U - 125	Siaya	0	4,410	0	0	4,410	0	Yala River
		Sub-total			0	5,745	0	0	5,745	0	
	640	Homa Bay	U - 129	Homa Bay	4,482	11,524	0	4,482	11,524	0	Lake Victoria
			U - 130	Kendu Bay	548	2,185	0	548	2,185	0	Lake Victoria
			U - 131	Mbita	0	1,639	0	0	1,639	0	Surface Water
U - 133			Oyugis	0	1,755	0	0	1,755	0	Esanta River (Awach Tende)	
	Sub-total			5,030	17,103	0	5,030	17,103	0		
650	Migori	U - 134	Awendo	0	0	0	0	0	0		
		U - 135	Kenhacha	0	0	0	0	0	0		
		U - 136	Migori	0	0	0	0	0	0		
		U - 137	Nyabikaye	0	1,167	0	0	1,167	0	Boreholes	
		U - 138	Rongo	225	1,608	0	225	1,608	0	Surface Water	
	Sub-total			225	2,775	0	225	1,167	1,608		
660	Nyamira	U - 139	Keruka	0	762	0	0	762	0	Bunyonyu Dam	
		U - 140	Nyamira	0	2,699	0	0	2,699	0	Kuja River	
	Sub-total			0	3,461	0	0	3,461	0		
Total in Nyanza Province					36,377	106,933	0	36,377	1,167	105,766	
Rift Valley	710	Kajiado	U - 141	Kajiado	0	628	0	0	628	0	Kiserian Pipeline
			U - 142	Magadi	0	4,770	0	0	4,770	0	Oloibortoto River
			U - 143	Namanga	0	1,735	0	0	1,735	347	Boreholes, Namanga Spring
			U - 144	Ngong	0	0	0	0	0	0	
			U - 145	Loitokitok	885	11,257	527	358	527	10,730	Boreholes, Nol-Turesh Spring
			U - 146	Ongata Longai	0	0	0	0	0	0	
			Sub-total		885	18,390	527	358	874	17,516	
	720	Kipsigis	U - 148	Kericho	0	13,707	0	0	13,707	0	Dimitich Dam, Kimungu Dam
			U - 149	Kipkelion	0	0	0	0	0	0	
			U - 151	Loosdiani	0	0	0	0	0	0	
			U - 152	Setik	0	1,453	0	0	1,453	0	Kipsinai River
			Sub-total		0	15,161	0	0	15,161	0	

Table-7.3.1 (3/3) Water Resources Development Plan for Urban Water Supply

Province	Code	District	Code	Urban Center Name	Required New Development		Water Resources Development for 1995		Water Resources Development for 2010		Future Water Source
					1995 (m ³ /day)	2010 (m ³ /day)	G.W. (m ³ /day)	S.W. (m ³ /day)	G.W. (m ³ /day)	S.W. (m ³ /day)	
Rift Valley	730	Laikipia	U-153	Nanyuki	0	10,120	0	0	0	10,120	Liki River
			U-154	Rumuruti	0	47	0	0	0	47	Rumuruti Dam
			Sub-total		0	10,167	0	0	0	10,167	
	740	Nakuru	U-155	Elburgon	331	1,776	0	331	0	1,776	Itare Dam
			U-156	Gilgil	124	2,050	0	124	0	2,050	Turasha Pipeline, Malewa Dam
			U-157	Molo	388	2,796	0	388	0	2,796	Itare Dam
			U-158	Naivasha	5,521	16,598	0	5,521	0	16,598	Turasha Pipeline, Malewa Dam
			U-159	Nakuru	2,244	75,578	0	2,244	0	75,578	Turasha Pipeline, Malewa Dam, Itare Dam
			U-160	Njoro	412	1,616	0	412	0	1,616	Itare Dam
			Sub-total		9,020	100,414	0	9,020	0	100,414	
	750	Narok	U-163	Narok	326	9,558	0	326	0	9,558	Upper Narok Dam
	760	Trans Nzoia	U-164	Kitale	0	16,318	0	0	0	16,318	Kitobos River
	770	Uasin Gishu	U-165	Burnt Forest	0	0	0	0	0	0	0
			U-166	Elmeret	0	17,518	0	0	0	17,518	Mosiben Dam, Nzoia River
			U-167	Lemok	0	1,627	0	0	0	1,627	Surface Water
			U-169	Moi's Bridge	0	0	0	0	0	0	0
			U-170	Simat	0	3,015	0	0	726	2,289	Boreholes, Surface Water
			Sub-total		0	995	0	0	0	995	Sosiani River
	790	Transmara	U-174	Kilgoris	324	2,734	0	324	0	2,734	Poroko River
	810	Baringo	U-178	Eldja Ravine	0	0	0	0	0	0	0
			U-179	Kararnet	14,328	25,974	0	14,328	0	25,974	Kirandich Dam
			U-180	Maji Mazuri	0	103	0	0	0	103	Maji Mazuri River
			U-181	Marigal	0	0	0	0	0	0	0
U-182			Mogotio	0	439	0	0	0	439	Molo River, Chemususu Dam	
		Sub-total		14,328	26,516	0	14,328	0	26,516		
820	Elgeyo Marakwet	U-183	Iten	0	0	0	0	0	0	0	
830	Nandi	U-185	Kapsabet	0	1,460	0	0	0	1,460	Mokong River	
840	Samburu	U-188	Maralal	0	362	0	0	0	362	Leikas River, Yamo River	
		U-189	Wamba	429	4,597	429	0	4,597	0	Boreholes	
		Sub-total		429	4,960	429	0	4,597	362		
850	Turkana	U-190	Kakuma F.C	1,326	2,957	1,326	0	2,957	0	Boreholes	
		U-191	Kalokol	0	0	0	0	0	0	0	
		U-194	Lejwar	0	140	0	0	140	0	Boreholes	
		U-195	Lekitang	0	0	0	0	0	0	0	
				Sub-total		1,326	3,097	1,326	0	3,097	0
860	West pokot	U-197	Kapenguria	179	3,182	0	179	0	3,182	Kapenguria River, Kapolet River	
		U-198	Makutano	348	3,187	0	348	0	3,187	Kapenguria River, Kapolet River	
		Sub-total		527	6,369	0	527	0	6,369		
Total in Rift Valley Province					27,165	238,299	2,282	24,883	9,294	229,005	
Western	910	Bungoma	U-199	Bungoma	0	9,480	0	0	0	9,480	Kaywa River
			U-200	Cheptais	0	0	0	0	0	0	
			U-202	Kimilili	9,822	36,321	0	9,822	0	36,321	Kimilili River
			U-203	Malakisi	0	1,215	0	0	0	1,215	Malakisi River
			U-205	Webuye	3,639	14,940	0	3,639	0	14,940	Nzoia River
			Sub-total		13,461	61,956	0	13,461	0	61,956	
	920	Busia	U-206	Busia	0	4,231	0	0	0	4,231	Sio River
			U-207	Malaba Town	0	0	0	0	0	0	
			U-208	Nambale	19	976	0	19	0	976	Sio River
			Sub-total		19	5,207	0	19	0	5,207	
	930	Kakamega	U-209	Butere	35	3,653	0	35	0	3,653	Viratsi River
			U-210	Kakamega	0	14,596	0	0	0	14,596	Isiokhu River, Makuhisi Dam
			U-211	Mumias	0	6,950	0	0	0	6,950	Nzoia River
		Sub-total		35	25,198	0	35	0	25,198		
940	Vihiga	U-213	Maseno Luanda	7,737	23,174	2,491	5,246	0	23,174	Edzawa River	
		U-214	Mbale	0	0	0	0	0	0		
		U-215	Vihiga Majengo	0	0	0	0	0	0		
		Sub-total		7,737	23,174	2,491	5,246	0	23,174		
Total in Western Province					21,252	115,535	2,491	18,761	0	115,535	
TOTAL IN KENY					118,966	1,111,626	7,166	111,800	45,949	1,065,677	

Source : The Aftercare Study Team

Note : G.W. : Ground Water S.W.: Surface Water

Table - 7.3.2 Water Resources Development Plan for Large Scale Water Supply

Province	Code	District	Required New Development		Water Resources Development for 1995		Water Resources Development for 2010	
			1995 (m ³ /day)	2010 (m ³ /day)	G.W. (m ³ /day)	S.W. (m ³ /day)	G.W. (m ³ /day)	S.W. (m ³ /day)
Nairobi	110	Nairobi	0	0	0	0	0	0
Central	210	Kiambu	0	0	0	0	0	0
	220	Kirinyaga	0	0	0	0	0	0
	230	Murang'a	0	0	0	0	0	0
	240	Nyandarua	0	0	0	0	0	0
	250	Nyeri	0	0	0	0	0	0
Sub-total			0	0	0	0	0	0
Coast	310	Kitifi	0	0	0	0	0	0
	320	Kwale	0	0	0	0	0	0
	330	Lamu	0	0	0	0	0	0
	340	Mombasa	0	3,106	0	0	0	3,106
	350	Taita	0	0	0	0	0	0
	360	Tana River	0	0	0	0	0	0
Sub-total			0	3,106	0	0	0	3,106
Eastern	410	Embu	0	0	0	0	0	0
	420	Isiolo	0	0	0	0	0	0
	430	Kitui	0	0	0	0	0	0
	440	Masaku	0	0	0	0	0	0
	450	Marsabit	0	0	0	0	0	0
	460	Meru	0	0	0	0	0	0
	470	Nyambene	0	0	0	0	0	0
	480	Tharaka Nithi	0	0	0	0	0	0
	490	Mwingi	0	6,815	0	0	0	6,815
	4A0	Makueni	0	0	0	0	0	0
Sub-total			0	6,815	0	0	0	6,815
North-Eastern	510	Garissa	0	0	0	0	0	0
	520	Mandera	0	2,594	0	0	0	2,594
	530	Wajir	1,594	665	1,594	0	665	0
Sub-total			1,594	3,258	1,594	0	665	2,594
Nyanza	610	Gusii	0	0	0	0	0	0
	620	Kisumu	0	0	0	0	0	0
	630	Siaya	0	0	0	0	0	0
	640	Homa Bay	0	0	0	0	0	0
	650	Migori	0	0	0	0	0	0
	660	Nyamira	0	0	0	0	0	0
Sub-total			0	0	0	0	0	0
Rift Valley	710	Kajiado	0	0	0	0	0	0
	720	Kipsigis	0	0	0	0	0	0
	730	Laikipia	0	0	0	0	0	0
	740	Nakuru	0	0	0	0	0	0
	750	Narok	0	5,975	0	0	0	5,975
	760	Trans Nzoia	0	0	0	0	0	0
	770	Uasin Gishu	0	0	0	0	0	0
	780	Bomet	0	0	0	0	0	0
	790	Transmara	0	7,122	0	0	0	7,122
	810	Baringo	0	0	0	0	0	0
	820	Elgeyo Marakwet	0	0	0	0	0	0
	830	Nandi	0	0	0	0	0	0
	840	Samburu	0	0	0	0	0	0
	850	Turkana	0	2,544	0	0	0	2,544
860	West Pokot	0	0	0	0	0	0	
Sub-total			0	15,641	0	0	0	15,641
Western	910	Bungoma	0	433	0	0	0	433
	920	Busia	0	0	0	0	0	0
	930	Kakamega	0	0	0	0	0	0
	940	Vihiga	3,156	6,598	0	3,156	0	6,598
Sub-total			3,156	7,032	3,156	0	0	7,032
TOTAL			4,750	35,852	4,750	0	665	35,187

Source : The Aftercare Study Team

Table - 7.3.3 Water Resources Development for Small Scale Rural Water Supply

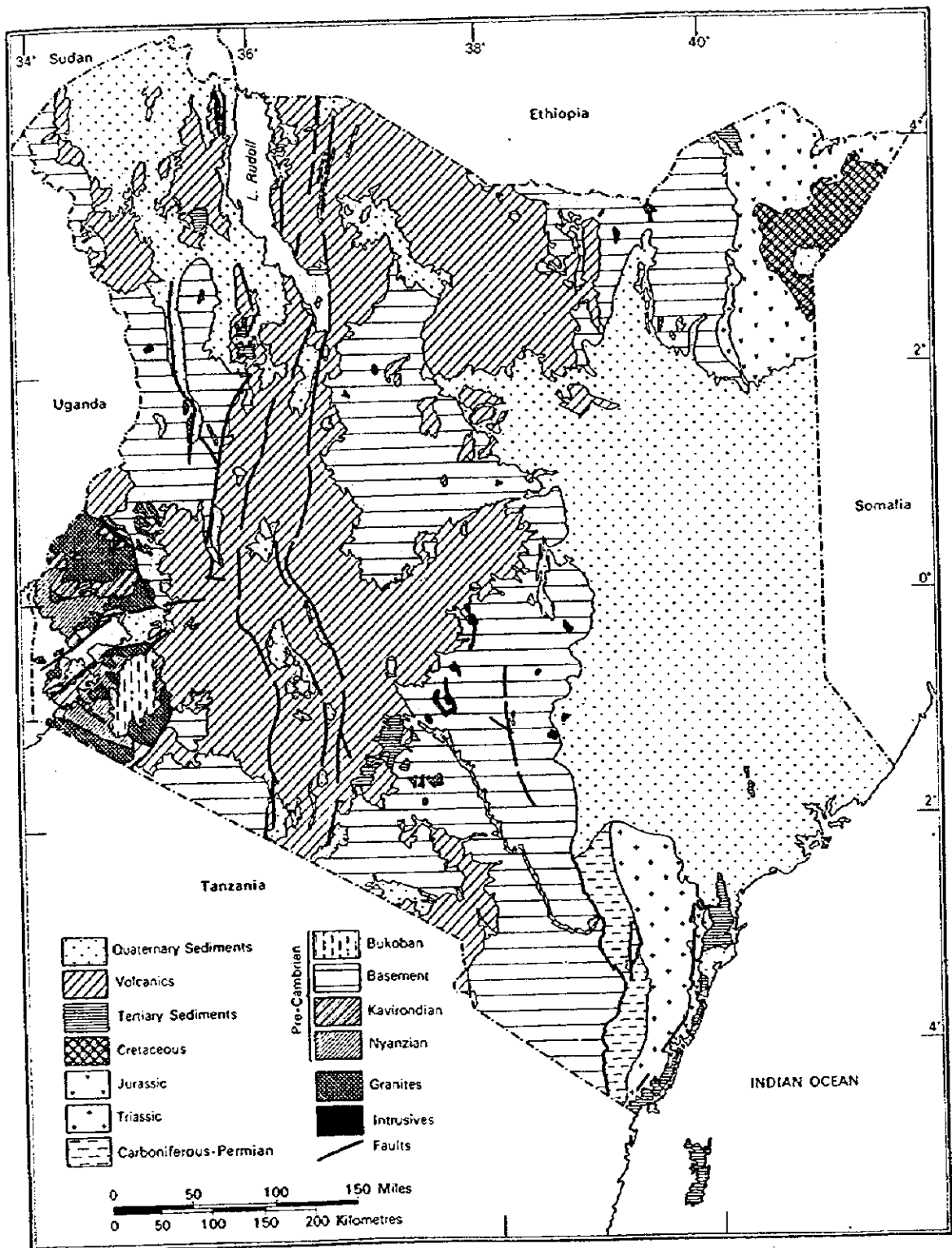
Province	Code	District	Required New Development		Water Resources		Water Resources	
			1995	2010	Development for 1995		Development for 2010	
			(m ³ /day)	(m ³ /day)	G.W. (m ³ /day)	S.W. (m ³ /day)	G.W. (m ³ /day)	S.W. (m ³ /day)
Central	210	Kiambu	0	6,730	0	0	0	6,730
	220	Kirinyaga	0	0	0	0	0	0
	230	Murang'a	0	10,478	0	0	10,478	0
	240	Nyandarua	0	0	0	0	0	0
	250	Nyeri	0	0	0	0	0	0
Sub-total			0	17,208	0	0	10,478	6,730
Coast	310	Kilifi	0	13,804	0	0	13,804	0
	320	Kwale	0	11,883	0	0	11,883	0
	330	Lamu	0	207	0	0	207	0
	340	Mombasa	0	0	0	0	0	0
	350	Taita	0	0	0	0	0	0
	360	Tana River	0	694	0	0	694	0
Sub-total			0	26,588	0	0	26,588	0
Eastern	410	Embu	0	3,694	0	0	3,694	0
	420	Isiolo	0	0	0	0	0	0
	430	Kitui	0	5,112	0	0	5,112	0
	440	Masaku	0	7,785	0	0	7,785	0
	450	Marsabit	0	0	0	0	0	0
	460	Meru	0	0	0	0	0	0
	470	Nyambene	0	4,362	0	0	4,362	0
	480	Tharaka Nithi	0	626	0	0	626	0
	490	Mwingi	0	2,985	0	0	2,497	488
	4A0	Makueni	0	7,671	0	0	7,671	0
Sub-total			0	32,234	0	0	31,746	488
North-Eastern	510	Garissa	0	151	0	0	151	0
	520	Mandera	0	1,199	0	0	905	294
	530	Wajir	0	51	0	0	51	0
Sub-total			0	1,402	0	0	1,107	294
Nyanza	610	Gusii	0	47,036	0	0	4,098	42,938
	620	Kisumu	0	3,483	0	0	3,483	0
	630	Siaya	0	0	0	0	0	0
	640	Homa Bay	0	2,844	0	0	2,844	0
	650	Migori	0	19,486	0	0	19,486	0
	660	Nyamira	0	6,160	0	0	3,096	3,064
Sub-total			0	79,009	0	0	33,008	46,002
Rift Valley	710	Kajiado	0	561	0	0	561	0
	720	Kipsigis	0	20,199	0	0	6,519	13,680
	730	Laikipia	0	3,379	0	0	3,379	0
	740	Nakuru	0	2,378	0	0	2,378	0
	750	Narok	0	2,987	0	0	2,243	744
	760	Trans Nzoia	0	16,358	0	0	4,774	11,584
	770	Uasin Gishu	0	0	0	0	0	0
	780	Bomet	0	24,327	0	0	6,016	18,311
	790	Transmara	0	0	0	0	0	0
	810	Baringo	0	0	0	0	0	0
	820	Elgeyo Marakwe	0	4,655	0	0	4,655	0
	830	Nandi	0	17,822	0	0	6,747	11,075
	840	Samburu	0	0	0	0	0	0
850	Turkana	0	0	0	0	0	0	
860	West Pokot	0	0	0	0	0	0	
Sub-total			0	92,666	0	0	37,272	55,394
Western	910	Bungoma	0	4,381	0	0	3,188	1,193
	920	Busia	0	5,249	0	0	5,249	0
	930	Kakamega	0	24,543	0	0	7,473	17,070
	940	Vihiga	0	8,690	0	0	1,339	7,351
Sub-total			0	42,862	0	0	17,249	25,613
TOTAL			0	291,969	0	0	157,447	134,522

