

**WHO / UNICEF**

**Joint Monitoring Programme**  
for Water Supply and Sanitation

Estimates for the use of

**Improved Drinking-Water Sources  
and Improved Sanitation Facilities**

Updated March 2010

[childinfo.org](http://childinfo.org)

Access to drinking water sources		CEN89			Kenya			Access to drinking water sources		DHS89			Kenya		
Census		as recorded in the Global Water Supply and Sanitation Assessment 2000. Water Supply and Sanitation Sector Questionnaire - 1999			1989			Demographic and Health Survey		1989					
Original denomination	Classification	Urban	Rural	Total	Original denomination	Classification	Urban	Rural	Total	Original denomination	Classification	Urban	Rural	Total	
Piped Water	<b>Tap water</b>	84.8	16.6			<b>Tap water</b>	90.2	17.6			<b>Tap water</b>	58.8	11.0		
	House connections				Piped into House	House connections					House connections				
	Piped water into dwelling					Piped water into dwelling					Piped water into dwelling				
	Piped water to yard/plot					Piped water to yard/plot					Piped water to yard/plot				
	Public tap, standpipe				Public Tap	Public tap, standpipe	31.4	6.5			Public tap, standpipe				
	Other					Other					Other				
	<b>Ground water</b>	4.0	16.4			<b>Ground water</b>	5.3	18.7			<b>Ground water</b>	2.4	5.6		
	Protected ground water					Protected ground water					Protected ground water				
	Unprotected ground water					Unprotected ground water					Unprotected ground water				
	Protected wells or springs					Protected wells or springs	2.4	5.6	0.0		Protected wells or springs				
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	Unprotected wells or springs					Unprotected wells or springs	0.0	0.0	0.0		Unprotected wells or springs				
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
Well	<b>All wells</b>	4.0	16.4			<b>All wells</b>	5.3	18.7			<b>All wells</b>				
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	Tubewell, borehole				Well with Handpump	Tubewell, borehole	2.4	5.6			Tubewell, borehole				
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	<b>Traditional wells</b>				Well without Handpump	<b>Traditional wells</b>	2.9	13.0			<b>Traditional wells</b>				
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	Protected well					Protected well					Protected well				
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	Unprotected well					Unprotected well					Unprotected well				
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	<b>All springs</b>					<b>All springs</b>					<b>All springs</b>				
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	Protected spring					Protected spring					Protected spring				
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	Unprotected spring					Unprotected spring					Unprotected spring				
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	<b>Rainwater</b>					<b>Rainwater</b>	0.1	1.7			<b>Rainwater</b>	0.1	1.7		
	Covered cistern/tank				Rainwater	Covered cistern/tank					Covered cistern/tank				
	Uncovered cistern/tank					Uncovered cistern/tank					Uncovered cistern/tank				
	<b>Bottled water</b>					<b>Bottled water</b>					<b>Bottled water</b>				
	with other improved					with other improved					with other improved				
	without other improved					without other improved					without other improved				
	<b>Surface water</b>	5.4	49.7			<b>Surface water</b>	4.2	53.7			<b>Surface water</b>	3.1	44.0		
	River				River	River					River				
	Lake					Lake					Lake	0.2	2.0		
	Dam					Dam					Dam				
	Pond					Pond					Pond	0.9	7.7		
Stream/River	Stream	5.4	49.7			Stream					Stream				
	Irrigation channel					Irrigation channel					Irrigation channel				
	Other					Other					Other				
	<b>Other improved sources</b>					<b>Other improved sources</b>					<b>Other improved sources</b>				
	Other					Other					Other				
	Other					Other					Other				
	<b>Other non-improved</b>	5.8	17.3			<b>Other non-improved</b>	0.2	8.3			<b>Other non-improved</b>				
	Cart with small tank/drum					Cart with small tank/drum					Cart with small tank/drum				
	Tanker truck provided					Tanker truck provided					Tanker truck provided				
Other	Other	5.8	17.3		Other	Other	0.2	8.3			Other				
	Other					Other					Other				
	<b>DK/missing</b>					<b>DK/missing</b>					<b>DK/missing</b>				
	<b>Total</b>	100.0	100.0			<b>Total</b>	99.9	99.9			<b>Total</b>				
<b>Calculations</b>					<b>Calculations</b>					<b>Calculations</b>					
	Standpipe, based on DHS89	29.5	6.2												
<b>Estimations</b>					<b>Estimations</b>					<b>Estimations</b>					
	% of wells with handpumps from DHS89	1.8	4.9			50% of traditional wells considered improved	1.4	6.5							
	50% of wells without handpump estimated protected	1.1	5.7												
	HC, based on DHS89	55.2	10.4												
<b>Access to improved drinking water sources :</b>		<b>88%</b>	<b>27%</b>		<b>Access to improved drinking water sources :</b>		<b>94%</b>	<b>31%</b>		<b>Access to improved drinking water sources :</b>		<b>85%</b>	<b>63%</b>		
<b>Access to house connections :</b>		<b>55%</b>	<b>10%</b>		<b>Access to house connections :</b>		<b>59%</b>	<b>11%</b>		<b>Access to house connections :</b>		<b>35%</b>	<b>37%</b>		
Used for the estimates		Yes	Yes		Used for the estimates		Yes	Yes		Used for the estimates		Yes	Yes		
Used for the estimates		Yes	Yes		Used for the estimates		Yes	Yes		Used for the estimates		Yes	Yes		
<b>Ratios</b>					<b>Ratios</b>					<b>Ratios</b>					
	HC / Tap water					HC / Tap water					HC / Tap water				
	Public tap / Tap water					Public tap / Tap water					Public tap / Tap water				
	Tubewell + protected well / All wells					Tubewell + protected well / All wells					Tubewell + protected well / All wells				
	Protected wells / Traditional wells					Protected wells / Traditional wells					Protected wells / Traditional wells				
	Tubewell / All wells					Tubewell / All wells	45%	30%			Tubewell / All wells				
	Protected springs / All springs					Protected springs / All springs					Protected springs / All springs				
	Protect. well & spring / well & spring					Protect. well & spring / well & spring	100%	100%			Protect. well & spring / well & spring				
						Wells with handpump / wells	45%	30%			Wells with handpump / wells				
	Number of people covered by the census.	3864	17585			Number of people covered by the survey.					Number of people covered by the survey.				
	Number of households covered by the census.					Number of households covered by the survey.					Number of households covered by the survey.				
	Total population.					Total population.					Total population.				
<b>Comments</b>					<b>Comments</b>					<b>Comments</b>					



