

Figure - 12.1.1 Implementation Schedule of Strengthening Plans for Public Administration, Legislation and Financial Administration

(Unit: 10<sup>3</sup> US\$)

	Area/Project	Executing Agency	8th National Development Plan (1998/1999 - 2001/2002)				5-Year National Development Plan (2002/2003 - 2006/2007)					5-Year National Development Plan (2007/2008 - 2011/2012)					Total Costs
			1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
1	LEGISLATION DEVELOPMENT		0.50	26.00													26.50
1.1	Water Law modification	MWR	*****														
1.2	Changes to other water related legislation	MWR	*****														
1.3	Environmental Management and Coordination Bill Long Term	MOENR	*****														
1.4	Comprehensive Water Act	MWR	*****														
1.5	Single environmental and water law	MWR/MOENR					*****										
1.6	Establish single enforcement agency for water and environment	MWR/MOENR					*****										
2	Implementation of the Law																
2.1	Agree strategy, procedure and training needs	MWR	*****														
2.2	Prepare training programme, resources; identify target staff	MWR	*****0.50														0.50
2.3	Train provincial and district staff (6 provinces, 64 districts)	(MOLA), (MOH)		*****6.00													6.00
2.4	Prepare, conduct PR campaign regarding water legislation in districts	MWR, (MOLA), (MOH)		*****20.00													20.00
3	IMPROVEMENT IN PUBLIC ADMINISTRATION		361.00	454.50	204.20	251.20	41.60										1312.50
	MWR																
3.1	Establish Sewerage Division	MWR	*****2.50														2.50
3.2	Establish Water Resources Management and Regulation Department	MWR	*****1.30														1.30
3.3	Hand over water supply schemes to upgraded LAs	MWR, (MOLA)															
3.4	Select community groups to receive water supply schemes and hand over when ready	MWR	****112.50	****112.50													225.00
3.5	Strengthen support for rural and community water supply schemes	MWR, (NGOs)		*****													
3.6	Set up independent central regulator for water undertakers and sewerage providers	MWR, (MOLA)				****47.00											47.00
	Community Water Supply Schemes																
3.7	Assessment of development options for new extension schemes	MWR, (MCSS), (NGOs)	*****														
3.8	National survey of community schemes	MWR	*****7.50	*****													7.50
3.9	Water quality test for community water supply schemes	MWR	*****														
	Local Authorities and MOLA																
3.10	Commercialise remaining 7 municipal water and sewerage depts (6 under GTZ, 1 under JICA); supervise pilot W&S companies	MOIA, (MWR)		****162.50	****162.50	****162.50											487.50
3.11	Upgrade additional 5 municipalities and appoint as water undertakers	MOIA, (MWR)		*****													
3.12	Commercialise 5 municipal W&S departments NWPC	MOIA, (MWR)			*****	****162.50											162.50
3.13	Hand over water supply schemes to upgraded LAs	MWR															
3.14	Apply scheme allocation criteria: receive/hand over water supply schemes from/to MWR	MWR, (NWPC)	*****														
3.15	Organisational, operational, financial review Personnel Administration	MWR, (NWPC)	****22.00														22.00
3.16	Establish pay policy for Civil Service	MWR, (Office of the President), (MOF)	****22.00														22.00
3.17	Review Public Service Commissions	MWR	****13.70														13.70
4	Improvement in Financial Administration																
4.1	Budgeting and funds allocation	MOF, (MOP), (MWR)	****17.00	*****													17.00
4.2	Tariff structure and rates for water and sewerage, in MWR, NWPC and MOIA	MWR, (NWPC)		****17.00	*****												17.00
4.3	Improve investment method	MWR, (MOIA)	*****														
4.4	Improve billing and collection	MWR	*****														
4.5	Technical Assistance for Legislation and Public Administration Development	MWR, (MOIA)	****162.5	****162.5	****41.70	****41.70	****41.60										450.00

Figure - 12.2.1 Implementation Schedule of Improvement Plans of Operation and Maintenance Systems for Water Supply and Sewerage

(Unit: 10<sup>3</sup> US\$)

Area/Project	Executing Agency	8th National Development Plan (1998/1999 - 2001/2002)				5-Year National Development Plan (2002/2003 - 2006/2007)					5-Year National Development Plan (2007/2008 - 2011/2012)				Total Costs	
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011		2012
		<p><b>1 WATER SUPPLY O&amp;M IMPROVEMENT</b> <span style="float:right">1838.00</span></p> <p>1.1 Establish functional metering systems <b>MWR, (MOLA),(NWCPC)</b></p> <ul style="list-style-type: none"> <li>* Establish necessary training courses <span style="float:right">KEWI</span></li> <li>* Train staff (meter readers, accountants, meter technicians) <span style="float:right">KEWI</span></li> <li>* Set up, refurbish meter repair shops <span style="float:right">project O&amp;M cost</span></li> <li>* Repair, acquire meters <span style="float:right">undertaker, DWO</span></li> <li>* Prepare, conduct public awareness campaign</li> </ul> <p>1.2 Leakage control <b>MWR, (MOLA),(NWCPC)</b></p> <ul style="list-style-type: none"> <li>* Establish new training courses <span style="float:right">KEWI</span></li> <li>* Train staff (leakage control technicians) <span style="float:right">KEWI</span></li> <li>* Acquire, install master and service meters</li> <li>* Set up or refurbish detection equipment</li> <li>* Prepare leak detection programmes</li> <li>* Implement programmes <span style="float:right">DWO, 1A</span></li> </ul> <p>1.3 Customer registration <b>MWR, (MOLA), (NWCPC)</b> <span style="float:right">DWO, 1A</span></p> <p>1.4 Other O&amp;M staff training (including: billing and collection, supervision, personal computing) <b>MWR, (MOLA), (NWCPC)</b> <span style="float:right">KEWI</span></p> <p>1.5 Procurement of water tankers (2 vehicles per province) <b>MWR</b> <span style="float:right">1280.00</span></p> <p>1.6 Technical Assistance at Districts for implementing the improvement programme <b>MWR, (MOLA), (NWCPC)</b> <span style="float:right">558.00</span></p> <p>1.6 man years over 3 years</p> <p><b>2 SEWERAGE O&amp;M IMPROVEMENT</b> <span style="float:right">372.00</span></p> <p>2.1 Increase operating revenue in each scheme <b>MOLA, (MWR)</b></p> <ul style="list-style-type: none"> <li>* Implement items 1.1 to 1.4</li> </ul> <p>2.2 Upgrade staff levels and skills upgrade in each scheme <b>MOLA, (MWR)</b></p> <ul style="list-style-type: none"> <li>* Define organisations, staff levels, skills needed</li> <li>* Audit of personnel in post</li> <li>* Identification of vacancies, training needs, non-performing surplus staff</li> <li>* Implement above programmes</li> </ul> <p>2.3 Procure facilities, equipment and tools <b>MOLA, (MWR)</b></p> <ul style="list-style-type: none"> <li>* Establish minimum overall needs</li> <li>* Determine minimum net needs</li> <li>* Acquire agreed numbers</li> </ul> <p>2.4 Technical Assistance at each facility to implement items 2.2 &amp; 2.3 <b>MOLA, (MWR)</b> <span style="float:right">372.00</span></p> <p>2.4 man years over 4 years</p> <p>2.5 Establish preventive maintenance programme and standard operating procedures <b>MOLA, (MWR)</b></p> <ul style="list-style-type: none"> <li>* Prepare detailed sewer inventory</li> <li>* Prepare maintenance schedule</li> <li>* Develop work order systems</li> <li>* Prepare standard operating procedures</li> </ul> <p>2.6 Implement industrial wastewater pre-treatment programme <b>MOLA, (MWR)</b></p> <ul style="list-style-type: none"> <li>* Prepare inventory of dischargers</li> <li>* Obtain equipment</li> <li>* Monitor industrial effluents</li> </ul> <p>2.7 Technical Assistance at each facility to implement items 2.5 &amp; 2.6 <span style="float:right">(12 man years over 6 years)</span></p>														