Source : The Aftercare Study Team

*- PART IV : WATER RESOURCE DEVELOPMENT
PLAN -*

FIGURES

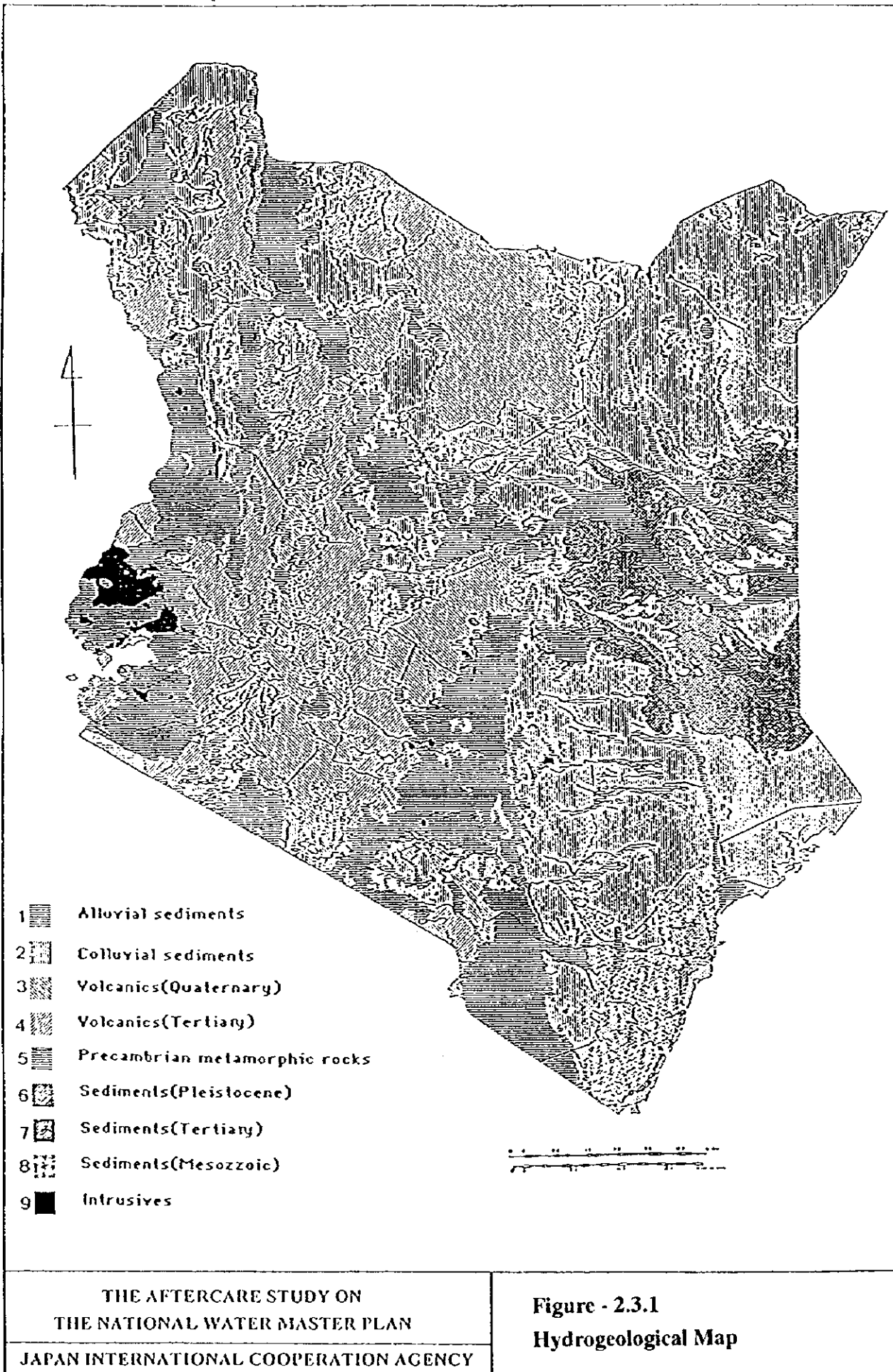


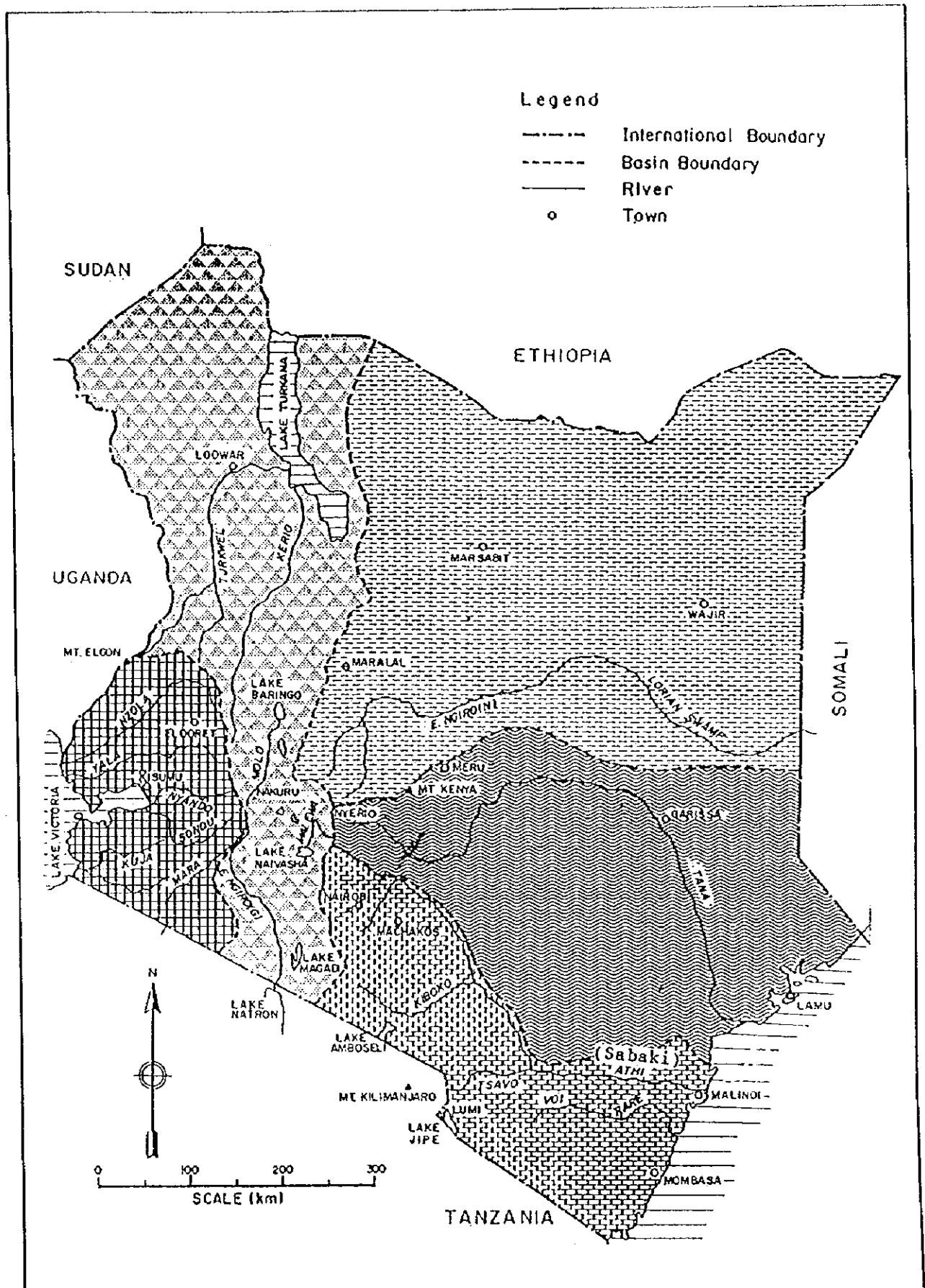


Data source: KENYA A study in physical and Human Geograph (F F Ojany et. al. 1988)

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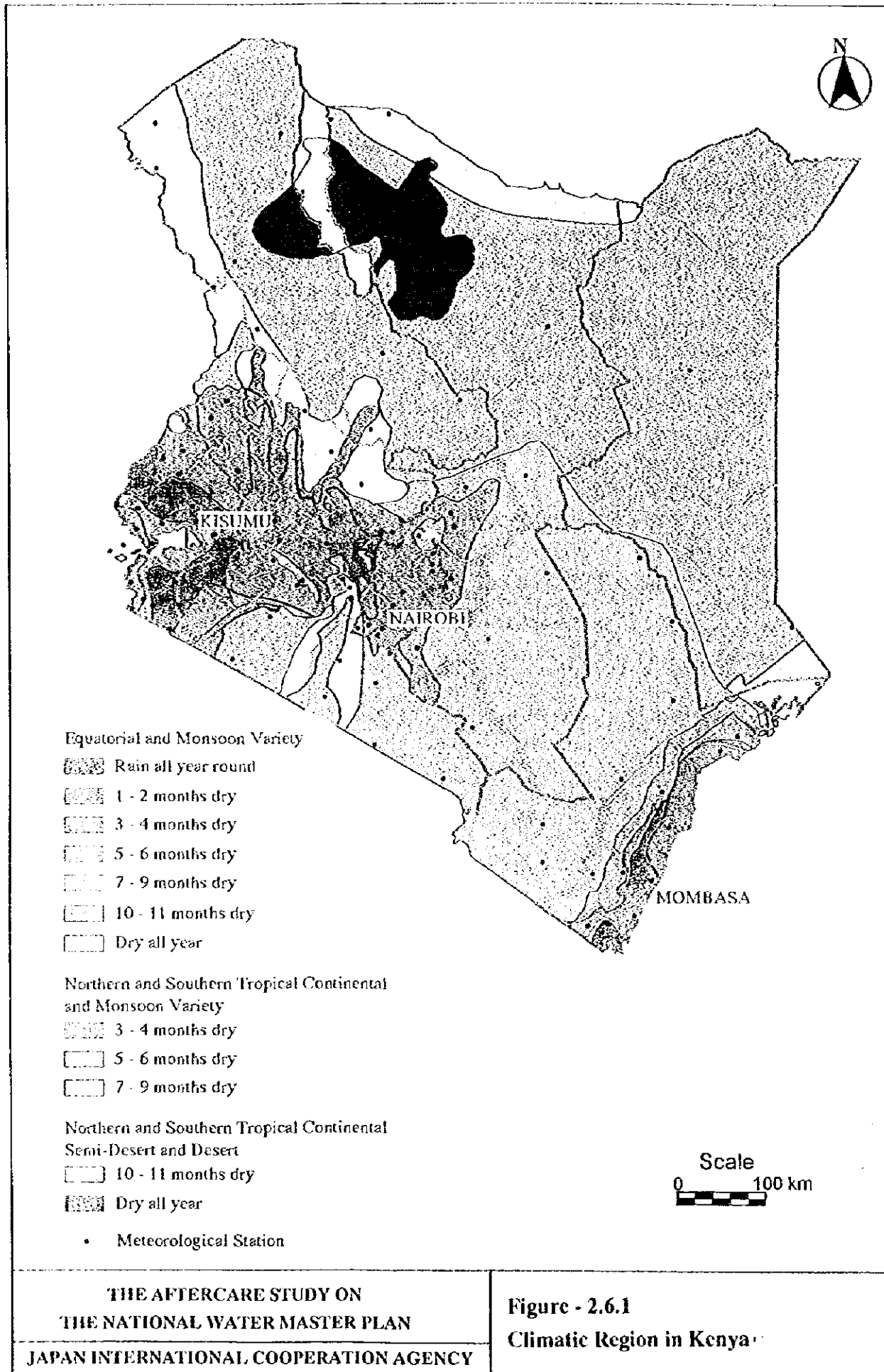
Figure - 2.2.1
Geological Map of Kenya

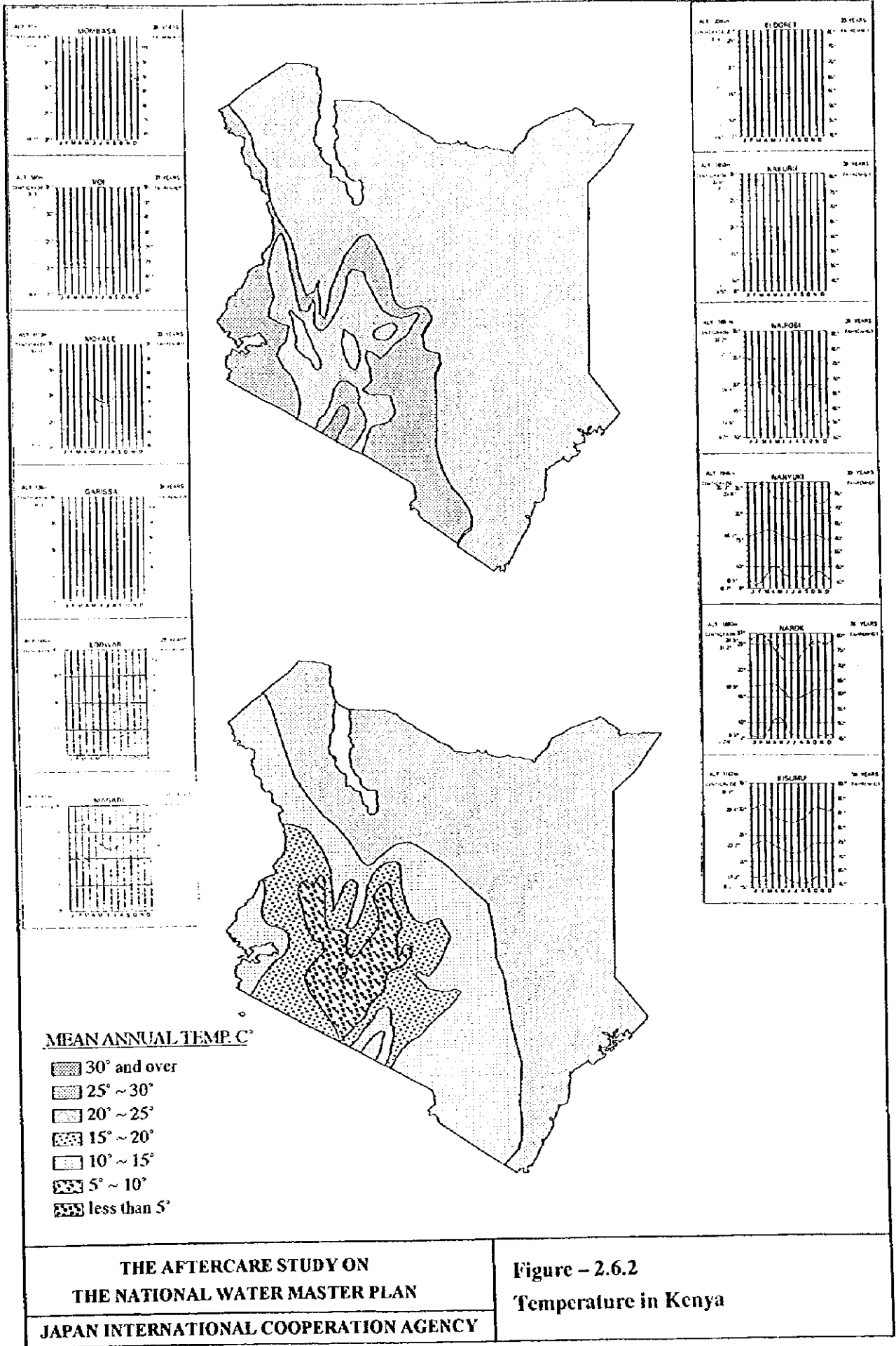




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Figure - 2.4.1
 Drainage Areas in Kenya