Access to drinking water sources		CEN99			Kenya			Access to drinking water sources		JMP99			Kenya						
Census					10% micro dataset from IPUMS					Global Water Supply and Sanitation Assessment 2000.					Water Supply and Sanitation Sector Questionnaire - 1999. Form 6 sent to WHO.				
					1999										1999				
Original denomination	Classification	Urban	Rural	Total	Original denomination	Classification	Urban	Rural	Total	Original denomination	Classification	Urban	Rural	Total					
Piped-water	<b>Tap water</b>	61.1	13.2		Population served with household connection	<b>Tap water</b>	58.2	12.3											
	House connections					House connections	58.2	12.3											
	Piped water into dwelling					Piped water into dwelling													
	Piped water to yard/plot					Piped water to yard/plot													
	Public tap, standpipe					Public tap, standpipe													
	Other					Other													
	<b>Ground water</b>	20.1	40.2		Population without household connection but with reasonable access to a public	<b>Ground water</b>	35.7	28.0											
	Protected ground water	6.5	8.3			Protected ground water	35.7	28.0											
	Unprotected ground water					Unprotected ground water													
	Protected wells or springs	6.5	8.3	0.0		Protected wells or springs													
	Private					Private													
	Public					Public													
	Other					Other													
	Unprotected wells or springs					Unprotected wells or springs													
	Private					Private													
	Public					Public													
	Other					Other													
Well	<b>All wells</b>	8.4	16.6			<b>All wells</b>													
	Private					Private													
	Public					Public													
	Other					Other													
Borehole	Tubewell, borehole	6.5	8.3			Tubewell, borehole													
	Private					Private													
	Public					Public													
	Other					Other													
	<b>Traditional wells</b>					<b>Traditional wells</b>													
	Private					Private													
	Public					Public													
	Other					Other													
	Protected well					Protected well													
	Private					Private													
	Public					Public													
	Other					Other													
	Unprotected well					Unprotected well													
	Private					Private													
	Public					Public													
	Other					Other													
Spring	<b>All springs</b>	5.2	15.4			<b>All springs</b>													
	Private					Private													
	Public					Public													
	Other					Other													
	Protected spring					Protected spring													
	Private					Private													
	Public					Public													
	Other					Other													
	Unprotected spring					Unprotected spring													
	Private					Private													
	Public					Public													
	Other					Other													
	<b>Rainwater</b>					<b>Rainwater</b>													
	Covered cistern/tank					Covered cistern/tank													
	Uncovered cistern/tank					Uncovered cistern/tank													
	<b>Bottled water</b>					<b>Bottled water</b>													
	with other improved					with other improved													
	without other improved					without other improved													
	<b>Surface water</b>	12.9	42.9			<b>Surface water</b>													
	River					River													
Lake	Lake	0.8	1.6			Lake													
Dam	Dam	0.4	3.2			Dam													
Pond	Pond	1.2	3.8			Pond													
Stream/river	Stream	10.4	34.3			Stream													
	Irrigation channel					Irrigation channel													
	Other					Other													
	<b>Other improved sources</b>					<b>Other improved sources</b>													
	Other					Other													
	Other					Other													
	<b>Other non-improved</b>	5.2	3.5		Total population unserved	<b>Other non-improved</b>	6.1	59.7											
	Cart with small tank/drum					Cart with small tank/drum													
	Tanker truck provided					Tanker truck provided													
Jabias/tanks	Other	0.9	1.2			Other													
Other	Other	4.3	2.3			Other													
Unknown	<b>DK/missing</b>	0.7	0.2			<b>DK/missing</b>													
	<b>Total</b>	100.0	100.0			<b>Total</b>	100.0	100.0											
<b>Calculations</b>					<b>Calculations</b>														
	Standpipe, based on MICS00	21.8	4.7																
<b>Estimations</b>					<b>Estimations</b>														
	Estimated protected wells and springs based on MICS00	8.9	14.8																
	Estimated house connections based on MICS00	39.3	8.6																
<b>Access to improved drinking water sources :</b>		<b>76%</b>	<b>36%</b>		<b>Access to improved drinking water sources :</b>		<b>94%</b>	<b>40%</b>		<b>Access to improved drinking water sources :</b>		<b>94%</b>	<b>40%</b>						
<b>Access to house connections :</b>		<b>39%</b>	<b>9%</b>		<b>Access to house connections :</b>		<b>58%</b>	<b>12%</b>		<b>Access to house connections :</b>		<b>58%</b>	<b>12%</b>						
Used for the estimates:		Yes	Yes		Used for the estimates:		No	No		Used for the estimates:		No	No						
Used for the estimates:		Yes	Yes		Used for the estimates:		No	No		Used for the estimates:		No	No						
<b>Ratios</b>	HC / Tap water				<b>Ratios</b>	HC / Tap water	100%	100%											
	Public tap / Tap water					Public tap / Tap water													
	Tubewell + protected well / All wells					Tubewell + protected well / All wells													
	Protected wells / Traditional wells					Protected wells / Traditional wells													
	Tubewell / All wells					Tubewell / All wells													
	Protected springs / All springs					Protected springs / All springs													
	Protect. well & spring / well & spring					Protect. well & spring / well & spring													
	Number of people covered by the census:					Number of people covered by the survey:	6128	23618											
	Number of households covered by the census:					Number of households covered by the survey:													
	Total population:					Total population:													
<b>Comments</b>					<b>Comments</b>														