Source: JICA Study Team



Figure - 12.4.1(1/10) Implementation Schedule of Urban Water Supply Development Plan

Province	Code	District	Code	Urban Center Name		Disbursement Schedule of Urban Water Supply Schemes (Expansion Project)																		
						unit: thousand US\$																		
						1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010						
Nairobi	110	Nairobi	U-1	Nairobi	On-going																			
					Planned / Design Projects																			
					Rehabilitation																			
					Expansion																			
Central	210	Kiambu	U-2	Githunguri	On-going																			
				Planned / Design Projects																				
				Rehabilitation																				
			Expansion																					
			U-3	Karari	On-going																			
				Planned / Design Projects																				
				Rehabilitation																				
			Expansion																					
			U-4	Kiambu	On-going																			
		On-going																						
		Planned / Design Projects																						
		Rehabilitation																						
		Expansion																						
		U-5	Kikuyu	On-going																				
			Planned / Design Projects																					
			Rehabilitation																					
		Expansion																						
		U-7	Ndumburi	On-going																				
			Planned / Design Projects																					
			Rehabilitation																					
		Expansion																						
U-8	Ruiru	On-going																						
	Planned / Design Projects																							
	Rehabilitation																							
Expansion																								
U-9	Thika	On-going																						
	Planned / Design Projects																							
	Rehabilitation																							
Expansion																								
Kirinyaga	220	U-12	Kerugoya	On-going																				
			Planned / Design Projects																					
			Rehabilitation																					
		Expansion																						
		U-16	Wanguru	On-going																				
			Planned / Design Projects																					
			Rehabilitation																					
		Expansion																						
		Muranga	230	U-19	Makuyu	On-going																		
Planned / Design Projects																								
Rehabilitation																								
Expansion																								
U-20	Maragua			On-going																				
	Planned / Design Projects																							
	Rehabilitation																							
Expansion																								
U-21	Muranga	On-going																						
	Planned / Design Projects																							
	Rehabilitation																							
Expansion																								

Figure - 12.4.1(2/10) Implementation Schedule of Urban Water Supply Development Plan

Province	Code	District	Code	Urban Center Name		Disbursement Schedule of Urban Water Supply Schemes (Expansion Project)															
						unit: thousand US\$															
						1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010			
	240	Nyandarua	U- 28	Nyabururu	On going																
					Planned / Design Projects																
					Rehabilitation																
			Expansion																		
			U- 30	Olkaria	On going																
					Planned / Design Projects																
	Rehabilitation																				
	250	Nyeri	U- 32	Endarasha	On going																
					Planned / Design Projects																
					Rehabilitation																
			Expansion																		
			U- 33	Karatina	On going																
					Planned / Design Projects																
		Rehabilitation																			
		U- 36	Nyeri	On going																	
				Planned / Design Projects																	
				Rehabilitation																	
		U- 37	Othaya	On going																	
Planned / Design Projects																					
Rehabilitation																					
Coast	310	Kilifi	U- 38	Kilifi	On going																
					Planned / Design Projects																
					Rehabilitation																
			Expansion																		
			U- 39	Majengo	On going																
					Planned / Design Projects																
		Rehabilitation																			
		U- 40	Mafriti	On going																	
				Planned / Design Projects																	
				Rehabilitation																	
		U- 41	Mamburi	On going																	
				Planned / Design Projects																	
	Rehabilitation																				
	U- 42	Mariakani	On going																		
			Planned / Design Projects																		
			Rehabilitation																		
	U- 43	Watamu	On going																		
			Planned / Design Projects																		
Rehabilitation																					
320	Kwale	U- 44	Kwale	On going																	
				Planned / Design Projects																	
				Rehabilitation																	
	U- 45	Lunga Lungu	On going																		
			Planned / Design Projects																		
			Rehabilitation																		
U- 46	Msanibweni	On going																			
		Planned / Design Projects																			
		Rehabilitation																			

Figure - 12.4.1(3/10) Implementation Schedule of Urban Water Supply Development Plan

Province	Code	District	Code	Urban Center Name		Disbursement Schedule of Urban Water Supply Schemes (Expansion Project)															
						unit: thousand US\$															
						1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010			
Coast	330	Lamu	U - 47	Lamu	On-going																
					Planned / Design Projects																
					Rehabilitation																
			Expansion																		
			U - 49	Mskowe T.C	On-going																
					Planned / Design Projects																
	Rehabilitation																				
	340	Mombasa	U - 52	Mombasa	On-going																
					Planned / Design Projects																
					Rehabilitation																
			U - 54	Taveta	On-going																
					Planned / Design Projects																
					Rehabilitation																
	350	Taita	U - 55	Voi	On-going																
					Planned / Design Projects																
					Rehabilitation																
			U - 56	Wundanyi	On-going																
					Planned / Design Projects																
					Rehabilitation																
	360	Tana River	U - 58	Garsen	On-going																
					Planned / Design Projects																
Rehabilitation																					
U - 59			Hoha	On-going																	
				Planned / Design Projects																	
				Rehabilitation																	
Eastern	410	Embu	U - 60	Embu	On-going																
					Planned / Design Projects																
					Rehabilitation																
			U - 61	Rumyenjet	On-going																
					Planned / Design Projects																
					Rehabilitation																
	420	Isiolo	U - 63	Isiolo	On-going																
					Planned / Design Projects																
					Rehabilitation																
			U - 64	Mado Gasbe	On-going																
					Planned / Design Projects																
					Rehabilitation																
	430	Kiuri	U - 65	Meru	On-going																
					Planned / Design Projects																
					Rehabilitation																
			U - 68	Kiuri	On-going																
					Planned / Design Projects																
					Rehabilitation																
	440	Masaku	U - 69	Athi River	On-going																
					Planned / Design Projects																
					Rehabilitation																
U - 69			Athi River	On-going																	
				Planned / Design Projects																	
				Rehabilitation																	