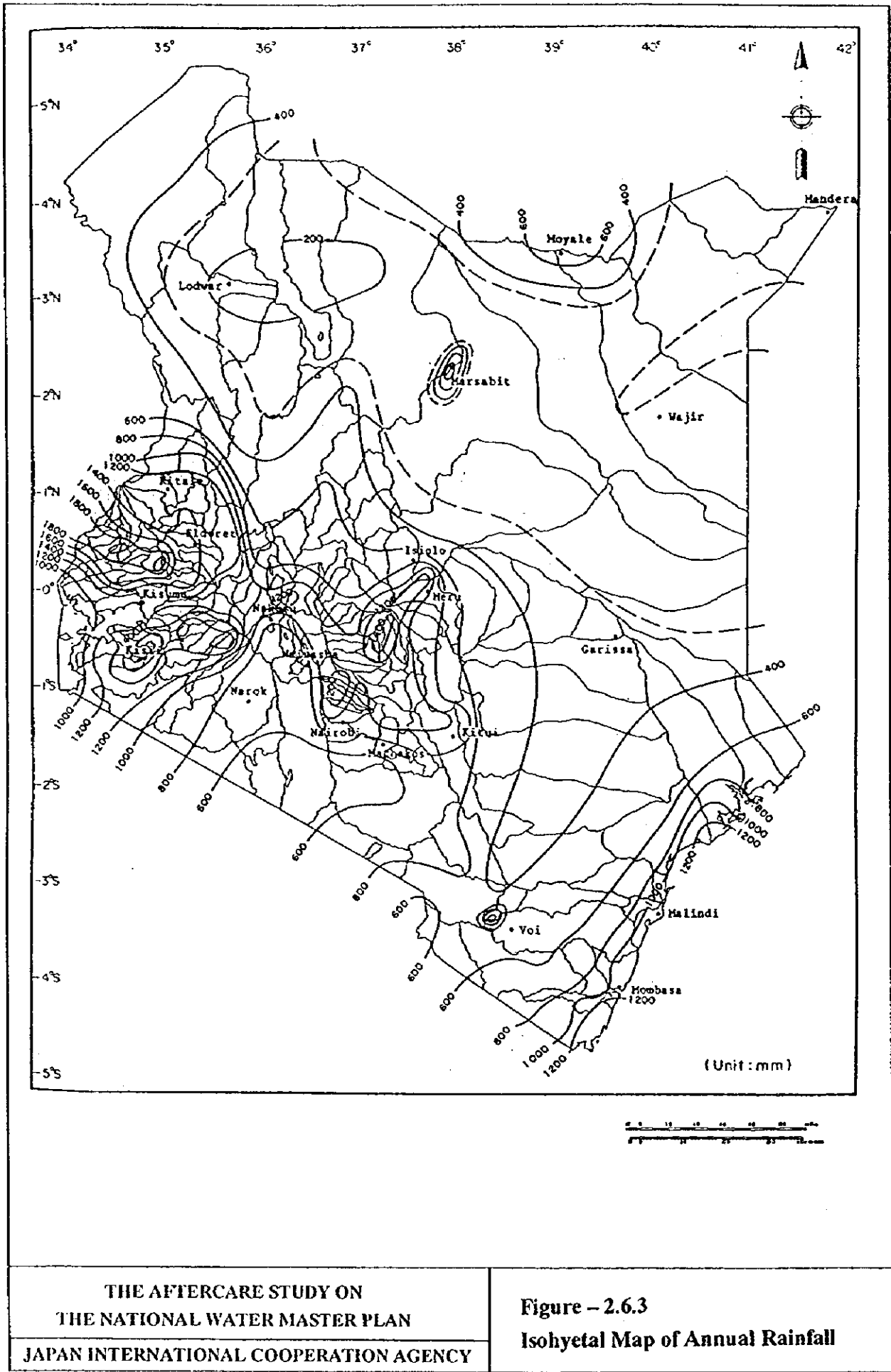
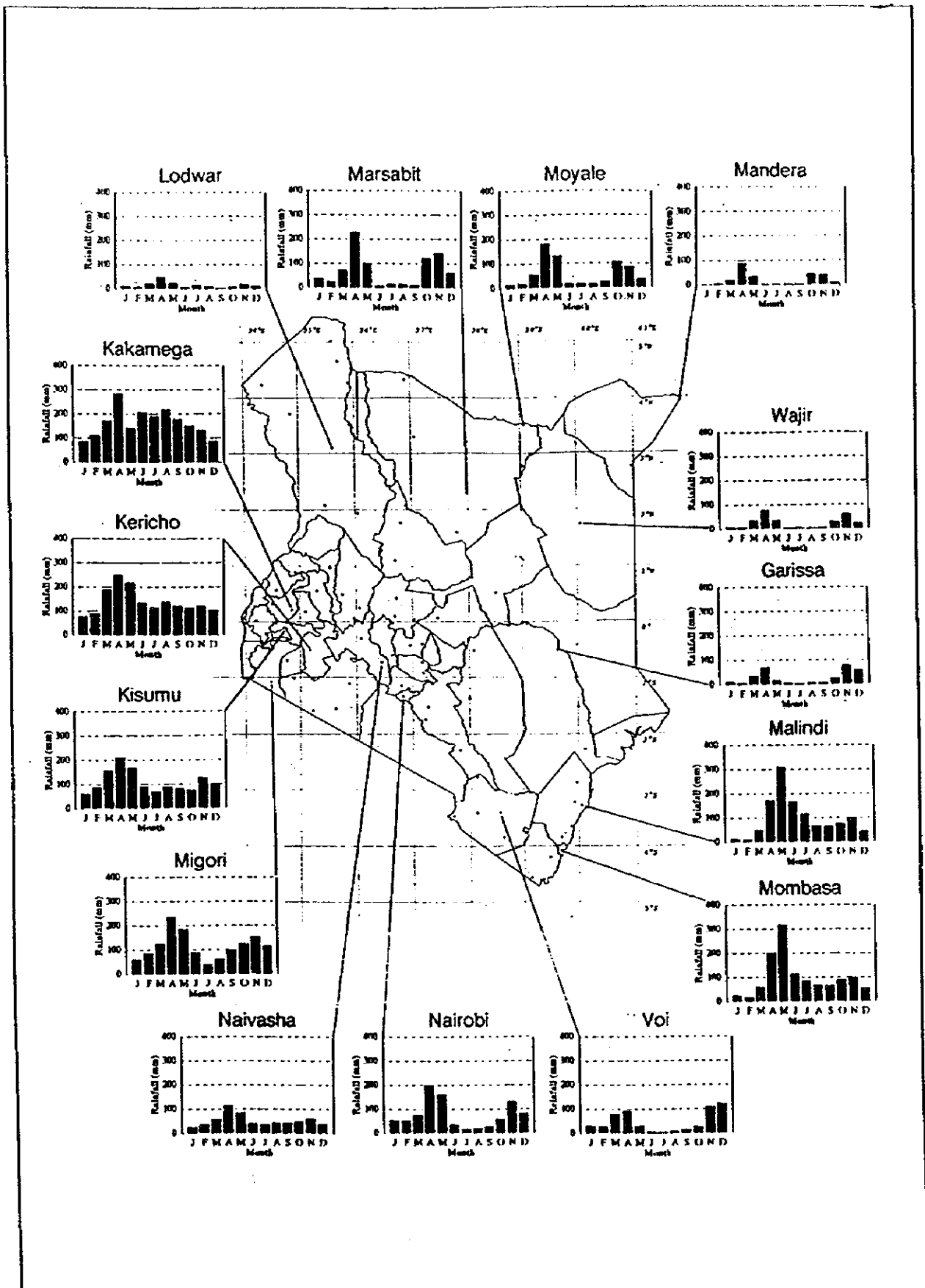


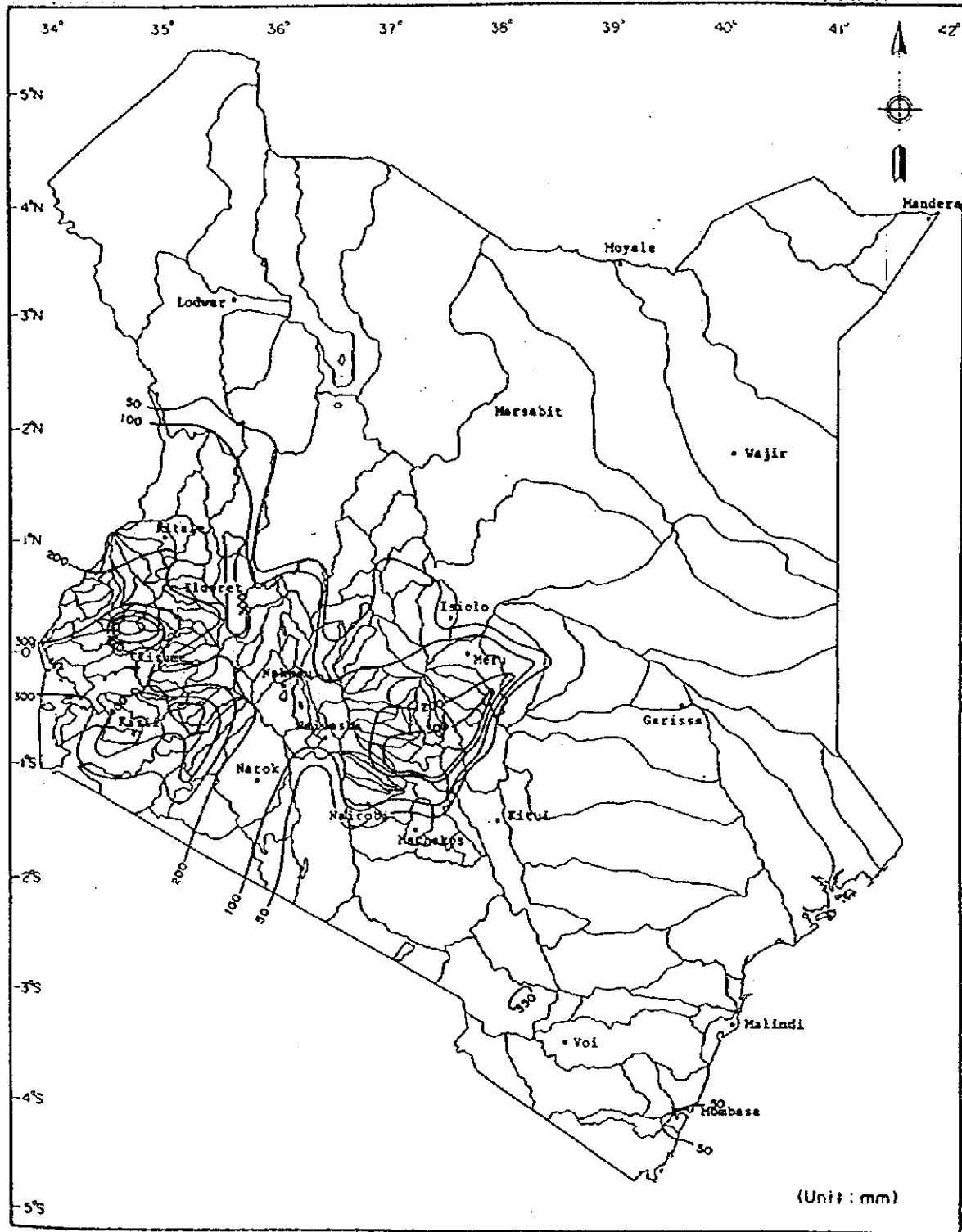
Figure - 2.6.3
 Isohyetal Map of Annual Rainfall

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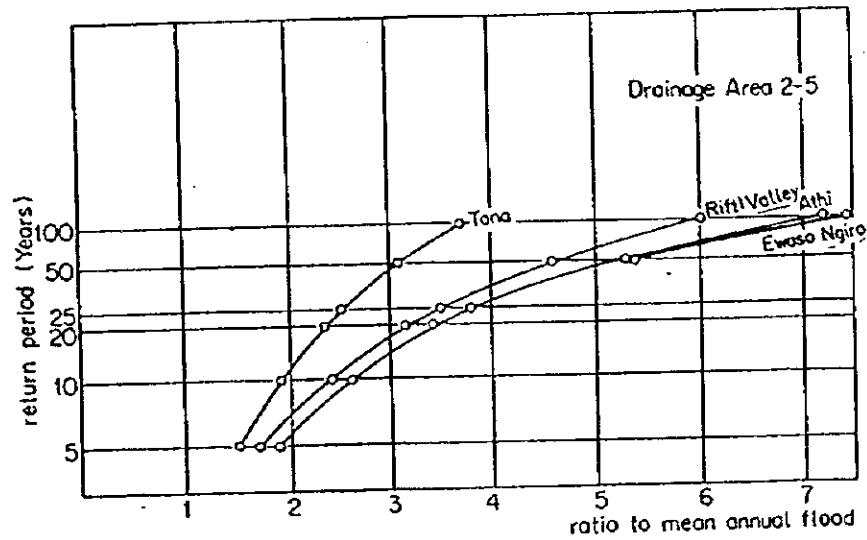
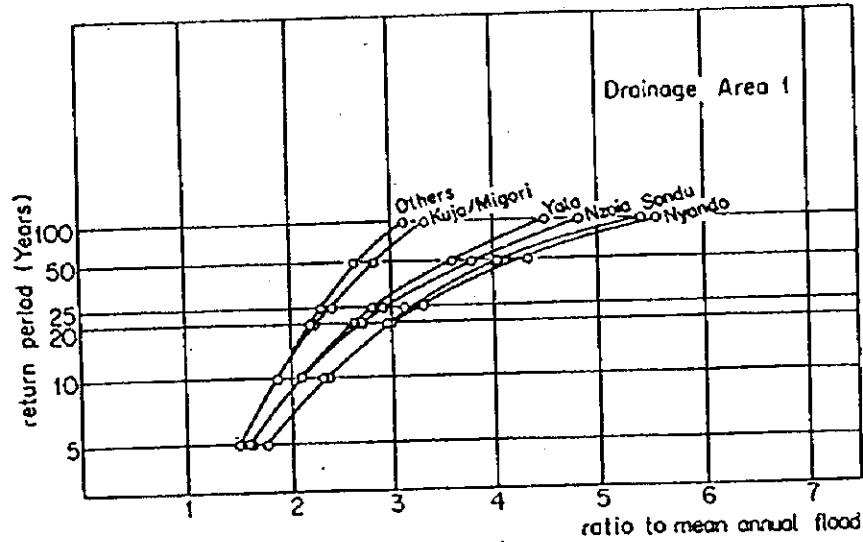
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Figure - 2.6.4
 Monthly Rainfall Variation at
 Representative Rainfall Gauging Station



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Figure - 3.3.1
 Contour Map of Annual Mean Runoff