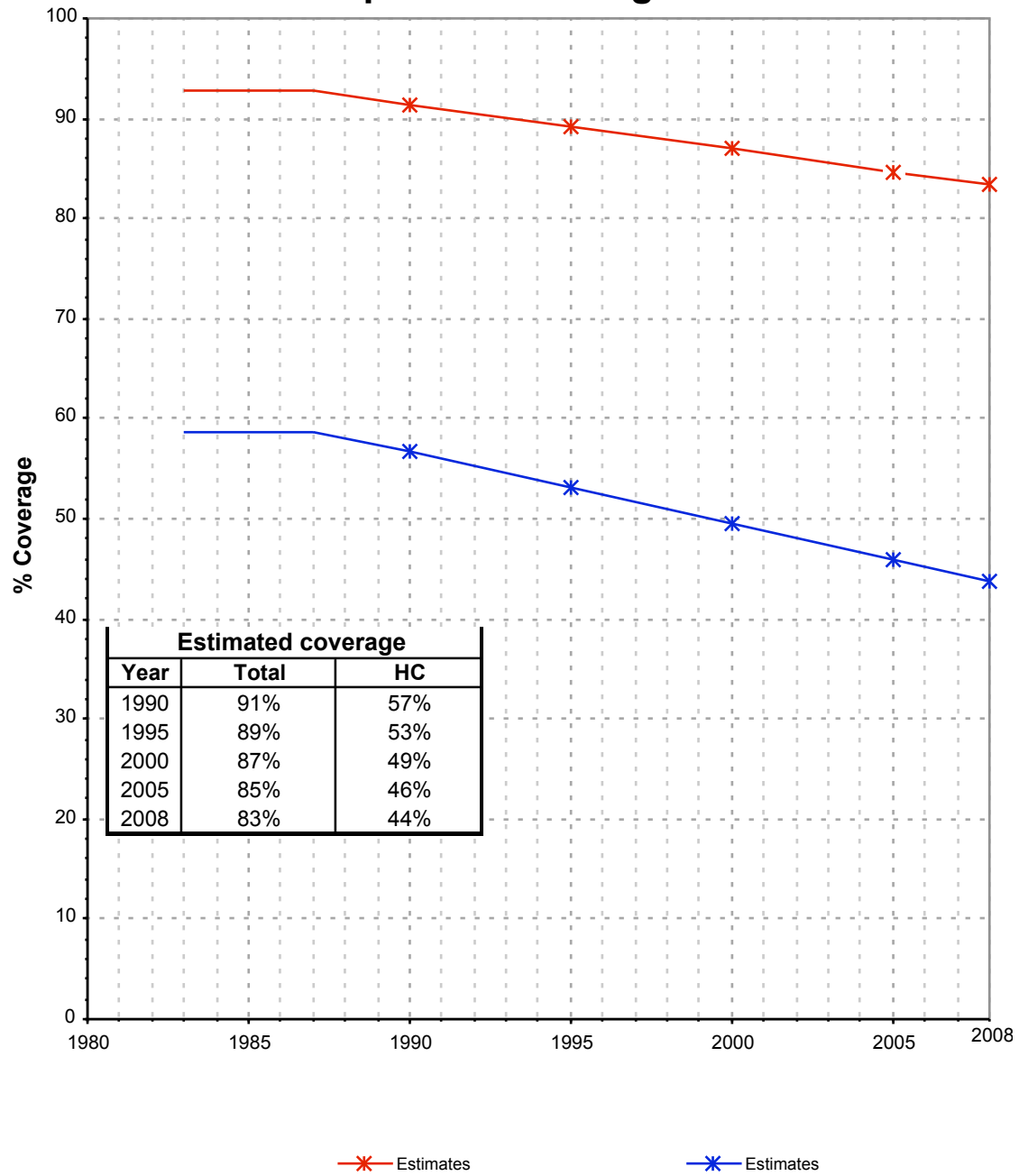


Access to drinking water sources		WMS94			Kenya			Access to drinking water sources		CWIQ97			Kenya		
Welfare Monitoring Survey					Core Welfare Monitoring Questionnaire					Ministry of Planning and National Development					
Ministry of Planning and National Development					Ministry of Planning and National Development					Central Bureau of Statistics					
Central Bureau of Statistics					Central Bureau of Statistics					Central Bureau of Statistics					
Original denomination		Classification			Urban	Rural	Total	Original denomination		Classification			Urban	Rural	Total
pipelined water	Tap water			90.2	17.3			Piped in the dwelling/Compound	Tap water			84.3	23.2		
	House connections								House connections			44.0	9.5		
	Piped water into dwelling								Piped water into dwelling						
	Piped water to yard/plot								Piped water to yard/plot						
	Public tap, standpipe							Public out door tap/borehole	Public tap, standpipe			40.3	13.7		
	Other								Other						
	Ground water			4.8	39.9				Ground water			3.5	35.2		
	Protected ground water			3.4	19.1				Protected ground water			2.0	15.7		
	Unprotected ground water			1.4	20.8				Unprotected ground water			1.5	19.5		
	Protected wells or springs			3.4	19.7				Protected wells or springs			2.0	15.7	0.0	
	Private								Private						
	Public								Public						
	Other								Other						
	Unprotected wells or springs			1.4	20.8				Unprotected wells or springs			1.5	19.5	0.0	
	Private								Private						
	Public								Public						
	Other								Other						
	All wells			3.7	21.7				All wells			3.5	35.2		
	Private								Private						
	Public								Public						
	Other								Other						
borehole	Tubewell, borehole			0.7	7.7				Tubewell, borehole						
	Private								Private						
	Public								Public						
	Other								Other						
	Traditional wells			3.0	14.0				Traditional wells			3.5	35.2		
	Private								Private						
	Public								Public						
	Other								Other						
protected well	Protected well			2.3	5.8			Protected well	Protected well			2.0	15.7		
	Private								Private						
	Public								Public						
	Other								Other						
unprotected well	Unprotected well			0.7	8.2			Unprotected well/rain water	Unprotected well			1.5	19.5		
	Private								Private						
	Public								Public						
	Other								Other						
	All springs			1.1	18.2				All springs						
	Private								Private						
	Public								Public						
	Other								Other						
protected spring	Protected spring			0.4	5.6				Protected spring						
	Private								Private						
	Public								Public						
	Other								Other						
unprotected spring	Unprotected spring			0.7	12.6				Unprotected spring						