Figure - 12.4.1(4/10) Implementation Schedule of Urban Water Supply Development Plan

Province	Code	District	Code	Urban Center Name		Disbursement Schedule of Urban Water Supply Schemes (Expansion Project)																
						unit: thousand US\$																
						1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010				
Eastern	450		U - 71	Machakos	On-going																	
					Planned / Design Projects																	
					Rehabilitation																	
			U - 74	Manuu	On-going																	
					Planned / Design Projects																	
					Rehabilitation																	
			U - 77	Kangundo Tala	On-going																	
					Planned / Design Projects																	
					Rehabilitation																	
	450	Marsabit	U - 79	Kargi	On-going																	
					Planned / Design Projects																	
					Rehabilitation																	
			U - 80	Korr	On-going																	
					Planned / Design Projects																	
					Rehabilitation																	
			U - 82	Marsabit	On-going																	
					Planned / Design Projects																	
					Rehabilitation																	
		U - 83	Moyale	On-going																		
				Planned / Design Projects																		
				Rehabilitation																		
		U - 84	North Horr	On-going																		
				Planned / Design Projects																		
				Rehabilitation																		
		U - 85	Selolo	On-going																		
				Planned / Design Projects																		
				Rehabilitation																		
	460	Meru	U - 86	Meru	On-going																	
					Planned / Design Projects																	
					Rehabilitation																	
	U - 87	Nkubu	On-going																			
			Planned / Design Projects																			
			Rehabilitation																			
470	Nyambene	U - 89	Masa	On-going																		
				Planned / Design Projects																		
				Rehabilitation																		
480	Tharaka Nithi	U - 90	Chuka	On-going																		
				Planned / Design Projects																		
				Rehabilitation																		
490	Mwingi	U - 91	Mwingi	On-going																		
				Planned / Design Projects																		
				Rehabilitation																		
490	Makueni	U - 93	Kirowazi	On-going																		
				Planned / Design Projects																		
				Rehabilitation																		

Figure - 12.4.1(5/10) Implementation Schedule of Urban Water Supply Development Plan

Province	Code	District	Code	Urban Center Name		Disbursement Schedule of Urban Water Supply Schemes (Expansion Project)																		
						unit: thousand US\$																		
						1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010						
Eastern	4A0	Makueni	U- 93	Miko Andei	On-going																			
					Planned / Design Projects																			
					Rehabilitation																			
					Expansion																			
	North Eastern	510	Garissa	U- 104	Garissa	On-going																		
						Planned / Design Projects																		
						Rehabilitation																		
						Expansion																		
			U- 105	Eboi	On-going																			
					Planned / Design Projects																			
					Rehabilitation																			
					Expansion																			
520		Mandera	U- 108	Elwak	On-going																			
					Planned / Design Projects																			
					Rehabilitation																			
					Expansion																			
		U- 109	Mandera	On-going																				
				Planned / Design Projects																				
				Rehabilitation																				
				Expansion																				
U- 110	Rhamu	On-going																						
		Planned / Design Projects																						
		Rehabilitation																						
		Expansion																						
530	Wajir	U- 113	Bute	On-going																				
				Planned / Design Projects																				
				Rehabilitation																				
				Expansion																				
	U- 114	Eldas	On-going																					
			Planned / Design Projects																					
			Rehabilitation																					
			Expansion																					
U- 116	Wajir	On-going																						
		Planned / Design Projects																						
		Rehabilitation																						
		Expansion																						
Nyanza	610	Ousii	U- 117	Kisii	On-going																			
					Planned / Design Projects																			
					Rehabilitation																			
					Expansion																			
	620	Kisumu	U- 119	Ahero	On-going																			
					Planned / Design Projects																			
					Rehabilitation																			
					Expansion																			
		U- 120	Kisumu	On-going																				
				Planned / Design Projects																				
				Rehabilitation																				
				Expansion																				
U- 121	Maseno	On-going																						
		Planned / Design Projects																						
		Rehabilitation																						
		Expansion																						
U- 122	Muhoroni	On-going																						
		Planned / Design Projects																						
		Rehabilitation																						
		Expansion																						



Figure - 12.4.1(6/10) Implementation Schedule of Urban Water Supply Development Plan

Province	Code	District	Code	Urban Center Name		Disbursement Schedule of Urban Water Supply Schemes (Expansion Project)															
						unit: thousand US\$															
						1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010			
Nyanza	630	Siaya	U-123	Asiro	On-going																
					Planned / Design Projects																
					Rehabilitation																
			Expansion																		
			U-125	Siaya	On-going																
					Planned / Design Projects																
	Rehabilitation																				
	640	Homa Bay	U-129	Homa Bay	On-going																
					Planned / Design Projects																
					Rehabilitation																
		U-130	Kendu Bay	On-going																	
				Planned / Design Projects																	
Rehabilitation																					
Nyanza	650	Migori	U-134	Awendo	On-going																
					Planned / Design Projects																
					Rehabilitation																
			U-135	Kembacha	On-going																
					Planned / Design Projects																
					Rehabilitation																
	U-136	Migori	On-going																		
			Planned / Design Projects																		
			Rehabilitation																		
	660	Nyanira	U-137	Nyabikaye	On-going																
					Planned / Design Projects																
					Rehabilitation																
			U-138	Roogo	On-going																
					Planned / Design Projects																
					Rehabilitation																
	710	Kajiado	U-141	Kajiado	On-going																
					Planned / Design Projects																
					Rehabilitation																
U-142			Magadi	On-going																	
				Planned / Design Projects																	
				Rehabilitation																	

Figure - 12.4.1(7/10) Implementation Schedule of Urban Water Supply Development Plan

Province	Code	District	Code	Urban Center Name		Disbursement Schedule of Urban Water Supply Schemes (Expansion Project)															
						unit: thousand US\$															
						1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010			
Rift Valley	710	Kajado	U-143	Namanga	On-going																
					Planned / Design Projects																
					Rehabilitation																
			Expansion																		
				U-144	Ngong	On-going															
						Planned / Design Projects															
		Rehabilitation																			
		Expansion																			
			U-145	Lebokitok	On-going																
					Planned / Design Projects																
		Rehabilitation																			
		Expansion																			
	U-146		Ongata Longol	On-going																	
				Planned / Design Projects																	
		Rehabilitation																			
	Expansion																				
		720	Kipsigis	U-148	Kericho	On-going															
						Planned / Design Projects															
	Rehabilitation																				
	Expansion																				
			U-149	Kipkelion	On-going																
					Planned / Design Projects																
	Rehabilitation																				
	Expansion																				
		U-151	Lodiani	On-going																	
				Planned / Design Projects																	
	Rehabilitation																				
	Expansion																				
		U-152	Soik	On-going																	
				Planned / Design Projects																	
Rehabilitation																					
Expansion																					
	730	Laikipia	U-153	Nanyuki	On-going																
					Planned / Design Projects																
Rehabilitation																					
Expansion																					
		U-154	Rumuruti	On-going																	
				Planned / Design Projects																	
Rehabilitation																					
Expansion																					
	740	Nakuru	U-155	Elburgon	On-going																
					Planned / Design Projects																
Rehabilitation																					
Expansion																					
		U-156	Gägl	On-going																	
				Planned / Design Projects																	
Rehabilitation																					
Expansion																					
		U-157	Molo	On-going																	
				Planned / Design Projects																	
Rehabilitation																					
Expansion																					
	U-158	Naivasha	On-going																		
			Planned / Design Projects																		
Rehabilitation																					
Expansion																					
	U-159	Nakuru	On-going																		
			Planned / Design Projects																		
Rehabilitation																					
Expansion																					