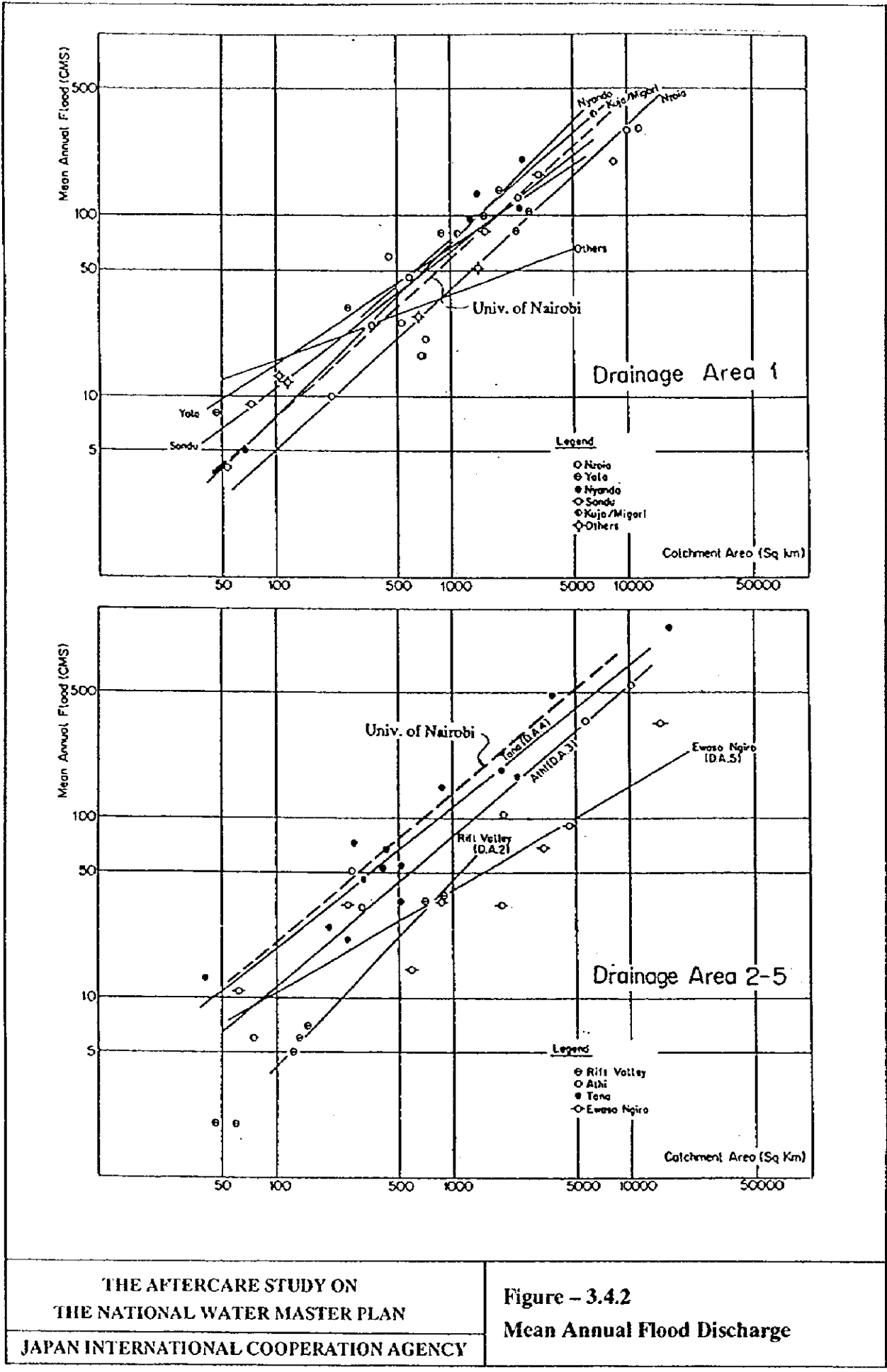


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Figure - 3.4.1

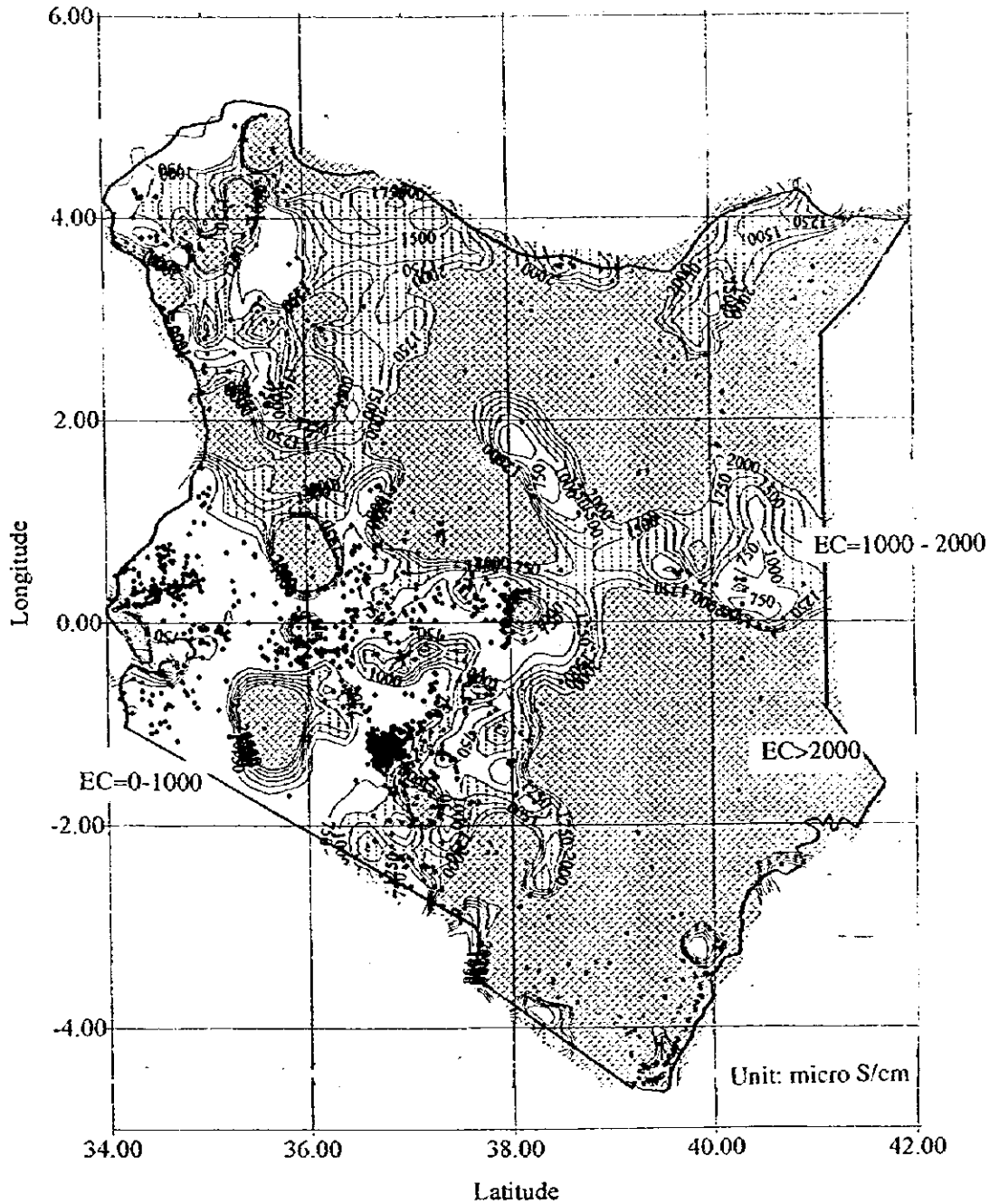
Ratio of Various Probable Floods to
Mean Annual Flood



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Figure - 3.4.2
 Mean Annual Flood Discharge

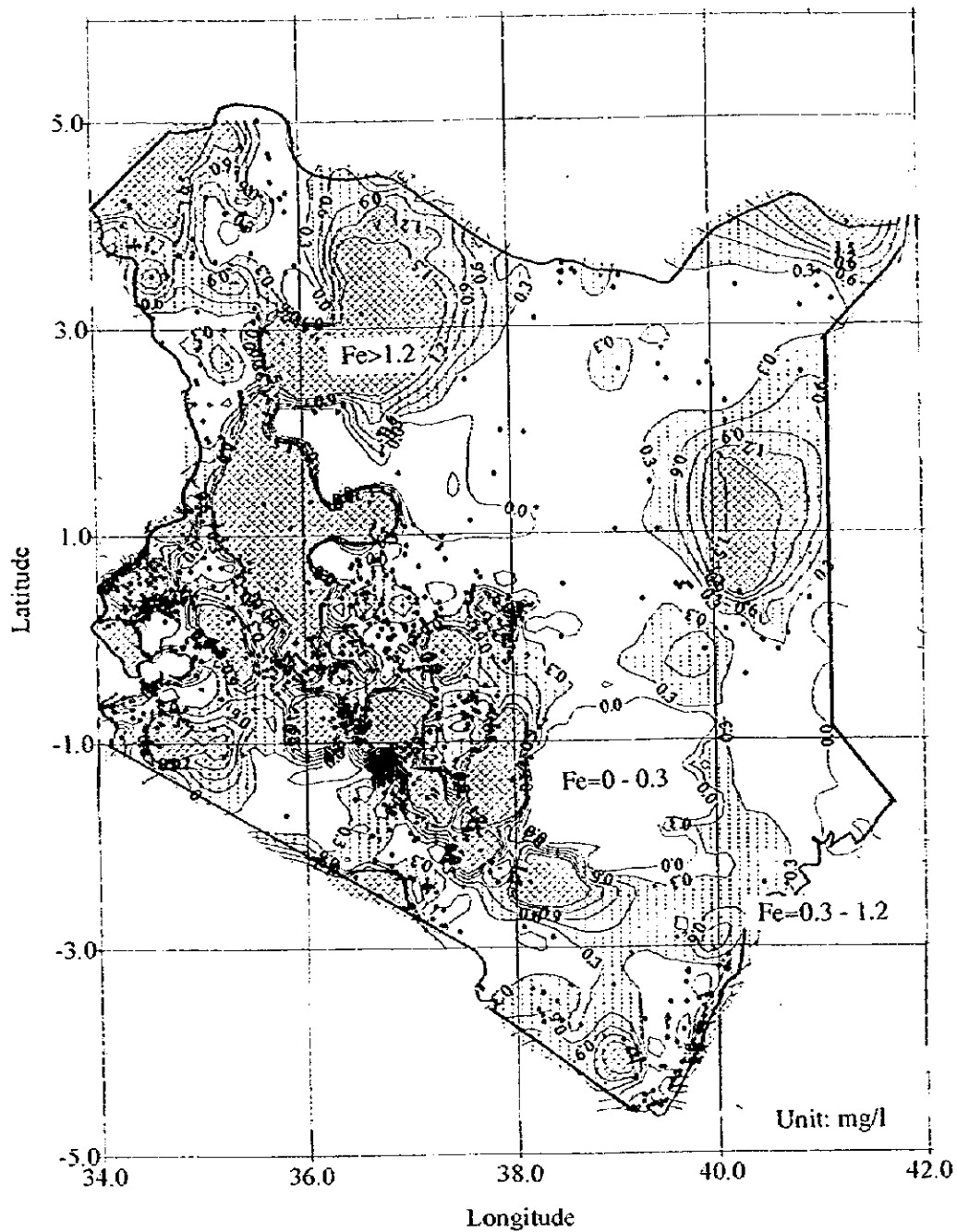


Data: 1,590 data
 Data source: National Water Resources Database of MOLRRD
 Data were processed for plotting by the aftercare study.

Criteria for small community drinking water supply;
 Electric Conductivity (microS/cm); 750 < EC < 2,000 -- Permissible
 EC = 2,000 -- Limit

This map is produced with a limited number of data sets and hence is of limited use only for providing general information.

<p>THE AFTERCARE STUDY ON THE NATIONAL WATER MASTER PLAN</p>	<p>Figure - 4.4.1 Water Quality Distribution -Electric Conductivity</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	



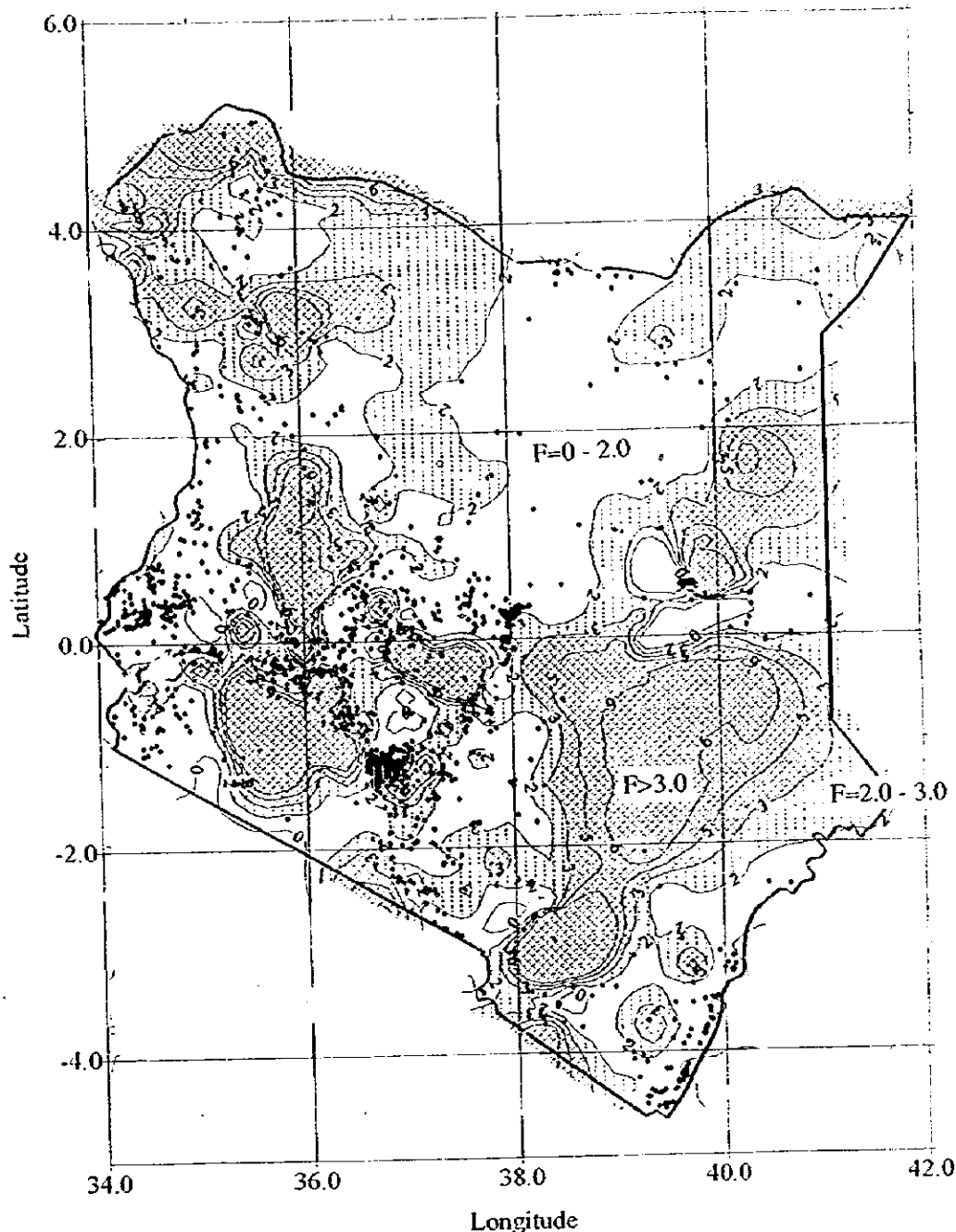
Data: 1,427 data
 Data source: National Water Resources Database of MOLRRED
 Data were processed for plotting by the aftercare study.

Criteria for small community drinking water supply;
 Electric Conductivity (mg/l); $0.3 < Fe < 1.0$ -- Permissible
 $Fe = 1.0$ -- Limit

This map is produced with a limited number of data sets and hence is of limited use only for providing general information.

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**Figure - 4.4.2
 Water Quality Distribution-Iron (Fe)**

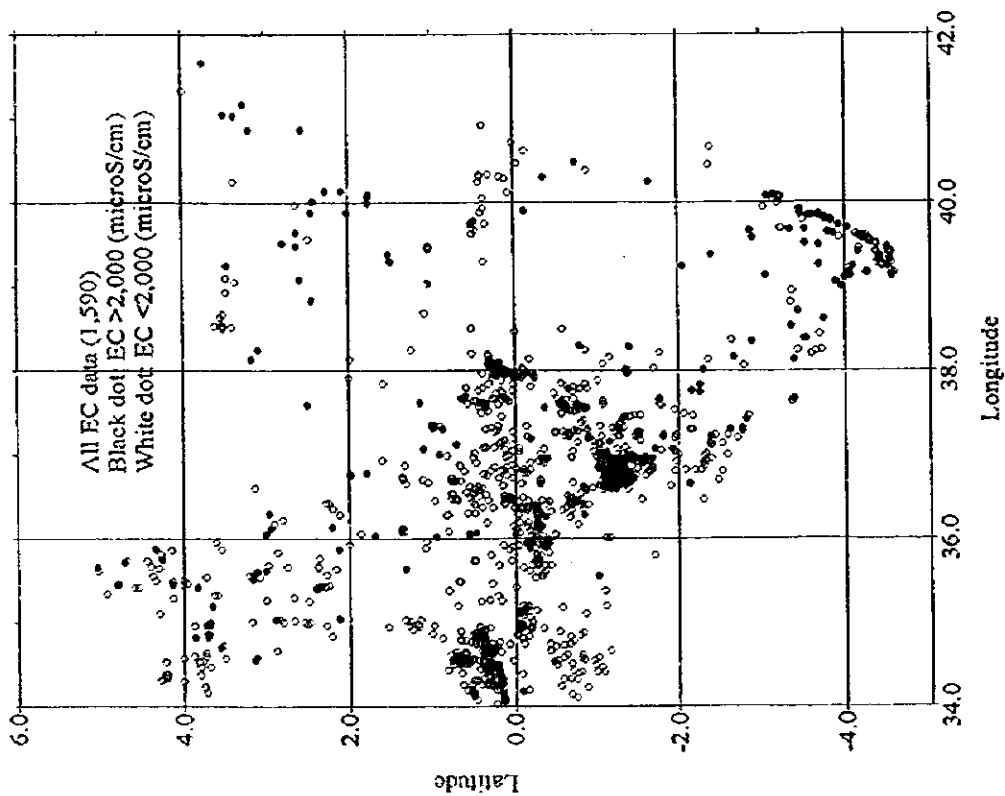
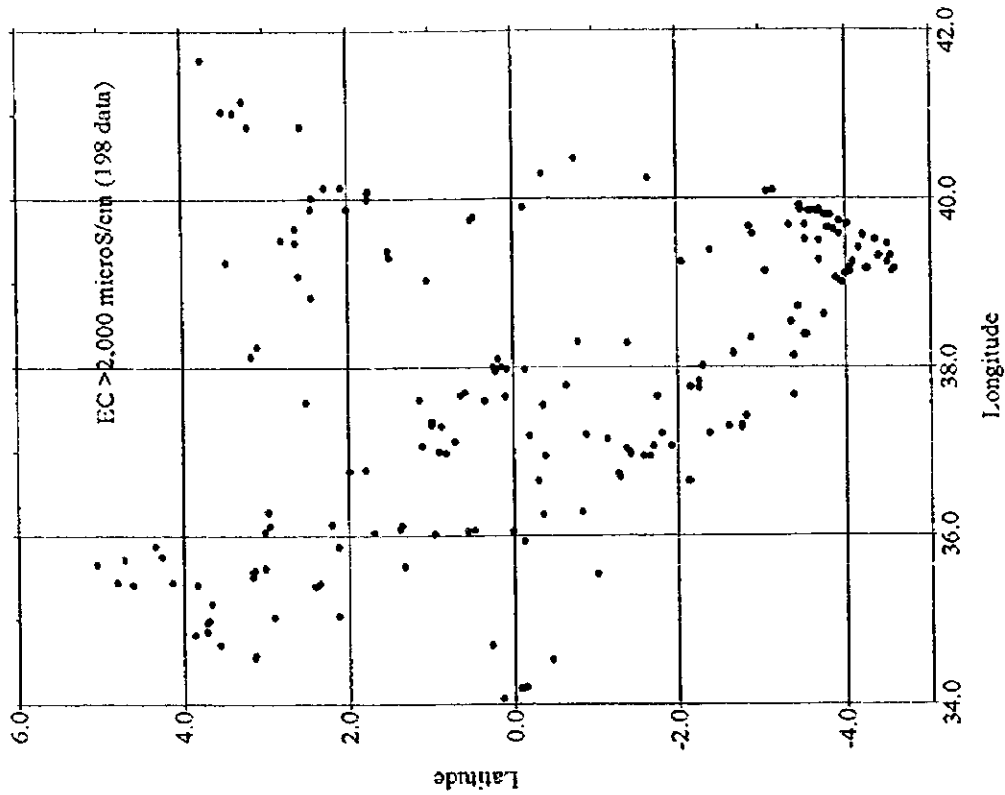


Data: 1,594 data
 Data source: National Water Resources Database of MOLRRED
 Data were processed for plotting by the aftercare study.

