

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

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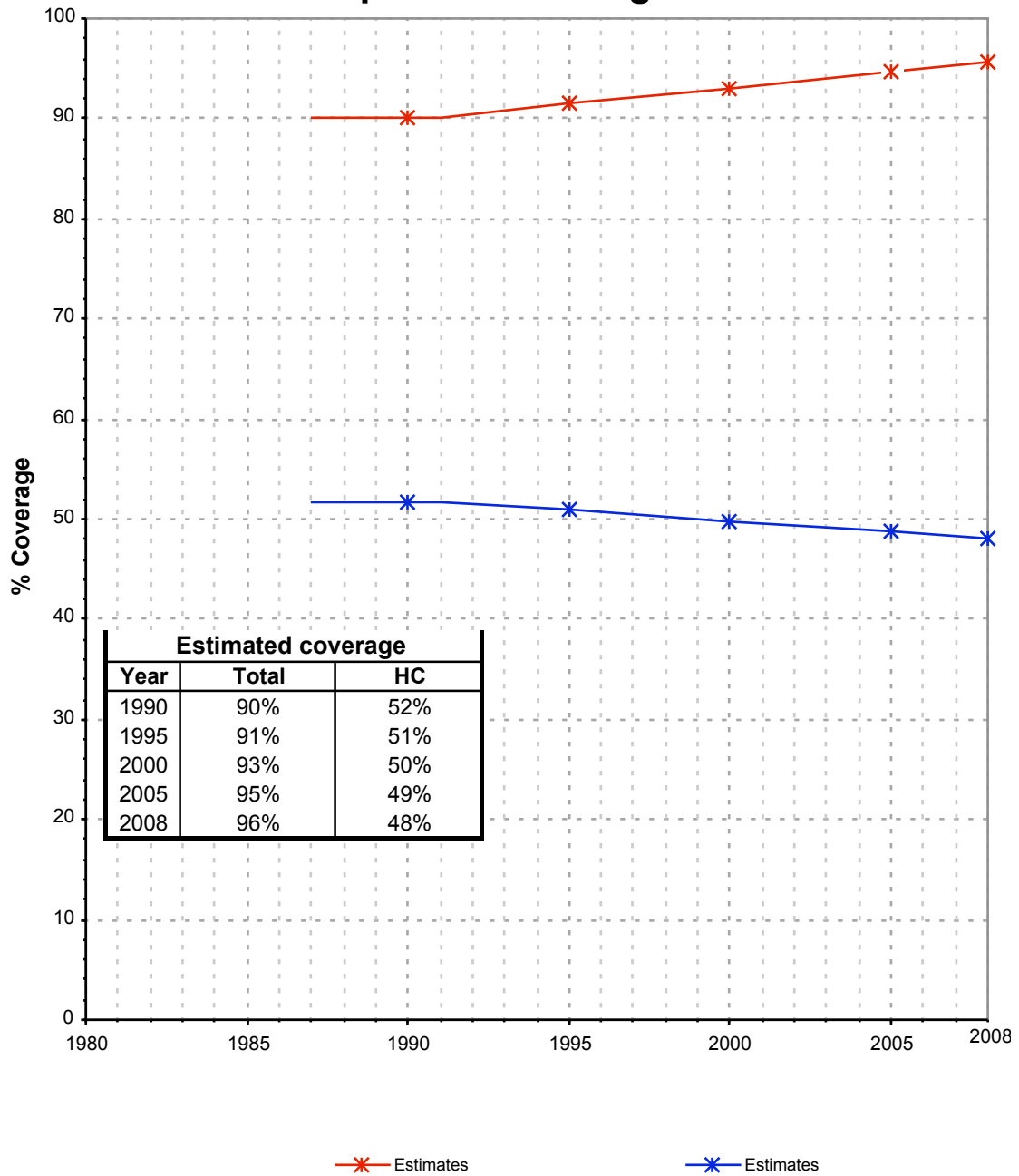
Access to drinking water sources		DHS93			India			Access to drinking water sources		NSS93			India		
Demographic and Health Survey					1993			National Sample Survey					1993		
Original denomination	Classification	Urban	Rural	Total	Original denomination	Classification	Urban	Rural	Total						
Piped	Tap water	69.5	19.3	33.1		Tap water	70.5	18.9							
	House connections				Tap - within premises	House connections	51.3	8.1							
	Piped water into dwelling					Piped water into dwelling									
	Piped water to yard/plot				Tap - outside premises	Piped water to yard/plot									
	Public tap, standpipe					Public tap, standpipe	19.2	10.8							
	Other					Other									
	Ground water	27.3	73.7	60.9		Ground water	27.2	77.0							
	Protected ground water	18.1	41.6	35.1		Protected ground water	18.5	44.5							
	Unprotected ground water					Unprotected ground water									
	Protected wells or springs	18.1	41.6	35.1		Protected wells or springs	18.5	44.5							
	Private					Private	9.9	16.6							
	Public					Public	8.6	27.9							
	Other					Other									
	Unprotected wells or springs					Unprotected wells or springs									
	Private					Private									
	Public					Public									
	Other					Other									
	All wells	27.3	73.7	60.9		All wells	27.1	78.1							
	Private					Private	14.4	25.5							
	Public					Public	12.7	50.6							
	Other					Other									
Handpump	Tubewell, borehole	18.1	41.6	35.1	Tube well/handpump - inside premises	Tubewell, borehole	18.5	44.5							
	Private				Tube well/handpump - outside premises	Private	9.9	16.6							
	Public					Public	8.6	27.9							
	Other					Other									
Well water	Traditional wells	9.2	32.1	25.8		Traditional wells	8.6	31.7							
	Private				Well - within premises	Private	4.5	8.9							
	Public				Well - outside premises	Public	4.1	22.8							
	Other					Other									
	Protected well					Protected well									
	Private					Private									
	Public					Public									
	Other					Other									
	Unprotected well					Unprotected well									
	Private					Private									
	Public					Public									
	Other					Other									
	All springs				Spring	All springs	0.1	0.9							