Figure - 12.4.1(8/10) Implementation Schedule of Urban Water Supply Development Plan

Province	Code	District	Code	Urban Center Name		Disbursement Schedule of Urban Water Supply Schemes (Expansion Project)																			
						unit: thousand US\$																			
						1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010							
Rift Valley	710	Kajado	U- 160	Njoro	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
	750	Narek	U- 163	Narek	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
	760	Trans Nzoi	U- 164	Kiata	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
	770	Usin Gishu	U- 165	Burt Forest	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
				U- 166	Eldoret	On-going																			
						Planned / Design Projects																			
						Rehabilitation																			
						Expansion																			
				U- 167	Lemok	On-going																			
						Planned / Design Projects																			
						Rehabilitation																			
						Expansion																			
			U- 169	Meis Bridge	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
			U- 170	Simot	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
			U- 172	Turbo	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
	790	Transmara	U- 174	Kilgoris	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
	810	Baringo	U- 175	Ema Ravine	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
				U- 179	Karlarnet	On-going																			
						Planned / Design Projects																			
						Rehabilitation																			
						Expansion																			
				U- 180	Maj Mazuri	On-going																			
						Planned / Design Projects																			
						Rehabilitation																			
						Expansion																			
			U- 181	Marigi	On-going																				
Planned / Design Projects																									
Rehabilitation																									
Expansion																									
		U- 182	Mogadio	On-going																					
				Planned / Design Projects																					
				Rehabilitation																					
				Expansion																					

Figure - 12.4.1(9/10) Implementation Schedule of Urban Water Supply Development Plan

Province	Code	District	Code	Urban Center Name		Disbursement Schedule of Urban Water Supply Schemes (Expansion Project) unit: thousand US\$																			
						1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010							
Rift Valley	830	Ilgeyo Marakwet	U - 183	Iten	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
	830	Nandi	U - 185	Kapsabet	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
	840	Samburu	U - 188	Maralal	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
			U - 189	Wamba	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
	850	Turkana	U - 190	Kakuma T.C	On-going																				
					Planned / Design Projects																				
					U - 191	Kafokot	On-going																		
							Planned / Design Projects																		
			U - 194	Lodwar	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
		U - 195	Lokitaung	On-going																					
				Planned / Design Projects																					
				Rehabilitation																					
				Expansion																					
860	West pokot	U - 197	Kapenguria	On-going																					
				Planned / Design Projects																					
				U - 198	Makutano	On-going																			
						Planned / Design Projects																			
Western	910	Bungoma	U - 199	Bungoma	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
			U - 200	Cheptais	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
			U - 202	Kisumu	On-going																				
					Planned / Design Projects																				
					Rehabilitation																				
					Expansion																				
		U - 203	Malakisi	On-going																					
				Planned / Design Projects																					
				Rehabilitation																					
				Expansion																					
		U - 205	Webuye	On-going																					
				Planned / Design Projects																					
				Rehabilitation																					
				Expansion																					

Figure - 12.4.1(10/10) Implementation Schedule of Urban Water Supply Development Plan

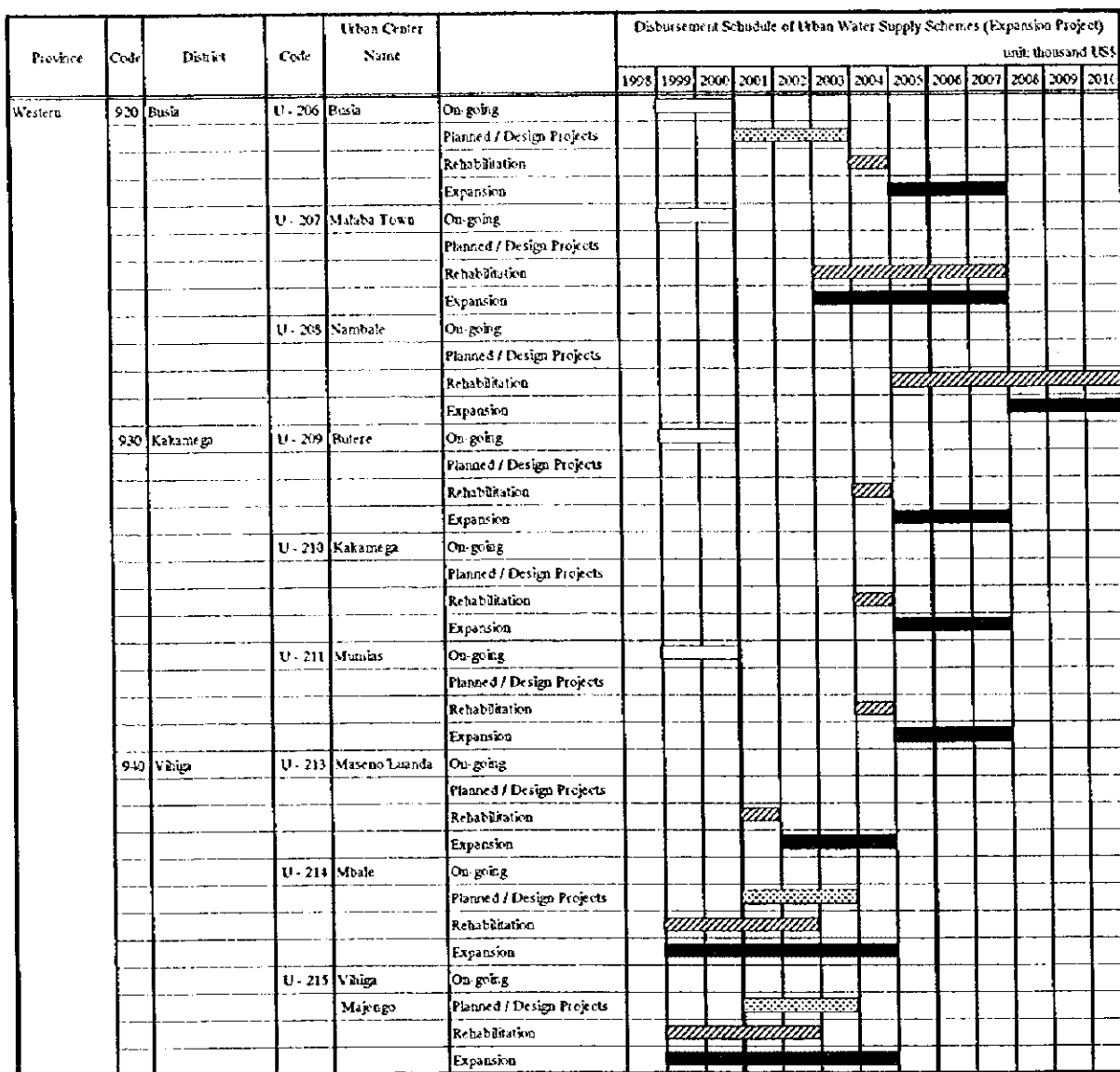


Figure - 12.5.1(1/4) Implementation Schedule of Large Scale Rural Water Supply Development Plan