Criteria for small community drinking water supply;
 Electric Conductivity (mg/l); $1.5 < F < 3.0$ ---- Permissible
 $F = 3.0$ -- Limit

This map is produced with a limited number of data sets and hence is of limited use only for providing general information.

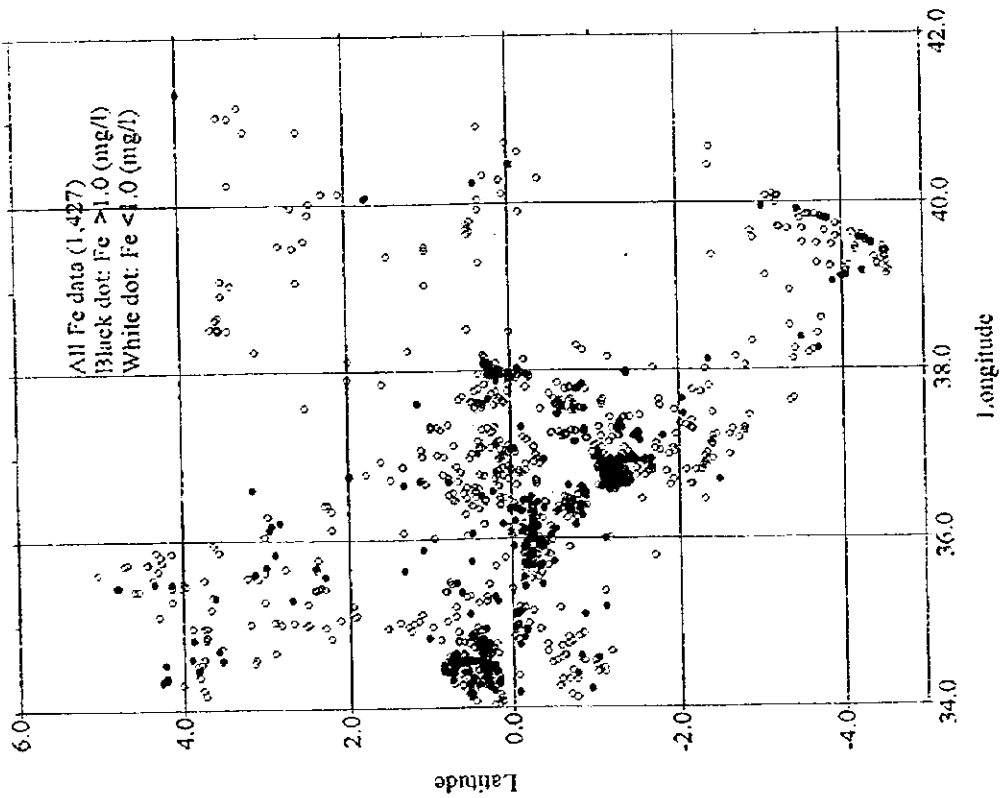
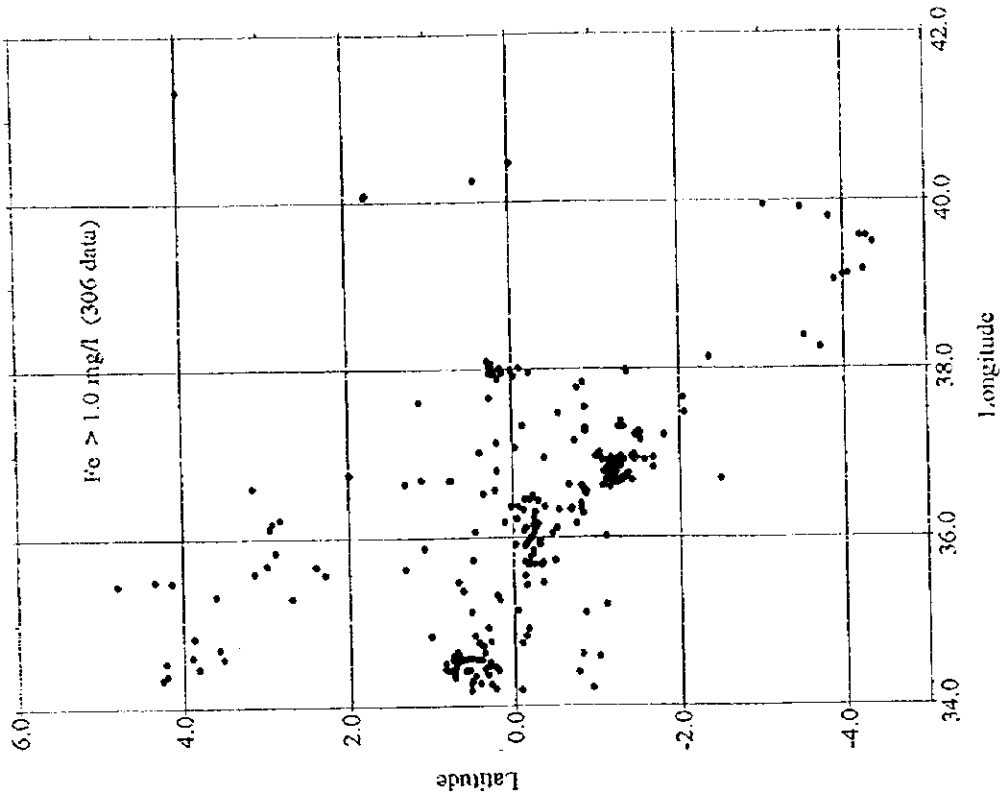
<p>THE AFTERCARE STUDY ON THE NATIONAL WATER MASTER PLAN JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>Figure - 4.4.3 Water Quality Distribution-Fluoride (F)</p>
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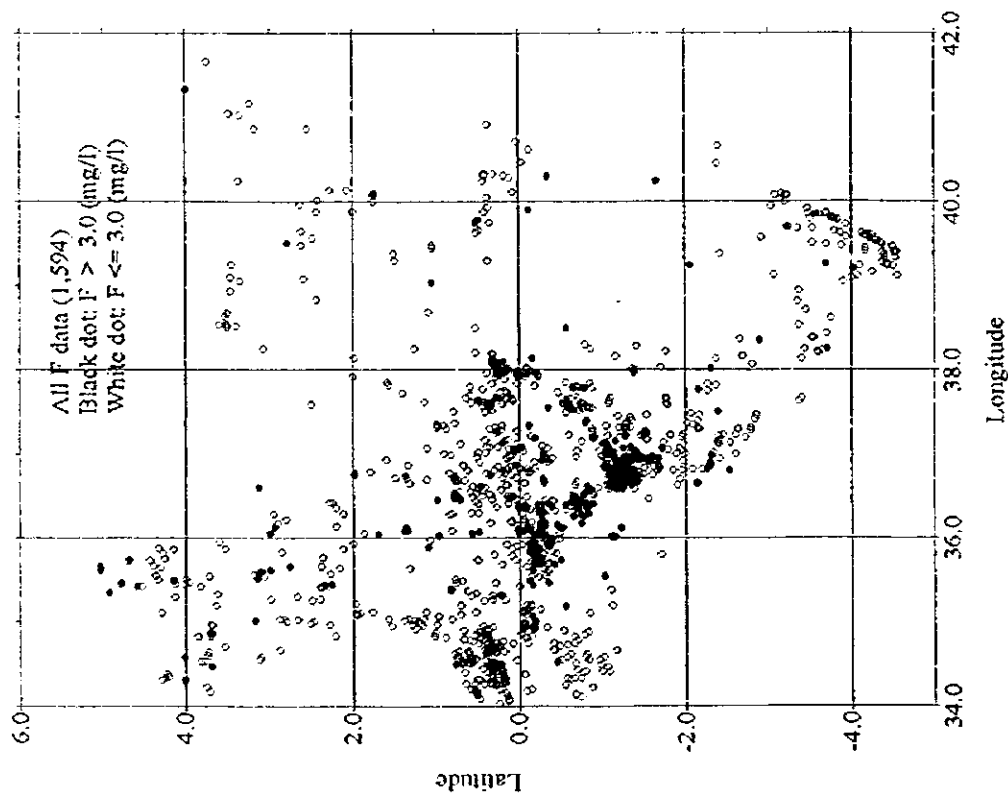
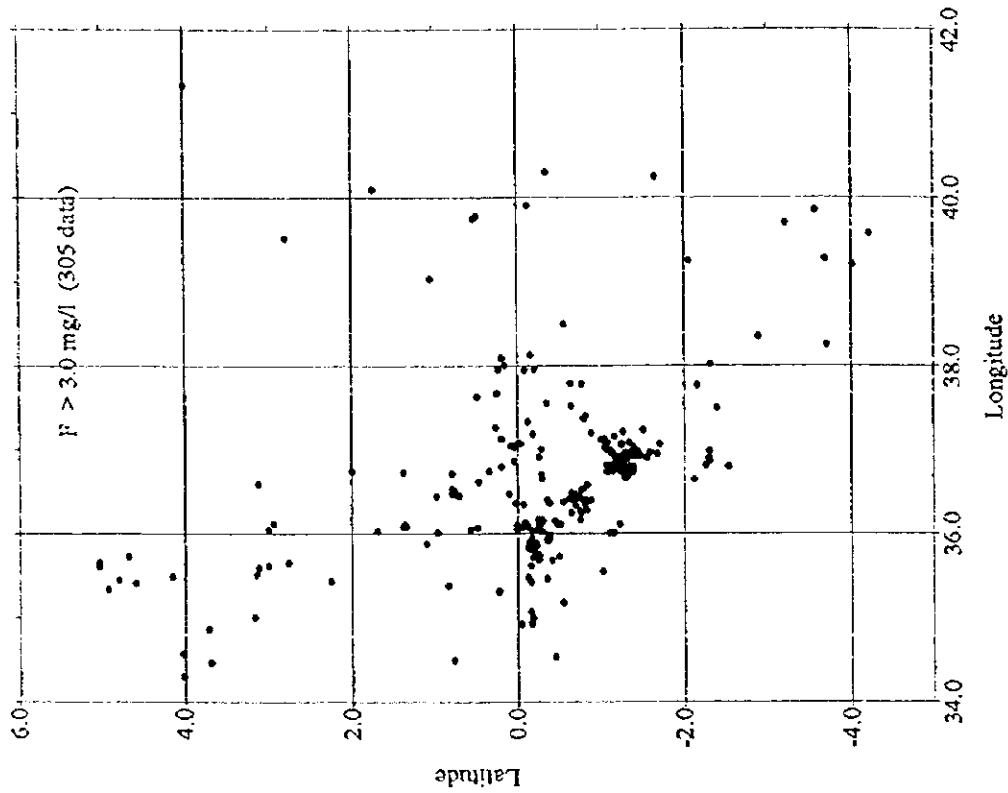
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Figure - 4.4.4
 Water Quality Data Points
 -Electric Conductivity