	Private								Private						
	Public								Public						
	Other								Other						
	Rainwater			0.3	3.9				Rainwater						
roof catchment	Covered cistern/tank			0.3	3.9				Covered cistern/tank						
	Uncovered cistern/tank								Uncovered cistern/tank						
	Bottled water								Bottled water						
	with other improved								with other improved						
	without other improved								without other improved						
	Surface water			3.1	37.1			River, lake, pond	Surface water			1.8	39.2		
river	River			3.1	30.5				River						
lake/pond/dam	Lake			0.0	6.6				Lake						
	Dam								Dam						
	Pond								Pond						
	Stream								Stream						
	Irrigation channel								Irrigation channel						
	Other								Other						
	Other improved sources								Other improved sources						
	Other								Other						
	Other								Other						
	Other non-improved			1.4	1.9				Other non-improved			10.4	2.4		
	Cart with small tank/drum								Cart with small tank/drum						
	Tanker truck provided							Vendor, Truck	Tanker truck provided			8.3	1.1		
other	Other			1.4	1.9			Other	Other			2.1	1.3		
	Other								Other						
	DK/missing								DK/missing						
	Total			99.8	100.1				Total			100.0	100.0		
Calculations								Calculations							
Estimations								Estimations							
	HCC based on DHS 2003			57.7	9.4										
Access to improved drinking water sources :				94%	40%	Access to improved drinking water sources :				86%	39%				
Access to house connections :				58%	9%	Access to house connections :				44%	10%				
Used for the estimates.				Yes	Yes	Used for the estimates.				Yes	Yes				
Used for the estimates.				Yes	Yes	Used for the estimates.				Yes	Yes				
Ratios	HC / Tap water							Ratios	HC / Tap water			52%	41%		
	Public tap / Tap water								Public tap / Tap water			48%	59%		
	Tubewell + protected well / All wells			81%	62%				Tubewell + protected well / All wells			57%	45%		
	Protected wells / Traditional wells			77%	41%				Protected wells / Traditional wells						
	Tubewell / All wells			19%	35%				Tubewell / All wells						
	Protected springs / All springs			36%	31%				Protected springs / All springs						
	Protect. well & spring / well & spring			71%	48%				Protect. well & spring / well & spring				57%	45%	
Number of people covered by the survey:						Number of people covered by the survey:									
Number of households covered by the survey:				1655	9119	Number of households covered by the survey:				1911	8959				
Total population:						Total population:									
Comments						Comments									
														This reflects the situation during dry season. Situation during wet season also available.	