	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									
	Rainwater					Rainwater									
	Covered cistern/tank					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	Surface water	1.0	5.1	3.9		Surface water	0.9	3.8							
	River				River, canal, lake	River	0.1	1.7							
	Lake					Lake									
	Dam				Tank, Pond reserved for drinking	Dam									
	Pond					Pond	0.4	1.3							
	Stream					Stream									
	Irrigation channel				Other tank, pond	Irrigation channel									
	Other					Other	0.4	0.8							
	Other improved sources					Other improved sources									
	Other					Other									
	Other					Other									
	Other non-improved	2.2	2.0	2.0		Other non-improved	1.4	0.3							
	Cart with small tank/drum					Cart with small tank/drum									
	Tanker truck provided					Tanker truck provided									
Other	Other	2.2	2.0	2.0	Other	Other	1.4	0.3							
	Other					Other									
	DK/missing					DK/missing									
	Total	100.0	100.1	99.9		Total	100.0	100.0							
Calculations					Calculations										
Estimations	protected wells using proportion of NFHS99	1.5	3.6		Estimations	protected wells using proportion of NFHS99	1.4	3.5							
						50% of springs considered improved	0.1	0.4							
	house connection based on NSS93	50.5	8.3												
Access to improved drinking water sources :		89%	64%		Access to improved drinking water sources :		90%	67%							
Access to house connections :		51%	8%		Access to house connections :		51%	8%							
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	73%	43%							
	Public tap / Tap water					Public tap / Tap water	27%	57%							
	Tubewell + protected well / All wells					Tubewell + protected well / All wells									
	Protected wells / Traditional wells					Protected wells / Traditional wells									
	Tubewell / All wells	66%	56%			Tubewell / All wells	68%	58%							
	Protected springs / All springs					Protected springs / All springs									
	Protect. well & spring / well & spring					Protect. well & spring / well & spring									
Number of people covered by the survey.					Number of people covered by the survey.		999	1001							
Number of households covered by the survey.					Number of households covered by the survey.										
Total population.					Total population.										