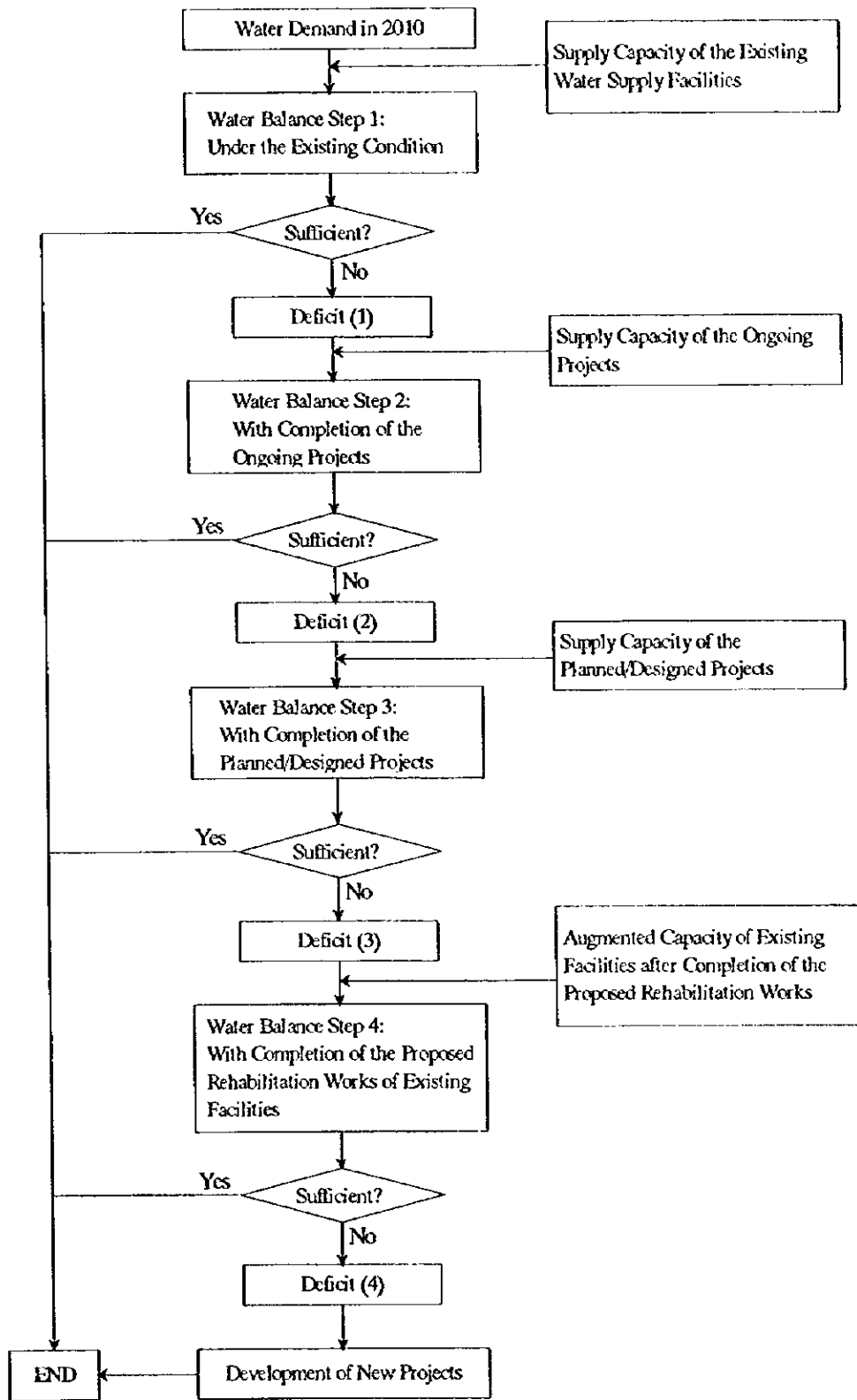


<p>THE AFTERCARE STUDY ON THE NATIONAL WATER MASTER PLAN JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>Figure - 4.4.5 Water Quality Data Points-Iron (Fe)</p>
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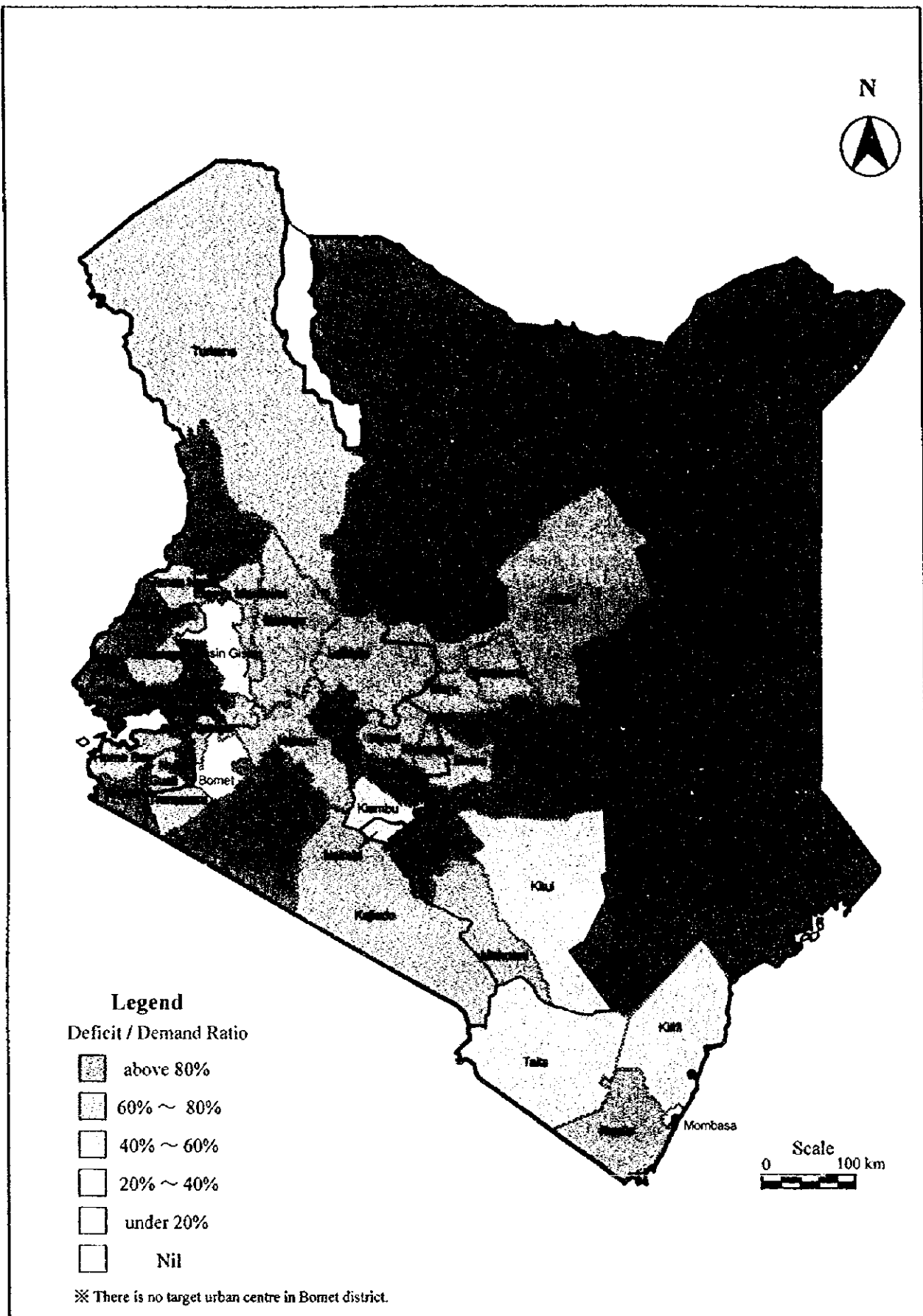


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Figure - 4.4.6
 Water Quality Data Points-Fluoride (F)

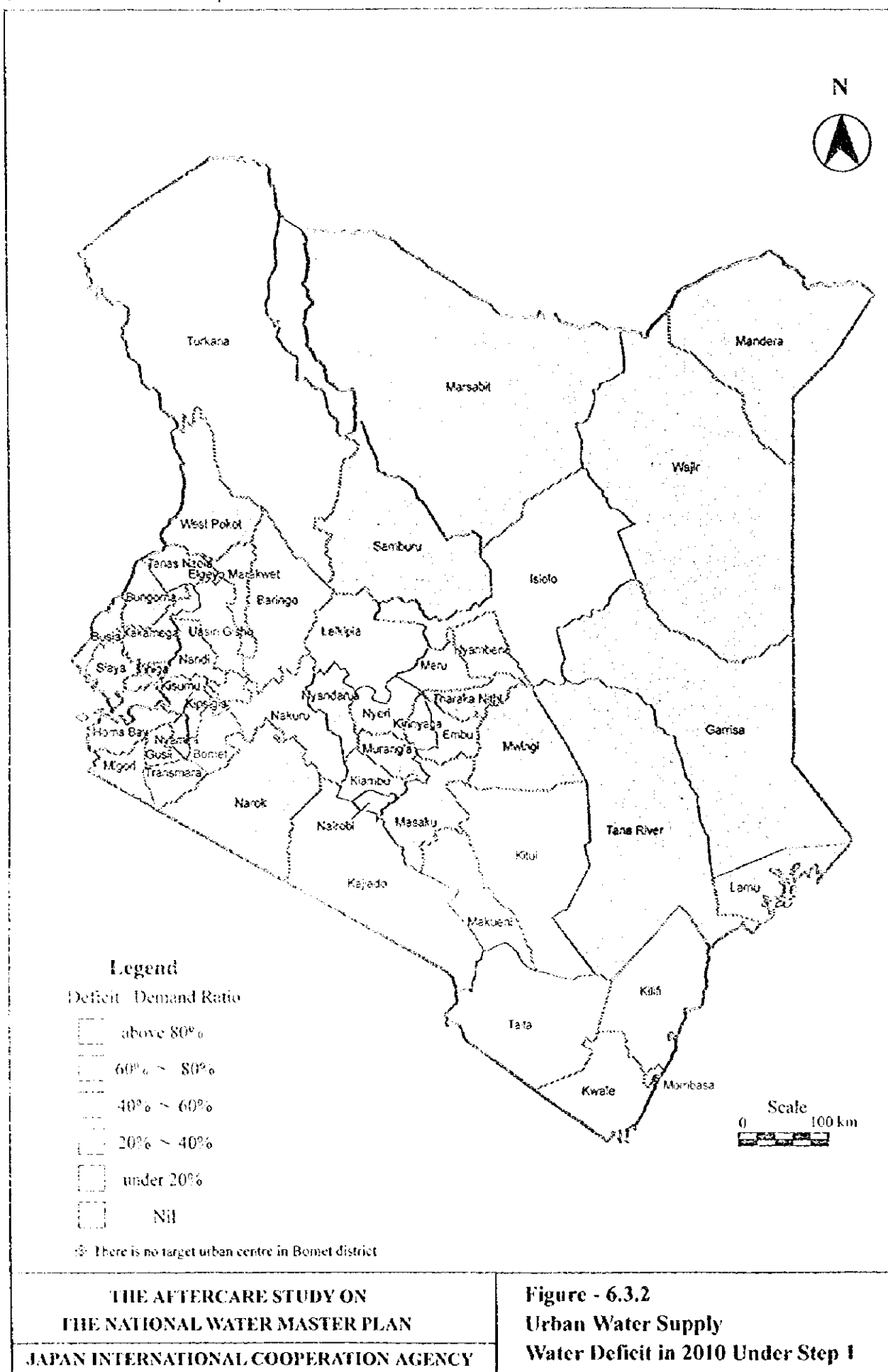


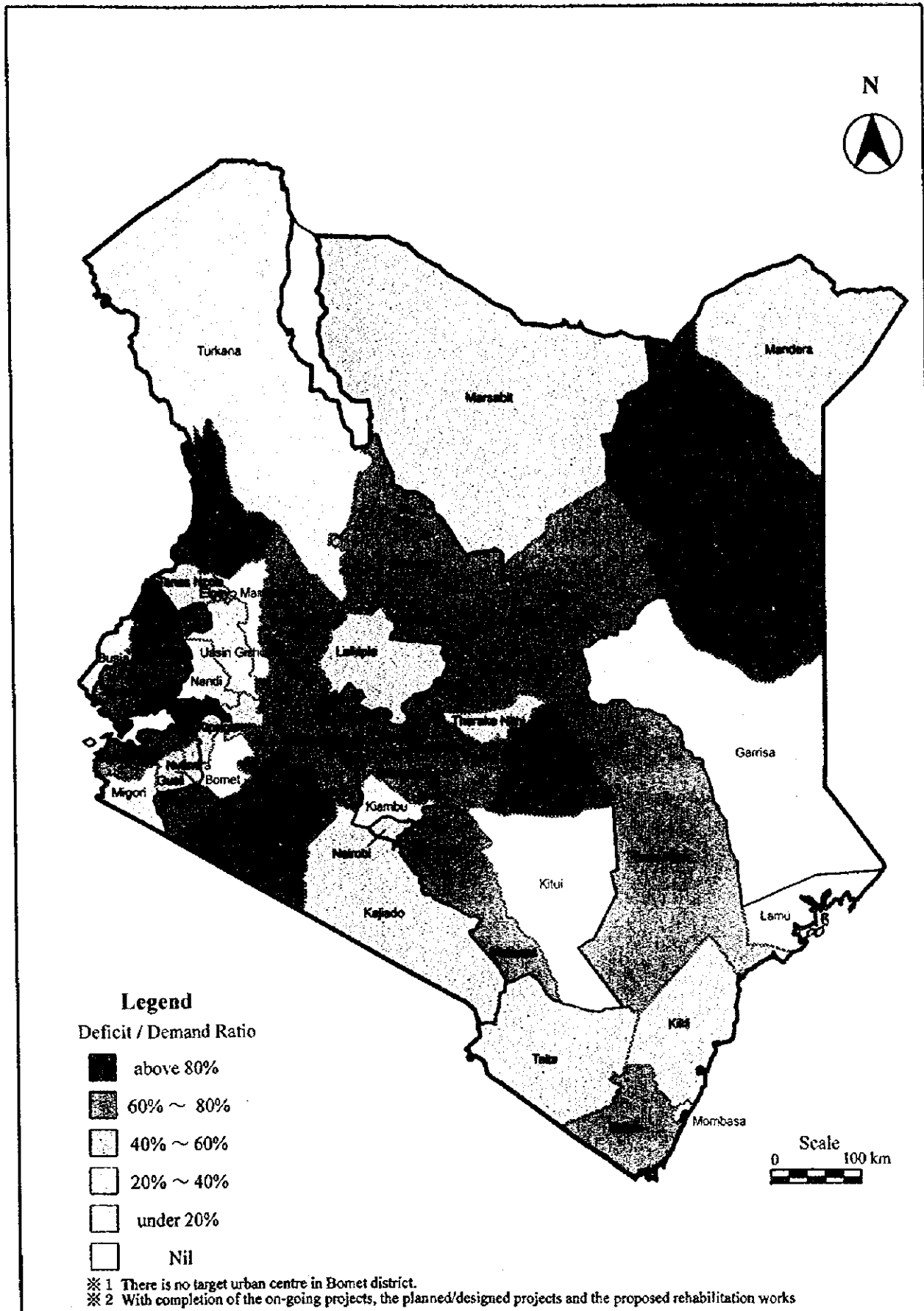
<p>THE AFTERCARE STUDY ON THE NATIONAL WATER MASTER PLAN</p>	<p>Figure - 6.3.1</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>Flow Chart of Water Balance Calculation</p>



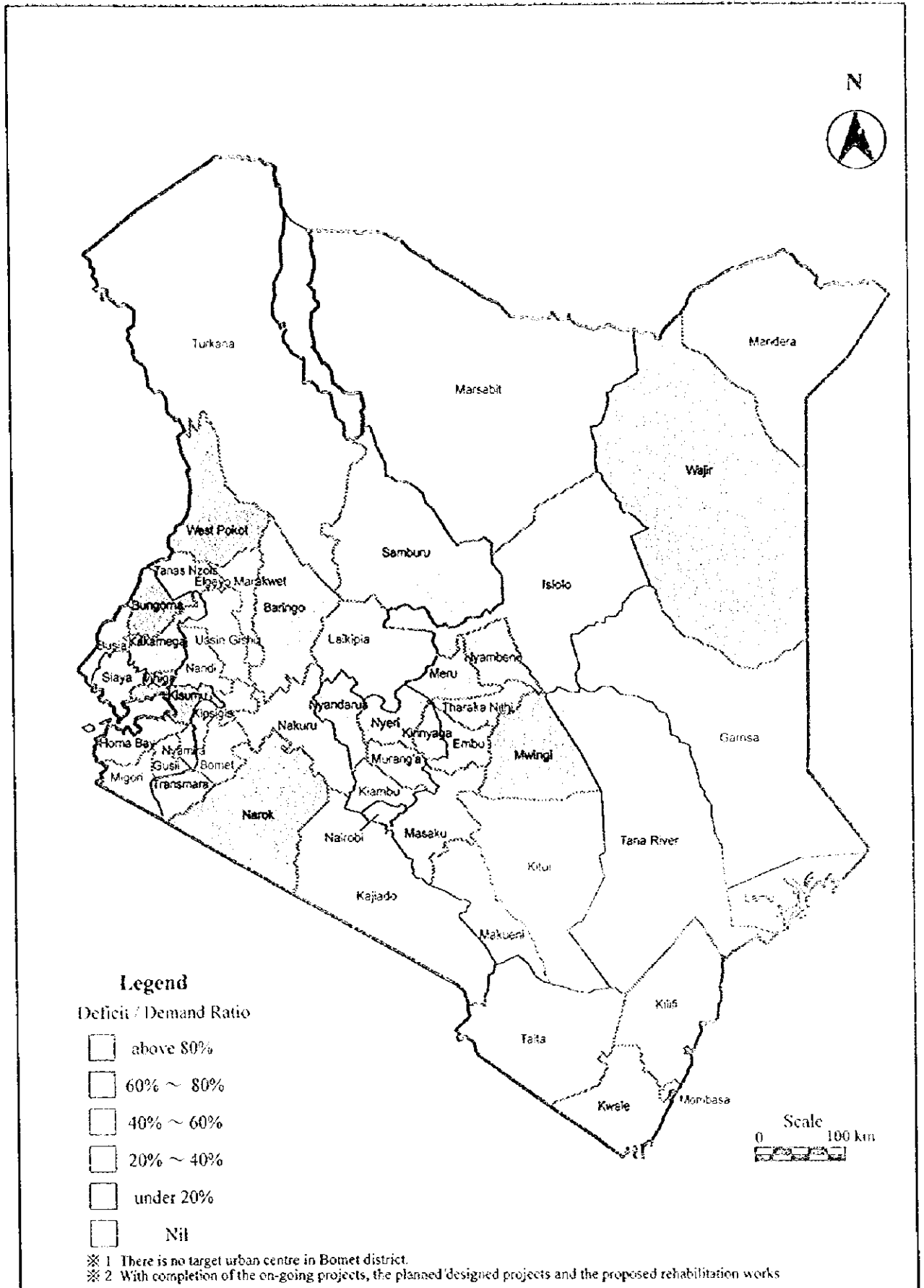
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Figure - 6.3.2
 Urban Water Supply
 Water Deficit in 2010 Under Step 1