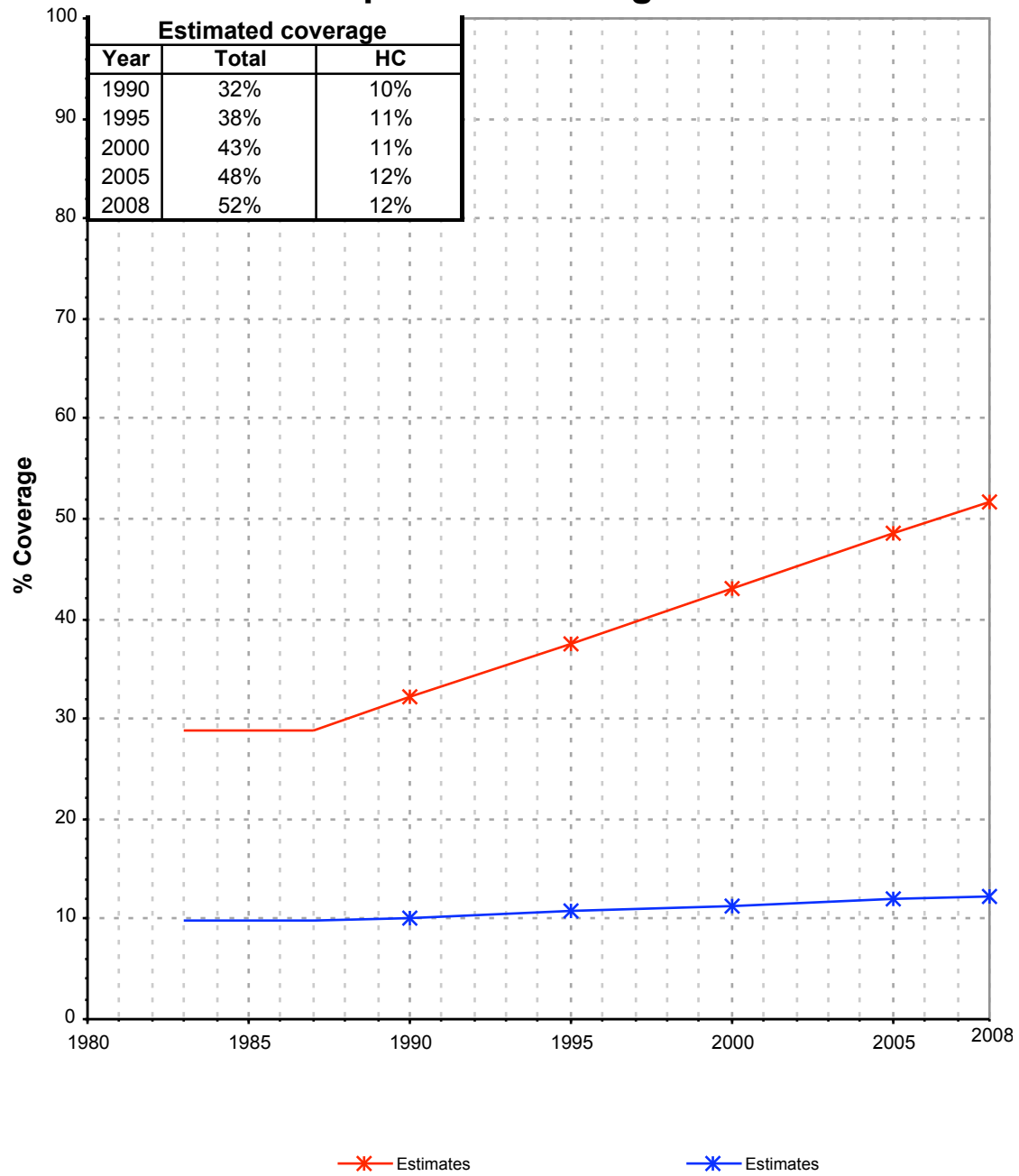
Access to drinking water sources		IHBS		Kenya		
Kenya National Bureau of Statistics			2006			
Original denomination	Classification	Urban	Rural	Total		
	<b>Tap water</b>	74.0	18.8	32.5		
	House connections	49.9	11.8	21.3		
Piped into dwelling	Piped water into dwelling	18.8	3.8	7.6		
Piped into yard/plot	Piped water to yard/plot	31.1	8.0	13.7		
Public tap	Public tap, standpipe	24.1	7.0	11.2		
	Other					
	<b>Ground water</b>	8.7	43.3	34.6		
	Protected ground water	7.4	27.2	22.2		
	Unprotected ground water	1.3	16.1	12.4		
	Protected wells or springs	7.4	27.2	22.2		
	Private	7.4	27.2	22.2		
	Public					
	Other					
	Unprotected wells or springs	1.3	16.1	12.4		
Unprotected dug wells/springs	Private	1.3	16.1	12.4		
	Public					
	Other					
	<b>All wells</b>	5.7	16.0	13.4		
	Private	5.7	16.0	13.4		
	Public					
	Other					
	Tubewell, borehole	1.9	7.7	6.2		
Borehole with pump	Private	1.9	7.7	6.2		
	Public					
	Other					
	<b>Traditional wells</b>	3.8	8.3	7.2		
	Private	3.8	8.3	7.2		
	Public					
	Other					
	Protected well	3.8	8.3	7.2		
Protected dug well	Private	3.8	8.3	7.2		
	Public					
	Other					
	Unprotected well					
	Private					
	Public					
	Other					
	<b>All springs</b>	1.7	11.2	8.8		
	Private	1.7	11.2	8.8		
	Public					
	Other					
	Protected spring	1.7	11.2	8.8		
Protected spring	Private	1.7	11.2	8.8		
	Public					
	Other					
	Unprotected spring					