Code	District		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
210	Kiambu	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
220	Kirinyaga	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
230	Murang'a	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
240	Nyandarua	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
250	Nyeri	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
310	Kilifi	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
320	Kwale	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
330	Lamu	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
340	Mombasa	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
350	Taita	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
360	Tana River	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
410	Embu	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
420	Isiolo	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														

Figure - 12.5.1(2/4) Implementation Schedule of Large Scale Rural Water Supply Development Plan

Code	District		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
430	Kitui	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
440	Masaku	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
450	Marsabit	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
460	Meru	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
470	Nyambene	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
480	Tharaka Nithi	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
490	Mwingi	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
4A0	Makueni	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
510	Garissa	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
520	Mandera	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
530	Wajir	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
610	Gusii	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
620	Kisumu	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														

Figure - 12.5.1(3/4) Implementation Schedule of Large Scale Rural Water Supply Development Plan

Code	District		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010		
630	Siaya	On-going	[Solid bar]														
		Planned/Designed															
		Rehabilitation									[Hatched bar]						
		Newly proposed															
640	Homa Bay	On-going	[Solid bar]														
		Planned/Designed															
		Rehabilitation									[Hatched bar]						
		Newly proposed															
650	Migori	On-going	[Solid bar]														
		Planned/Designed															
		Rehabilitation							[Hatched bar]								
		Newly proposed															
660	Nyamira	On-going	[Solid bar]														
		Planned/Designed															
		Rehabilitation									[Hatched bar]						
		Newly proposed															
710	Kajiado	On-going	[Solid bar]														
		Planned/Designed															
		Rehabilitation									[Hatched bar]						
		Newly proposed															
720	Kipsigis	On-going	[Solid bar]														
		Planned/Designed															
		Rehabilitation							[Hatched bar]								
		Newly proposed															
730	Laikipia	On-going	[Solid bar]														
		Planned/Designed															
		Rehabilitation									[Hatched bar]						
		Newly proposed															
740	Nakuru	On-going	[Solid bar]														
		Planned/Designed															
		Rehabilitation										[Hatched bar]					
		Newly proposed															
750	Narok	On-going	[Solid bar]														
		Planned/Designed															
		Rehabilitation									[Hatched bar]						
		Newly proposed									[Solid black bar]						
760	Trans Nzoia	On-going	[Solid bar]														
		Planned/Designed															
		Rehabilitation										[Hatched bar]					
		Newly proposed															
770	Uasin Gishu	On-going	[Solid bar]														
		Planned/Designed															
		Rehabilitation									[Hatched bar]						
		Newly proposed															
780	Bomet	On-going	[Solid bar]														
		Planned/Designed															
		Rehabilitation									[Hatched bar]						
		Newly proposed									[Solid black bar]						
790	Transmara	On-going	[Solid bar]														
		Planned/Designed															
		Rehabilitation									[Hatched bar]						
		Newly proposed									[Solid black bar]						



Figure - 12.5.1(4/4) Implementation Schedule of Large Scale Rural Water Supply Development Plan

Code	District		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
810	Baringo	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
820	Elgeyo Marakwet	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
830	Nandi	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
840	Samburu	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
850	Turkana	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
860	West Pokot	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
910	Bungoma	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
920	Busia	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
930	Kakamega	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														

Figure - 12.5.2(1/4) Implementation Schedule of Small Scale Rural Water Supply Development Plan

	District		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
210	Kiambu	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
220	Kirinyaga	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
230	Muranga	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
240	Nyandarua	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
250	Nyeri	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
310	Kilifi	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
320	Kwale	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
330	Lamu	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
340	Mombasa	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
350	Taita	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
360	Tana River	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
410	Embu	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
420	Isiolo	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
430	Kutui	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
440	Masaku	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														

Figure - 12.5.2(2/4) Implementation Schedule of Small Scale Rural Water Supply Development Plan

	District		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
450	Marsabit	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
460	Meru	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
470	Nyambene	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
450	Tharaka Nthi	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
490	Mwingi	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
4A0	Makueni	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
510	Garissa	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
520	Mandera	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
530	Wajir	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
610	Gusii	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
620	Kisumu	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
630	Siaya	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
640	Homa Bay	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
650	Migori	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
660	Nyamira	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														

Figure - 12.5.2(3/4) Implementation Schedule of Small Scale Rural Water Supply Development Plan

	District		1993	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
710	Kajiado	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
720	Kipsigis	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
730	Laikipia	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
740	Nakuru	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
750	Narok	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
760	Trans Nzoia	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
770	Uasin Gishu	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
780	Bomet	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
790	Transmara	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
810	Baringo	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
820	Elgeyo Marakwet	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
830	Nandi	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
840	Samburu	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
850	Turkana	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
860	West Pokot	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														

Figure - 12.5.2(4/4) Implementation Schedule of Small Scale Rural Water Supply Development Plan

	District		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
910	Bungoma	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
920	Busia	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
930	Kakamega	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														
940	Vihiga	On-going														
		Planned/Designed														
		Rehabilitation														
		Newly proposed														