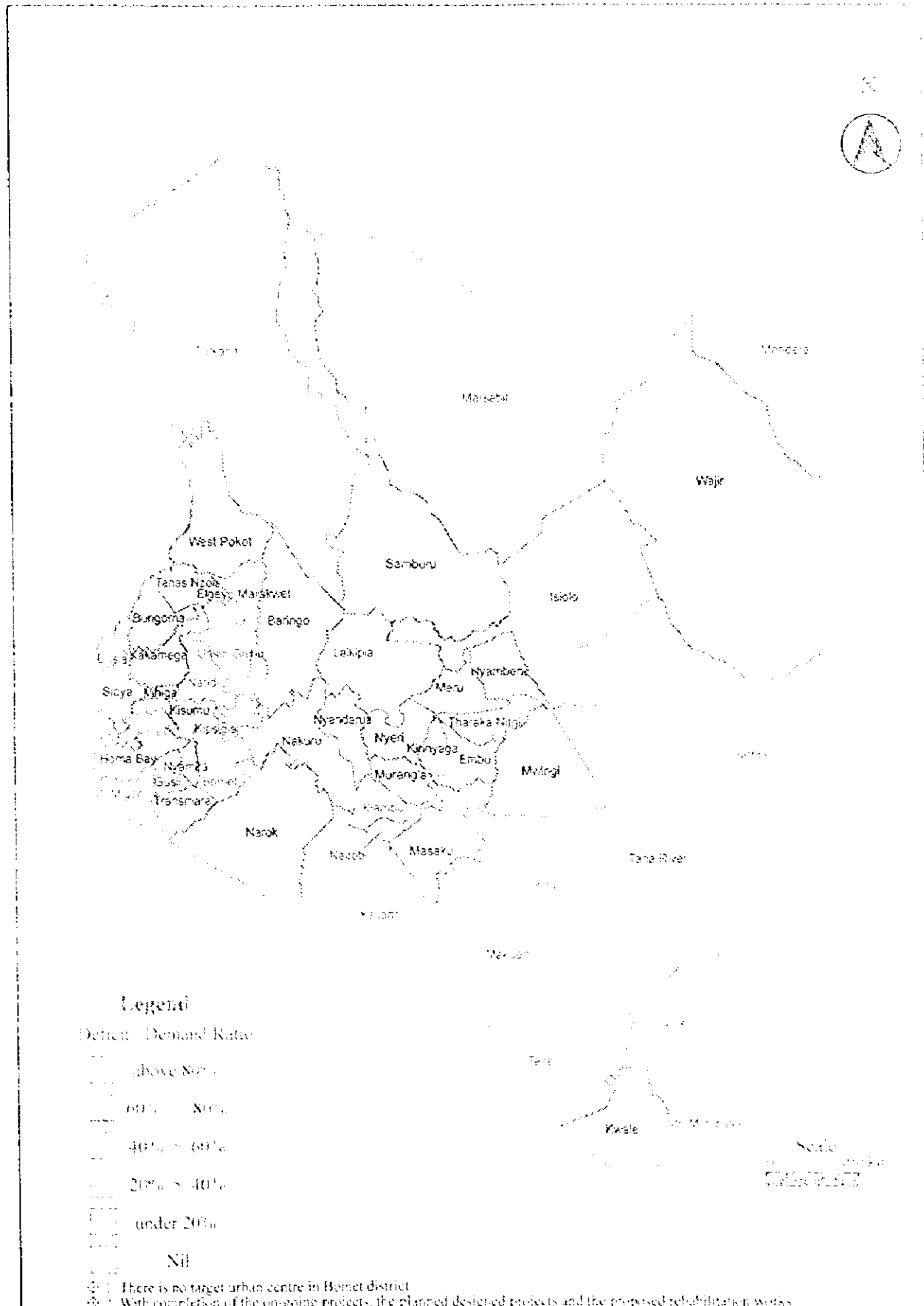
THE AFTERCARE STUDY ON THE NATIONAL WATER MASTER PLAN	Figure - 6.3.3 Urban Water Supply Water Deficit in 2010 Under Step 4
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**THE AFTERCARE STUDY ON
 THE NATIONAL WATER MASTER PLAN**

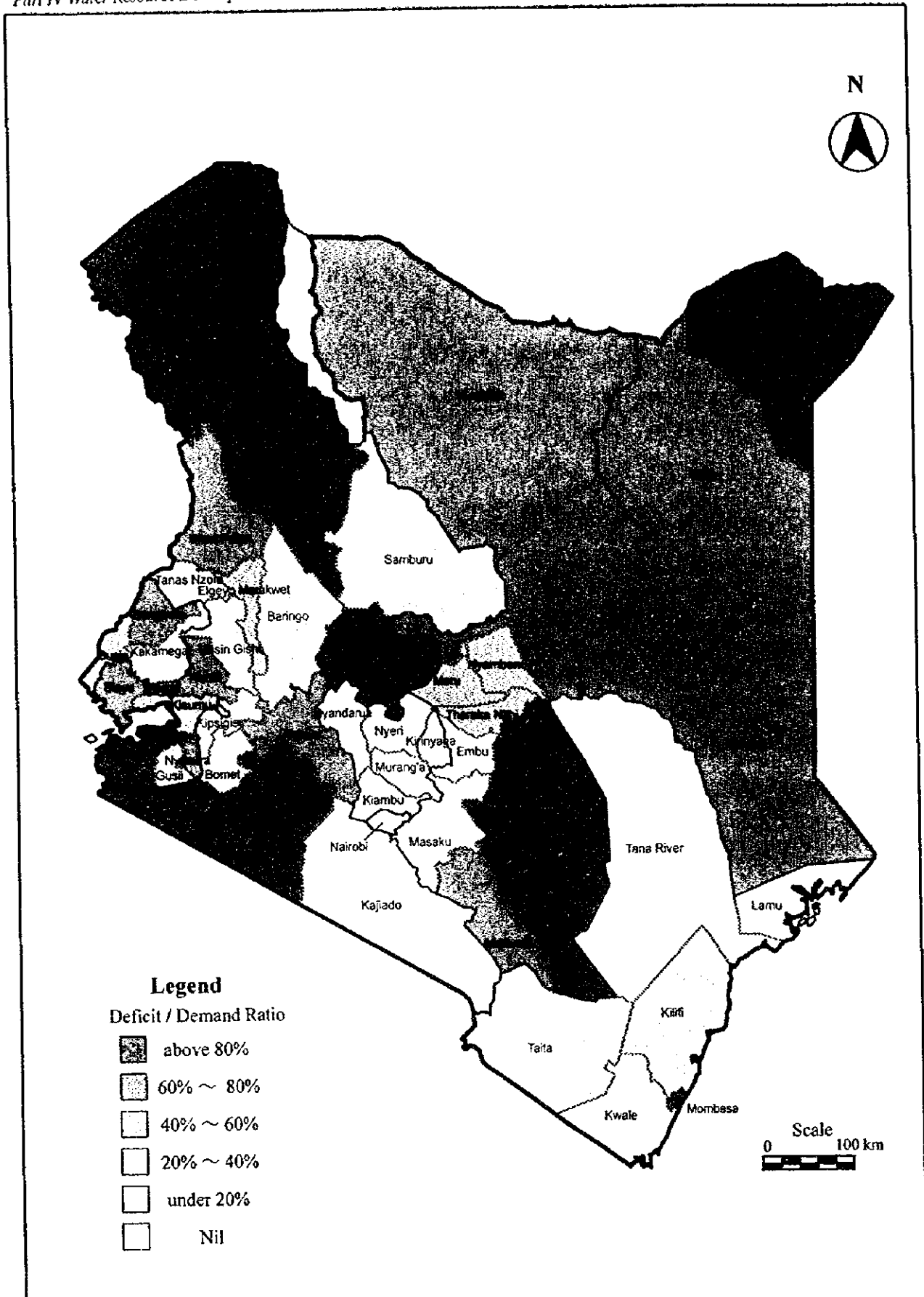
JAPAN INTERNATIONAL COOPERATION AGENCY

**Figure - 6.3.3
 Urban Water Supply
 Water Deficit in 2010 Under Step 4**

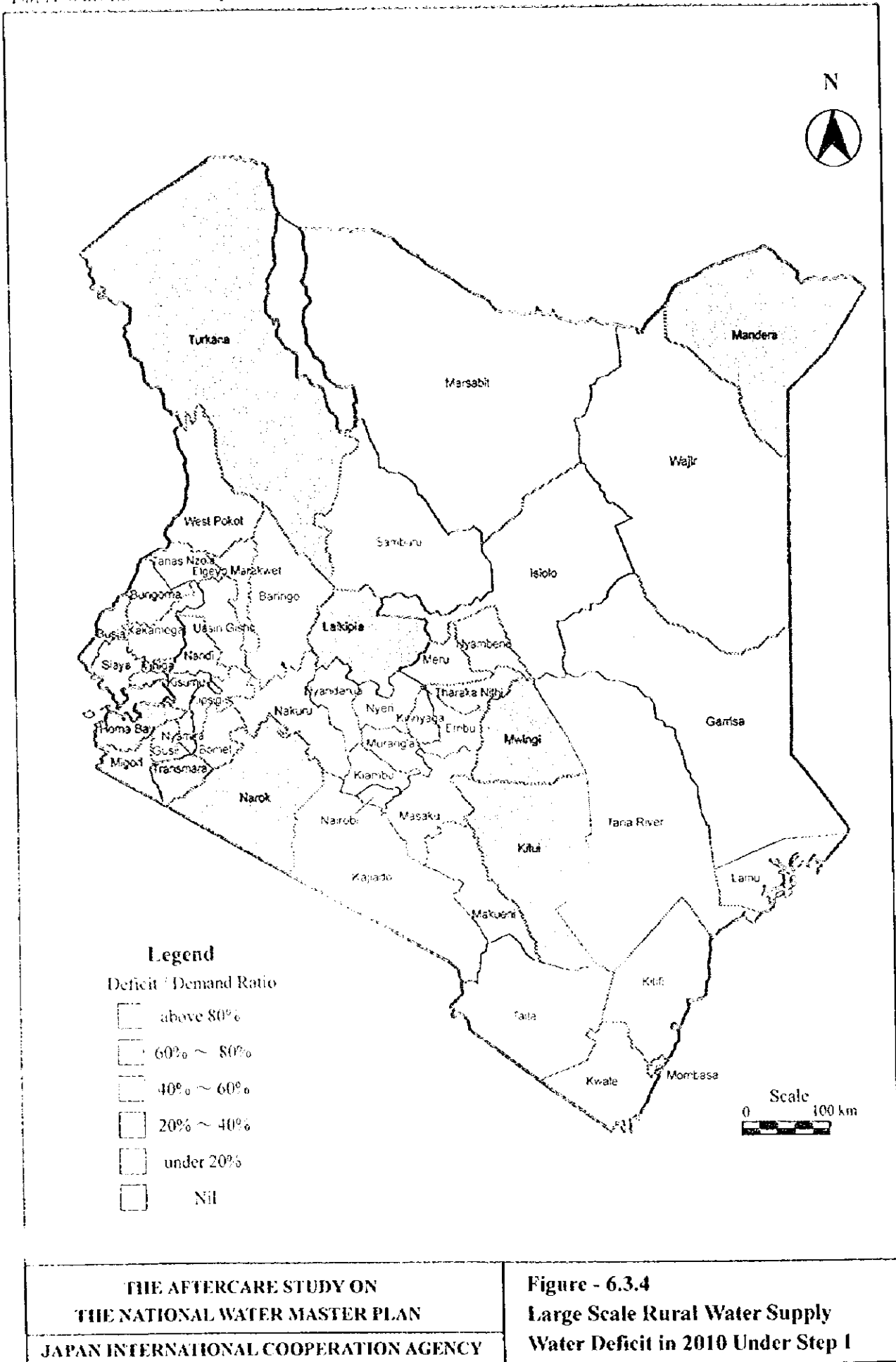


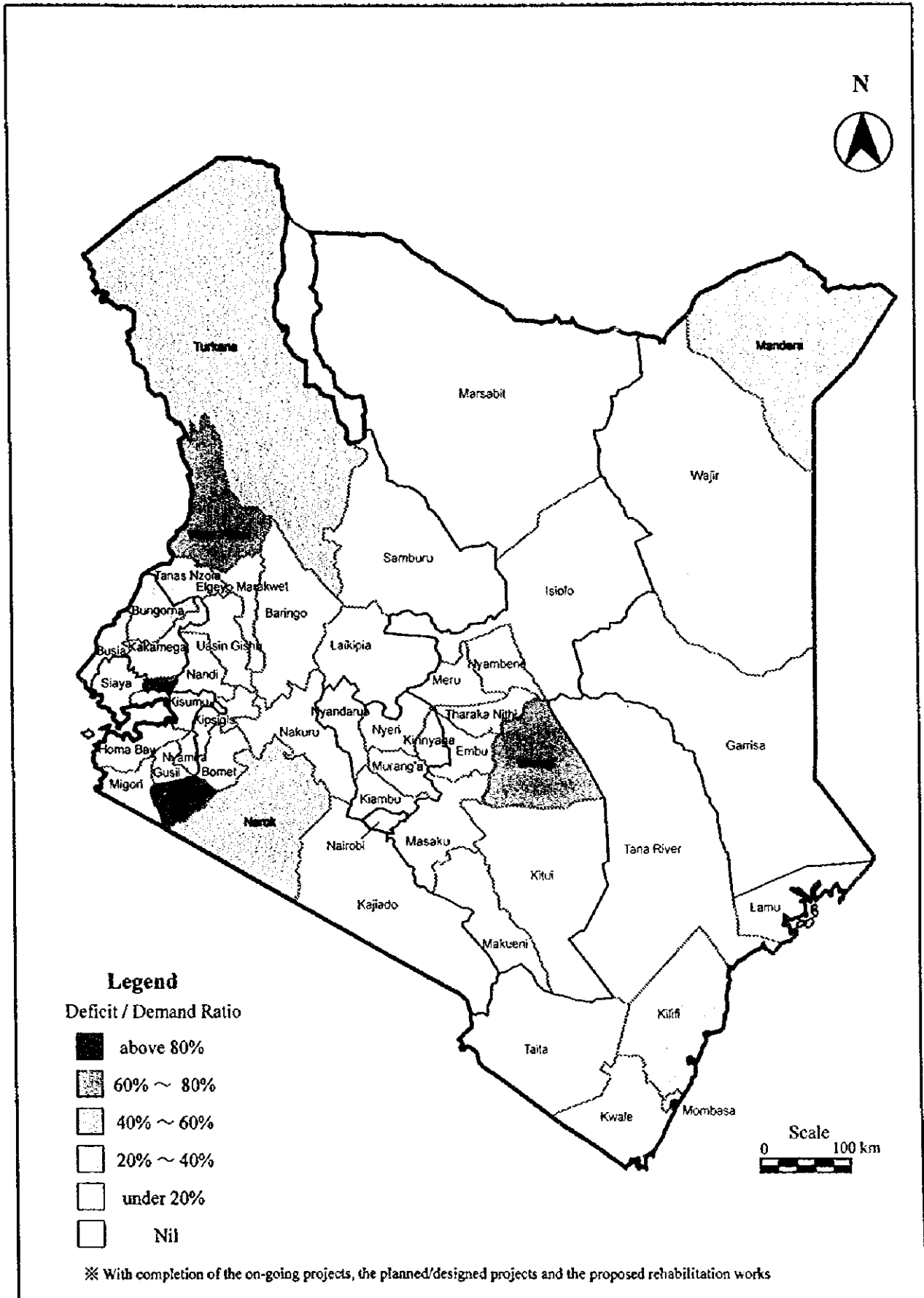
**THE AFTERCARE STUDY ON
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**Figure - 6.3.3
Urban Water Supply
Water Deficit in 2010 Under Step 4**