	Private					
	Public					
	Other					
	<b>Rainwater</b>	1.4	5.1	4.2		
Rain water collection	Covered cistern/tank	1.4	5.1	4.2		
	Uncovered cistern/tank					
Bottled water	<b>Bottled water</b>	0.2	0.0	0.1		
	with other improved					
	without other improved					
River/ponds/stream	<b>Surface water</b>	2.5	26.4	20.5		
	River					
	Lake					
	Dam					
	Pond					
	Stream					
	Irrigation channel					
	Other					
	<b>Other improved sources</b>					
	Other					
	Other					
	<b>Other non-improved</b>	10.3	2.2	4.2		
	Cart with small tank/drum					
Tanker truck/vendor	Tanker truck provided	10.3	2.2	4.2		
	Other					
	Other					
	<b>DK/missing</b>	2.9	4.2	3.9		
	<b>Total</b>	100.0	100.0	100.0		
<b>Calculations</b>						
<b>Estimations</b>						
<b>Access to improved drinking water sources :</b>		<b>83%</b>	<b>51%</b>	<b>59%</b>		
<b>Access to house connections :</b>		<b>50%</b>	<b>12%</b>	<b>21%</b>		
Used for the estimates.		Yes	Yes			
Used for the estimates.		Yes	Yes			
<b>Ratios</b>	HC / Tap water	67%	63%			
	Public tap / Tap water	33%	37%			
	Tubewell + protected well / All wells	100%	100%			
	Protected wells / Traditional wells	100%	100%			
	Tubewell / All wells	33%	48%			
	Protected springs / All springs	100%	100%			
	Protect. well & spring / well & spring	85%	63%			
Number of people covered by the survey:						
Number of households covered by the survey:						
Total population:						
<b>Comments</b>						