Figure - 12.7.1(U/4) Implementation Schedule of Sewerage Development Plan

Urban Name	Code	Initial Cost (\$) (US\$)	Facility Planning	Cost (US\$)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Nairobi Dundura	U-1	81,701,000	Treatment works	42,203,000												
			Sewer reticulation	21,000												
Nairobi Kariobangi	U-1	46,839,000	Treatment works	33,535,000												
			Sewer reticulation	9,897,000												
Nakuru-town	U-159	20,571,000	Treatment works	33,662,000												
			Sewer reticulation	7,782,000												
Nakuru-Njoro	U-159	11,206,000	Treatment works	11,335,000												
			Sewer reticulation	6,425,000												
Mombasa Phase I	U-52	58,353,000	Treatment works	3,966,000												
			Sewer reticulation	48,225,000												
Mombasa Phase II	U-52	12,872,000	Treatment works	5,884,000												
			Sewer reticulation	11,936,000												
Kisumu Phase I	U-120	19,571,000	Treatment works	3,162,000												
			Sewer reticulation	1,999,000												
Kisumu Phase II	U-120	31,626,000	Treatment works	13,587,000												
			Sewer reticulation	5,022,000												
Eldoret Conventional	U-166	8,193,000	Treatment works	24,304,000												
			Sewer reticulation	7,597,000												
Eldoret Ponds	U-166	8,193,000	Treatment works	7,597,000												
			Sewer reticulation	1,579,000												
Machakos Phase I	U-71	2,303,000	Treatment works	561,000												
			Sewer reticulation	1,793,000												
Machakos Phase II	U-71	2,303,000	Treatment works	343,000												
			Sewer reticulation	12,172,000												
Meru	U-86	29,087,000	Treatment works	14,831,000												
			Sewer reticulation	2,322,000												
Nyeri Conventional	U-36	7,828,000	Treatment works	17,000												
			Sewer reticulation	4,919,000												

Figure - 12.7.1(2/4) Implementation Schedule of Sewerage Development Plan

Urban Name	Code	Initial Cost (e) (US\$)	Facility Planning	Cost (US\$)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Nyeri Kiganjo	U-36	11,424,000	Treatment works	New or expand	3,346,000												
			Sewer reticulation	Rehabilitation	22,000												
Kitale conventional	U-164	5,127,000	Treatment works	New or expand	943,000												
			Sewer reticulation	Rehabilitation	3,811,000												
Kitale Pond	U-164	8,838,000	Treatment works	New or expand	4,323,000												
			Sewer reticulation	Rehabilitation	65,000												
Kakamega Shirere	U-210	6,942,000	Treatment works	New or expand	3,685,000												
			Sewer reticulation	Rehabilitation	8,000												
Kakamega Kiambi	U-210	2,967,000	Treatment works	New or expand	2,751,000												
			Sewer reticulation	Rehabilitation	2,761,000												
Thika	U-9	6,329,000	Treatment works	New or expand	3,203,000												
			Sewer reticulation	Rehabilitation	52,000												
Naivasha	U-158	10,048,000	Treatment works	New or expand	3,659,000												
			Sewer reticulation	Rehabilitation	205,000												
Kericho	U-148	7,986,000	Treatment works	New or expand	5,469,000												
			Sewer reticulation	Rehabilitation	3,441,000												
Malindi	U-40	7,981,000	Treatment works	New or expand	3,978,000												
			Sewer reticulation	Rehabilitation	4,732,000												
Webuye	U-205	6,390,000	Treatment works	New or expand	2,559,000												
			Sewer reticulation	Rehabilitation	109,000												
Kisii	U-117	4,933,000	Treatment works	New or expand	3,464,000												
			Sewer reticulation	Rehabilitation	1,183,000												

Figure - 12.7.1(3/4) Implementation Schedule of Sewerage Development Plan

Urban Name	Code	Initial Cost (a) (US\$)	Facility Planning	Cost (US\$)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Gorisa	U-14	6,563,000	Treatment works	2,029,000												
			Sewer reticulation	4,059,000												
Bungoma	U-199	5,892,000	Treatment works	2,278,000												
			Sewer reticulation	3,191,000												
Busia (South Teso)	U-206	5,275,000	Treatment works	1,774,000												
			Sewer reticulation	100,000												
Nanyuki	U-153	3,514,000	Treatment works	829,000												
			Sewer reticulation	1,800,000												
Embu	U-60	2,881,000	Treatment works	2,249,000												
			Sewer reticulation	1,049,000												
Isiolo	U-63	2,421,000	Treatment works	184,000												
			Sewer reticulation	1,443,000												
Ongata Longo	U-146	3,111,000	Treatment works	471,000												
			Sewer reticulation	1,729,000												
Maragua	U-20	3,064,000	Treatment works	1,094,000												
			Sewer reticulation	1,795,000												
Narok	U-163	2,963,000	Treatment works	1,078,000												
			Sewer reticulation	1,768,000												
Homabay	U-129	1,547,000	Treatment works	1,044,000												
			Sewer reticulation	1,708,000												
Ruiru	U-8	2,688,000	Treatment works	774,000												
			Sewer reticulation	67,000												
Wajir	U-116	2,492,000	Treatment works	597,000												
			Sewer reticulation	952,000												
			Treatment works	1,545,000												
			Sewer reticulation	827,000												
			Sewer reticulation	1,455,000												