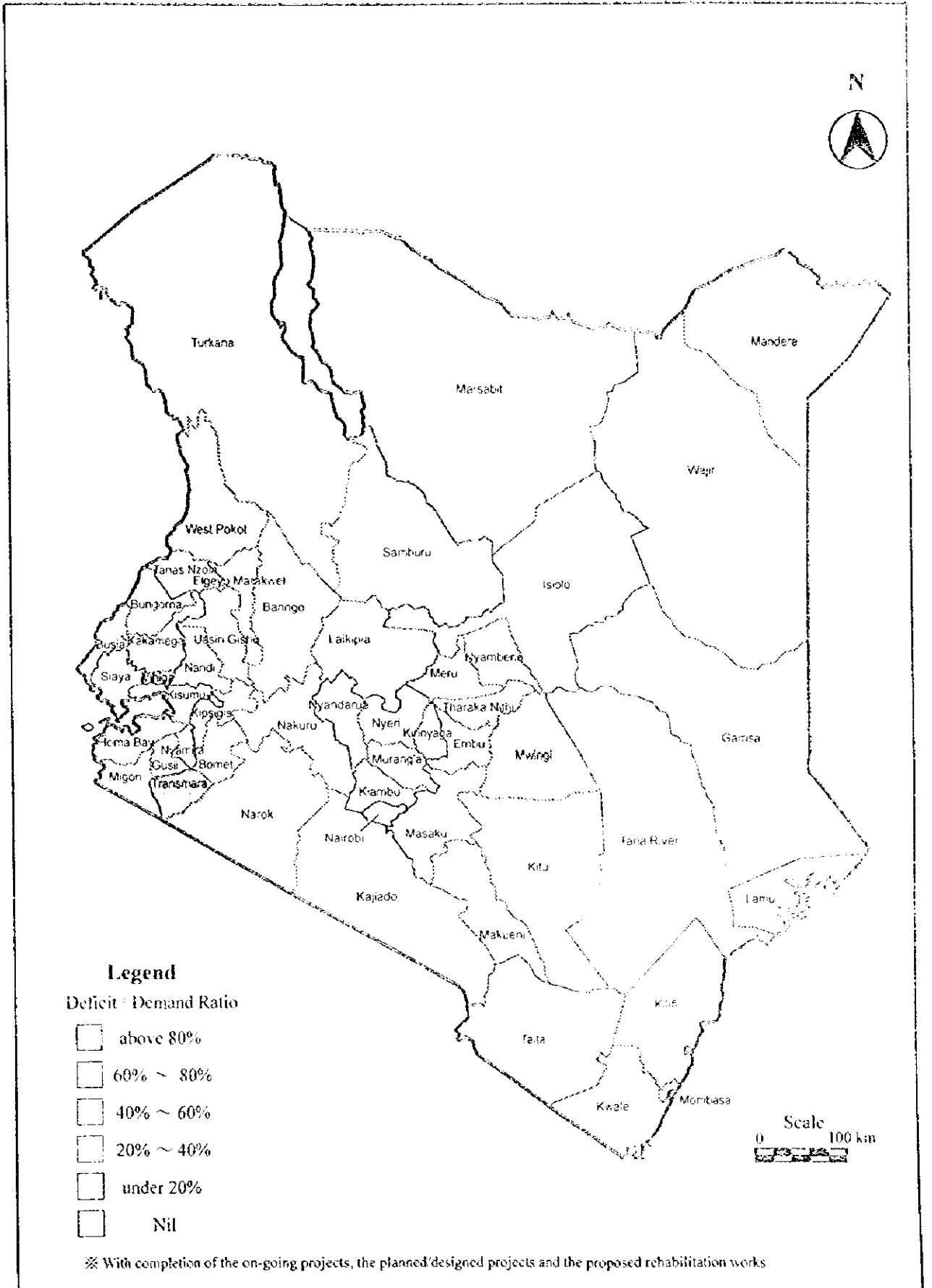


<p>THE AFTERCARE STUDY ON THE NATIONAL WATER MASTER PLAN</p> <p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>Figure - 6.3.4 Large Scale Rural Water Supply Water Deficit in 2010 Under Step 1</p>
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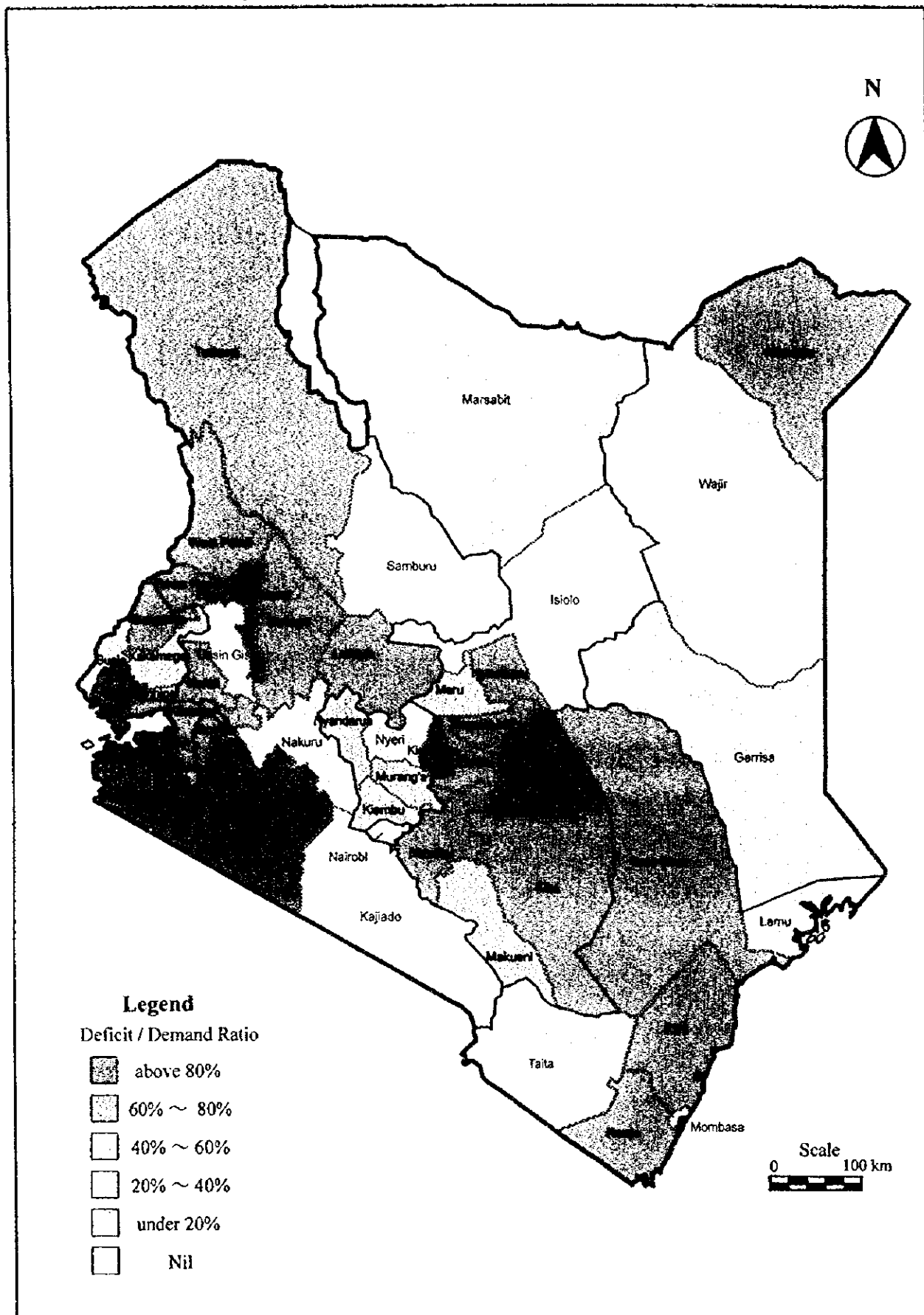


<p>THE AFTERCARE STUDY ON THE NATIONAL WATER MASTER PLAN</p>	<p>Figure - 6.3.5 Large Scale Rural Water Supply Water Deficit in 2010 Under Step 4</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	



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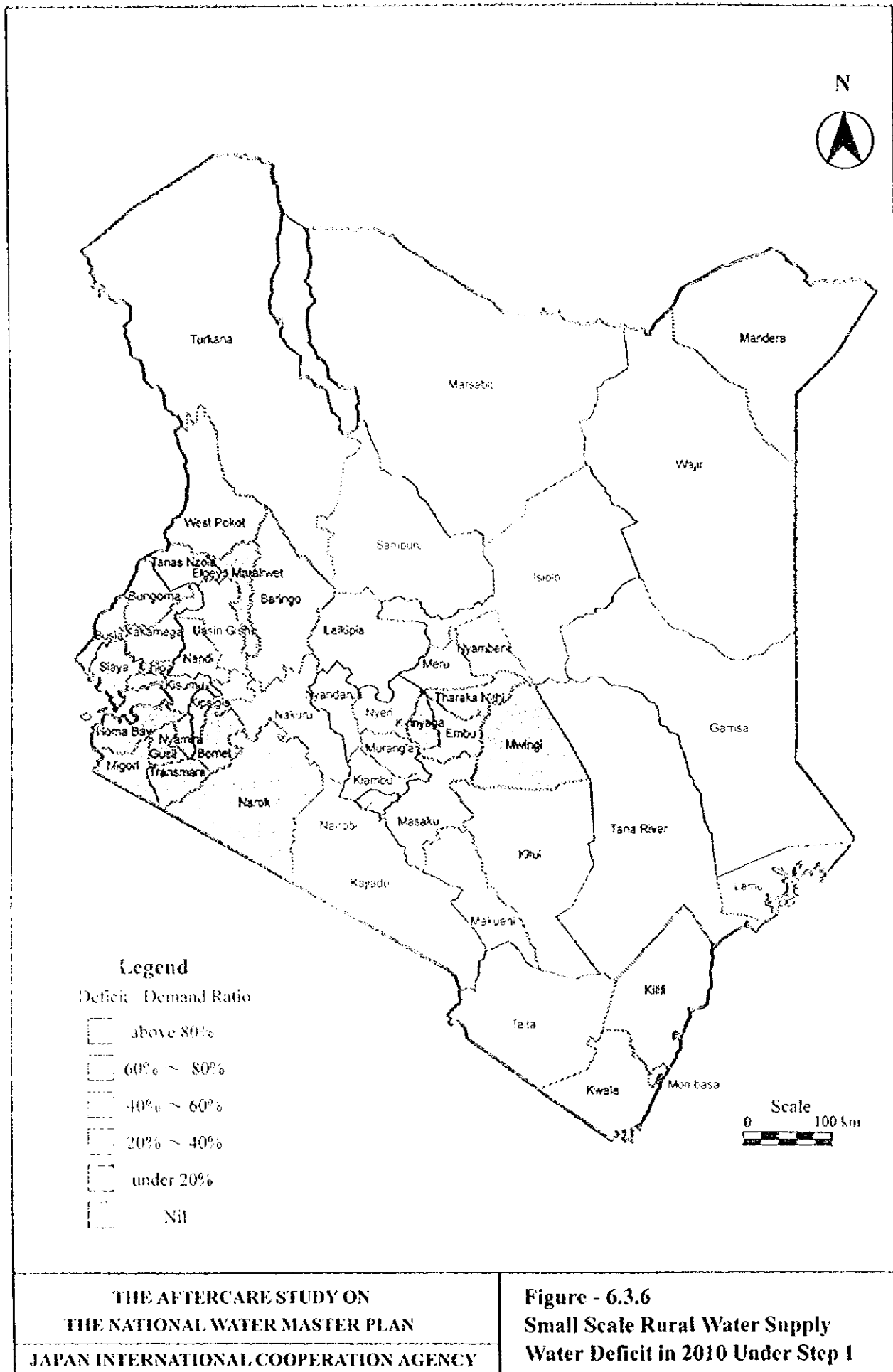
Figure - 6.3.5
Large Scale Rural Water Supply
Water Deficit in 2010 Under Step 4

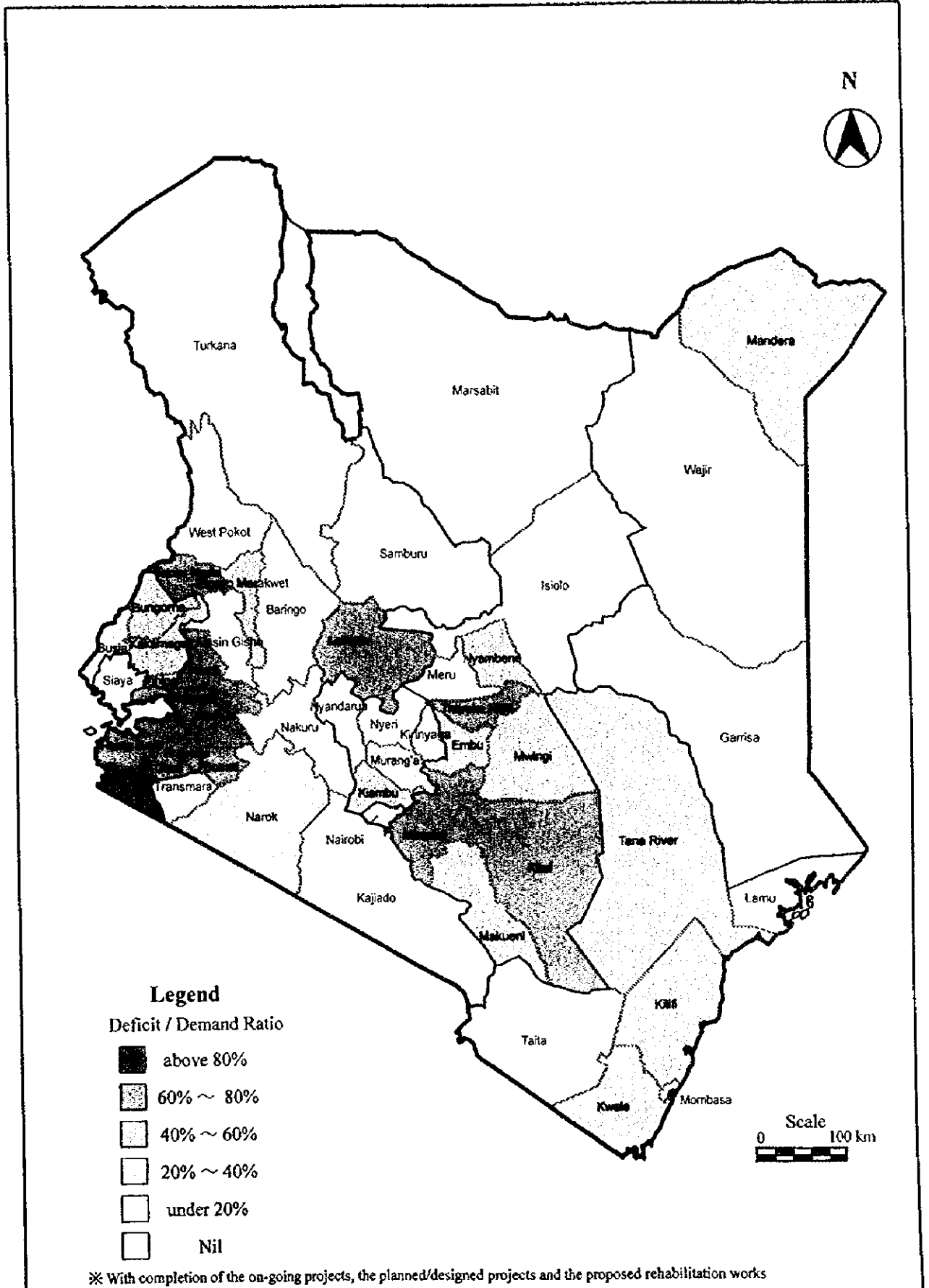


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Figure - 6.3.6
Small Scale Rural Water Supply
Water Deficit in 2010 Under Step 1

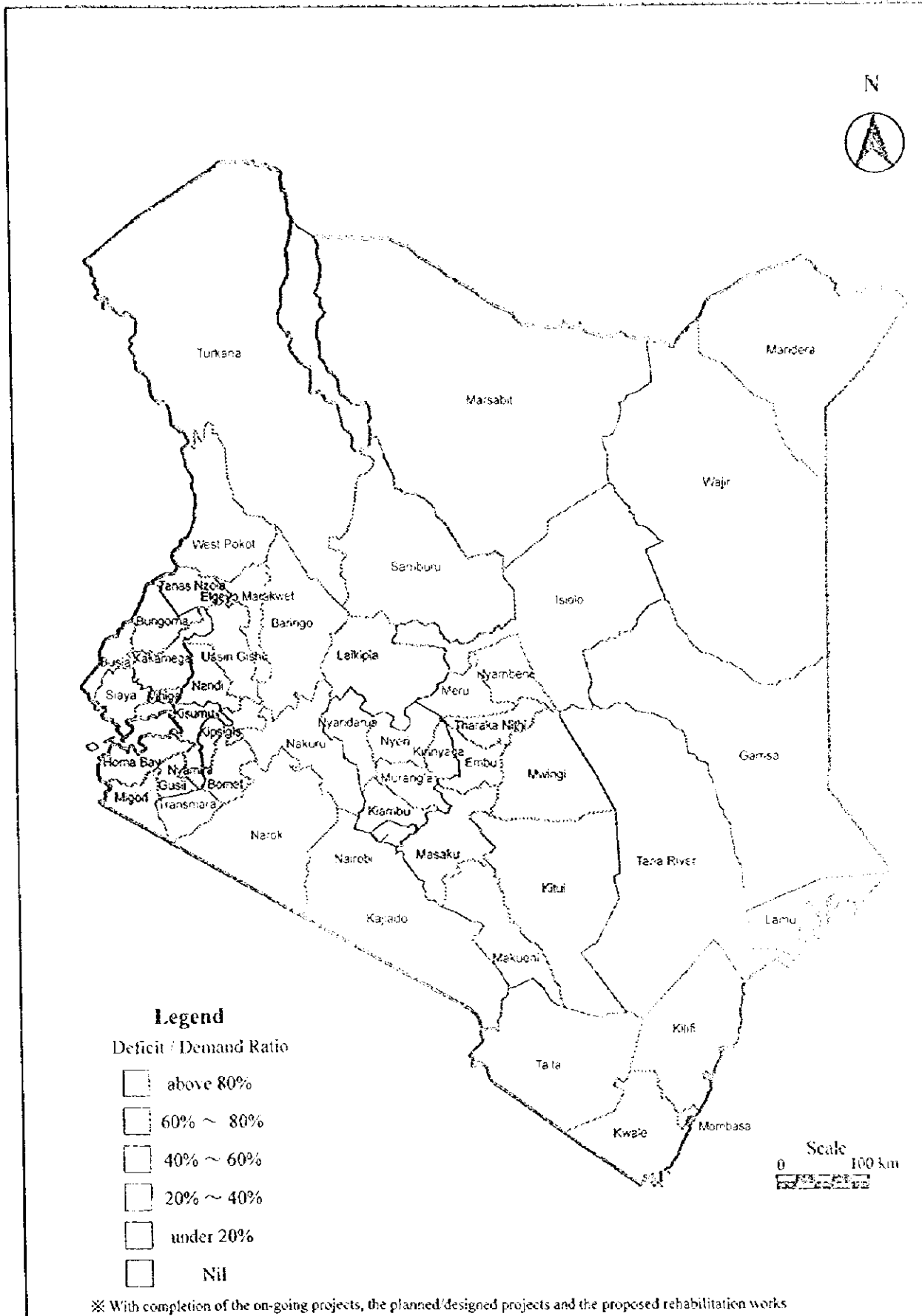




**THE AFTERCARE STUDY ON
THE NATIONAL WATER MASTER PLAN**

JAPAN INTERNATIONAL COOPERATION AGENCY

Figure - 6.3.7
Small Scale Rural Water Supply
Water Deficit in 2010 Under Step 4



**THE AFTERCARE STUDY ON
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Figure - 6.3.7
Small Scale Rural Water Supply
Water Deficit in 2010 Under Step 4