Kenya			DRINKING WATER							
			URBAN				RURAL			
			House connection		Total		House connection		Total	
Source	Code	Year	Used	Not used	Used	Not used	Used	Not used	Used	Not used
Census	CEN89	1989	55.2		87.7		10.4		27.3	
Demographic and Health Survey	DHS89	1989	58.8		94.1		11.0		31.4	
Demographic and Health Survey	DHS93	1993	55.8		89.8		10.7		40.3	
Demographic and Health Survey	DHS98	1998	58.2		88.9		12.3		36.9	
Census	CEN99	1999	39.3		76.5		8.6		36.3	
Global Water Supply and Sanitation Assessment 2000.	JMP99	1999		58.2		93.9		12.3		40.3
Multiple Indicator Cluster Survey	MICS00	2000	56.2		89.9		11.9		43.7	
Demographic and Health Survey	DHS03	2003	49.4		78.7		11.6		42.8	
World Health Survey	WHS04	2004	39.6		96.3		13.8		51.8	
Welfare Monitoring Survey	WMS93	1993			93.7				37.1	
Welfare Monitoring Survey	WMS94	1994	57.7		93.9		9.4		40.3	
Core Welfare Monitoring Questionnaire	CWIQ97	1997	44.0		86.3		9.5		38.9	
	IHBS	2006	49.9		82.8		11.8		51.1	
Demographic and Health Survey	DHS08	2008								