Figure - 12.7.1(4/4) Implementation Schedule of Sewerage Development Plan

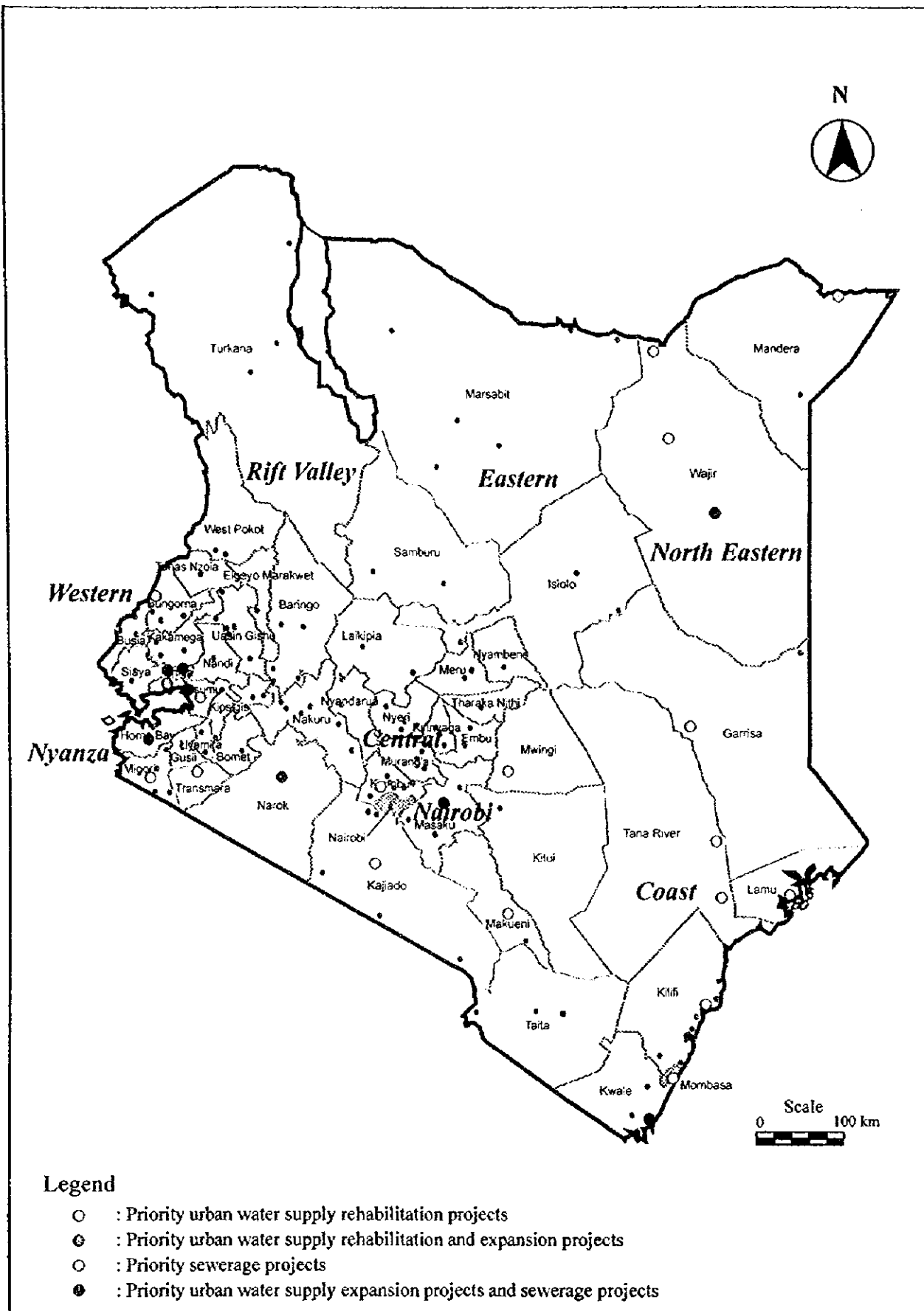
Urban Name	Code	Initial Cost (a) (US\$)	Facility Planning	Cost (US\$)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Muranga	U-21	947,000	Treatment works	189,000												
			Sewer reticulation	689,000												
Nyahuru	U-28	588,000	Rehabilitation of Treatment works	154,000												
			Sewer reticulation	401,000												
Kilifi	U-38	2,185,000	Treatment works	767,000												
			Sewer reticulation	1,261,000												
Mandera	U-109	2,307,000	Treatment works	686,000												
			Sewer reticulation	1,454,000												
Athi River	U-69	1,686,000	Rehabilitation of Treatment works	583,000												
			Sewer reticulation	980,000												
Kapsabet	U-185	778,000	Sewer reticulation	721,000												
			Treatment works	582,000												
Ngong	U-144	1,552,000	Sewer reticulation	864,000												
			Treatment works	499,000												
Voi	U-55	1,324,000	Sewer reticulation	730,000												
			Treatment works	478,000												
Kabarnet	U-179	1,285,000	Sewer reticulation	716,000												
			Treatment works	415,000												
Kiambu	U-40	448,000	Sewer reticulation	415,000												
			Treatment works	553,000												
Karatina	U-33	1,527,000	Sewer reticulation	863,000												
			Treatment works	242,000												
Limuru	U-6	399,000	Treatment works	130,000												
			Sewer reticulation	130,000												
On-going project		31,000														
Total		477,064,000														

Note : Design : Implementation

Figure - 12.6.1 Implementation Schedule of Livestock Water Supply Development Plan

Province	Code	District	Nos	Total Storage Capacity (1,000m <sup>3</sup> )	Cost (1,000US\$)	Implementation Schedule																	
						2000			2005			2010											
Central	210	Kiambu	3	150	92																		
	220	Kirinyaga	3	150	92																		
	230	Muranga	3	150	92																		
	240	Nyandarua	4	200	122																		
	250	Nyeri	3	150	92																		
Coastal	310	Kilifi	3	150	92																		
	320	Kwale	7	350	214																		
	330	Lamu	2	100	61																		
	340	Mombasa	1	50	31																		
	350	Taita	2	100	61																		
	360	Tana River	14	700	427																		
Eastern	410	Embu	5	250	153																		
	420	Isiolo	2	100	61																		
	430	Kitui	14	700	427																		
	440	Masaku	11	550	336																		
	450	Marsabit	15	750	458																		
	460	Meru	6	300	183																		
	470	Nyambene	5	250	153																		
	480	Thoraka Nithi	6	300	183																		
	490	Mwingi	7	350	214																		
	4A0	Makueni	79	3,950	2,410																		
North-Eastern	510	Garissa	98	4,900	2,989																		
	520	Mandera	23	1,150	702																		
	530	Wajir	39	1,950	1,190																		
Nyanza	610	Gusii	5	250	153																		
	620	Kisumu	6	300	183																		
	630	Siaya	6	300	183																		
	640	Homa Bay	4	200	122																		
	650	Migori	2	100	61																		
	660	Nyanira	4	200	122																		
Rift Valley	710	Kajiado	28	1,400	854																		
	720	Kipsigis	4	200	122																		
	730	Laikipia	8	400	244																		
	740	Nakuru	33	1,650	1,007																		
	750	Narok	16	800	488																		
	760	Trans Nzoia	2	100	61																		
	770	Uasin Gishu	5	250	153																		
	780	Bomet	6	300	183																		
	790	Transnara	3	150	92																		
	810	Baringo	44	2,200	1,342																		
	820	Elgeyo Marakwet	2	100	61																		
	830	Nandi	5	250	153																		
	840	Samburu	18	900	549																		
	850	Turkana	12	600	366																		
860	West Pokot	12	600	366																			
Western	910	Bungoma	4	200	122																		
	920	Busia	3	150	92																		
	930	Kakamega	6	300	183																		
	940	Vihiga	3	150	92																		
Total			299	169,204	30,500																		

Legend:  : Studies, surveys, detailed design, financial arrangements, etc.  
 : Construction