## Kenya - urban - Use of improved drinking water sources



# Kenya - rural - Use of improved drinking water sources



# Drinking Water

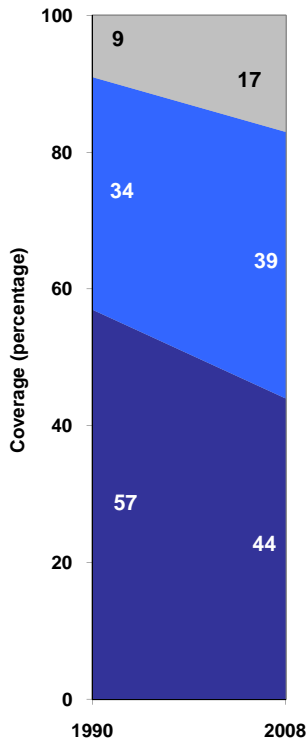
Kenya	Drinking water coverage estimates					
	Urban (%)		Rural (%)		Total (%)	
	1990	2008	1990	2008	1990	2008
Piped into premises	57	44	10	12	19	19
Other improved source	34	39	22	40	24	40
Unimproved source	9	17	68	48	57	41

Source: WHO/UNICEF JMP, 2010

Kenya	Urban		Rural		Total	
	1990	2008	1990	2008	1990	2008
Population (x1000)	4 270	8 354	19163	30411	23433	38765

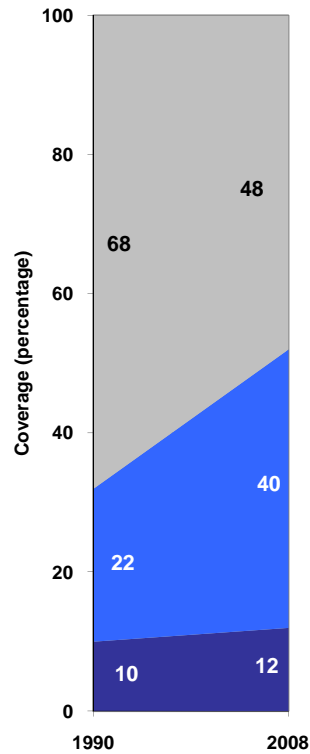
Source: UN / Population Division, 2008

Urban drinking water trends



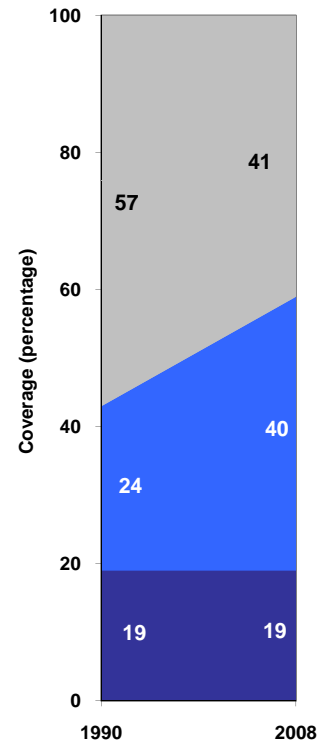
■ Unimproved sources  
■ Other improved sources  
■ Piped onto premises

Rural drinking water trends



■ Unimproved sources  
■ Other improved sources  
■ Piped onto premises

Total drinking water trends



■ Unimproved sources  
■ Other improved sources  
■ Piped onto premises