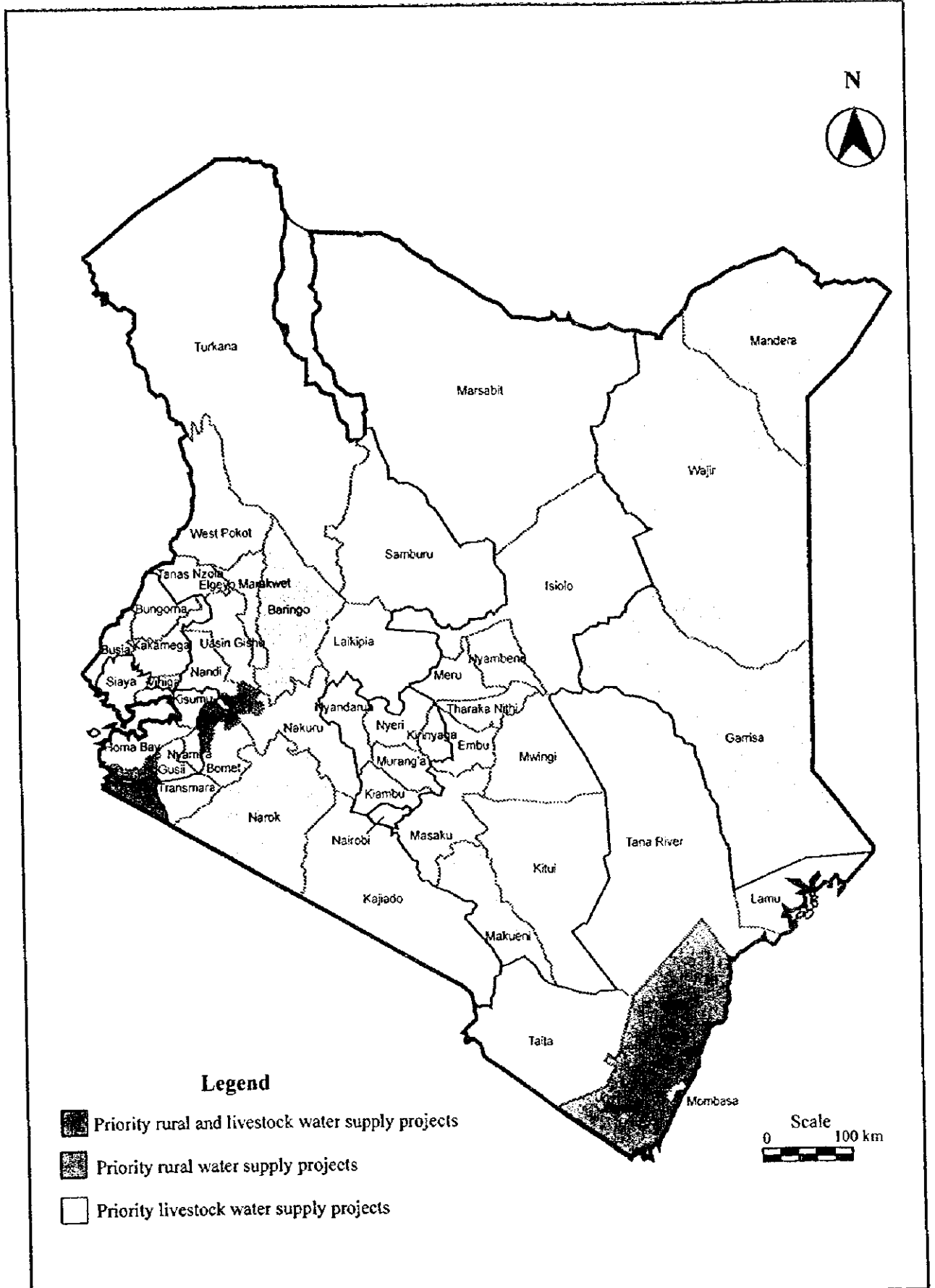


**THE AFTERCARE STUDY ON  
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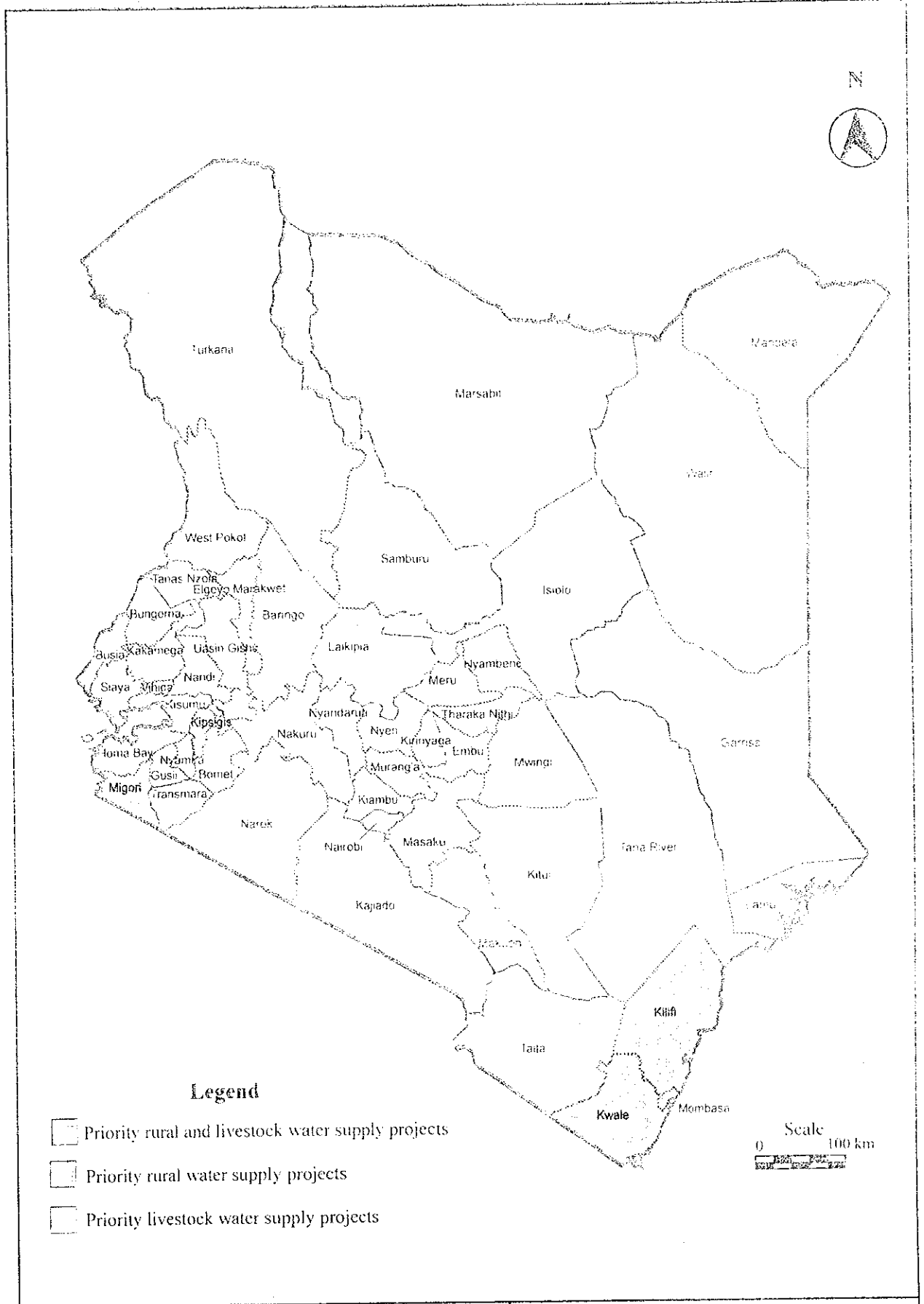
**JAPAN INTERNATIONAL COOPERATION AGENCY**

**Figure - 13.1.1  
Locations of Priority Urban Water  
Supply and Sewerage Projects**



**THE AFTERCARE STUDY ON  
THE NATIONAL WATER MASTER PLAN  
JAPAN INTERNATIONAL COOPERATION AGENCY**

**Figure - 13.2.1  
Locations of Priority Rural and  
Livestock Water Supply Projects**



**Figure - 13.2.1**  
**Locations of Priority Rural and Livestock Water Supply Projects**











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