Comments					Comments										

Access to drinking water sources		NSS96			India			Access to drinking water sources		NFHS99			India		
National Sample Survey					1996			Demographic and Health Survey					1999		
Special tabulation of DHS99 (received from Matrix on request)															
Original denomination	Classification	Urban	Rural	Total	Original denomination	Classification	Urban	Rural	Total	Original denomination	Classification	Urban	Rural	Total	
Tap	Tap water	73.8	23.2	36.4	Piped into residence/ yard/ plot	Tap water	74.4	25.0	38.6	Piped into residence/ yard/ plot	Tap water	51.7	9.3	21.0	
	House connections					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	22.7	15.7	17.8	Public tap	Public tap, standpipe				
	Other					Other					Other				
	Ground water	24.0	70.9	58.7		Ground water	24.2	71.6	58.5		Ground water	24.2	71.6	58.5	
	Protected ground water	18.5	49.1	41.1		Protected ground water	19.1	50.0	41.4		Protected ground water	19.1	50.0	41.4	
	Unprotected ground water					Unprotected ground water	5.0	20.9	16.6		Unprotected ground water	5.0	20.9	16.6	
	Protected wells or springs	18.5	49.1	41.1		Protected wells or springs	19.1	50.0	41.4		Protected wells or springs	19.1	50.0	41.4	
	Private					Private	10.5	19.0	16.6		Private	10.5	19.0	16.6	
	Public					Public	8.6	31.0	24.8		Public	8.6	31.0	24.8	
	Other					Other					Other				
	Unprotected wells or springs					Unprotected wells or springs	5.0	20.9	16.6		Unprotected wells or springs	5.0	20.9	16.6	
	Private					Private	3.1	7.3	6.2		Private	3.1	7.3	6.2	
	Public					Public	1.9	13.6	10.4		Public	1.9	13.6	10.4	
	Other					Other					Other				
	All wells	24.0	70.9	58.7		All wells	24.1	70.9	58.0		All wells	24.1	70.9	58.0	
	Private					Private	13.6	26.3	22.8		Private	13.6	26.3	22.8	
	Public					Public	10.5	44.6	35.2		Public	10.5	44.6	35.2	
	Other					Other					Other				
Tube well/handpump	Tubewell, borehole	18.5	49.1	41.1	Handpump in residence/ yard / plot	Tubewell, borehole	18.1	47.4	39.2	Handpump in residence/ yard / plot	Private	9.8	17.6	15.4	
	Private				Public handpump	Private				Public	8.3	29.8	23.8		
	Public					Public				Other					
	Other					Other									
Pucca Well	Traditional wells	5.5	21.8	17.6		Traditional wells	6.0	23.5	18.8		Traditional wells	6.0	23.5	18.8	
	Private					Private	3.8	8.7	7.4		Private	3.8	8.7	7.4	
	Public					Public	2.2	14.8	11.4		Public	2.2	14.8	11.4	
	Other					Other					Other				
	Protected well				Well in residence /yard/ plot *	Protected well	1.0	2.6	2.2	Well in residence /yard/ plot *	Private	0.7	1.4	1.2	
	Private				Public covered well	Private				Public	0.3	1.2	1.0		
	Public					Public				Other					
	Other					Other									
	Unprotected well				Open well *	Unprotected well	5.0	20.9	16.6	Open well *	Private	3.1	7.3	6.2	
	Private				Public open well	Private				Public	1.9	13.6	10.4		
	Public					Public				Other					
	Other					Other									
	All springs				Spring	All springs	0.1	0.7	0.5	Spring					
	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									
	Rainwater				Rainwater	Rainwater	0.0	0.1	0.0	Rainwater					
	Covered cistern/tank					Covered cistern/tank					Covered cistern/tank				
	Uncovered cistern/tank					Uncovered cistern/tank					Uncovered cistern/tank				
	Bottled water					Bottled water					Bottled water				
	with other improved					with other improved					with other improved				
	without other improved					without other improved					without other improved				
	Surface water	0.4	2.9	2.3	River, stream	Surface water	0.4	2.7	2.1	River, stream	River	0.1	1.6	1.2	
river/canal	River	0.1	1.4	1.1		Lake				Lake					
	Lake					Dam	0.0	0.1	0.1	Dam					
	Dam					Pond	0.3	1.0	0.8	Pond					
tank/pond reserved for drinking	Pond	0.3	1.5	1.2	Pond, lake	Stream				Stream					
	Stream					Irrigation channel				Irrigation channel					
	Irrigation channel					Other				Other					
	Other					Other improved sources				Other improved sources					
	Other improved sources					Other				Other					
	Other					Other				Other					
	Other non-improved	1.7	2.9	2.6		Other non-improved	1.0	0.6	0.7		Other non-improved				
	Cart with small tank/drum				Tanker truck	Cart with small tank/drum				Tanker truck					
Tanker	Tanker truck provided	0.8	0.4	0.5	Other	Tanker truck provided	0.3	0.1	0.2	Other					
Other	Other	0.9	2.5	2.1		Other	0.7	0.5	0.5		Other				
	Other					Other									
	DK/missing					DK/missing					DK/missing				
	Total	100.0	100.0	100.0		Total	100.0	100.0	99.9		Total	100.0	100.0	99.9	
Calculations					Calculations					Calculations					
Estimations	protected wells using proportion of NFHS99	0.9	2.4		Estimations	50% of springs considered improved	0.1	0.4		Estimations					
	house connection based on NSS93	53.7	10.0												
Access to improved drinking water sources :		93%	75%		Access to improved drinking water sources :		94%	75%	80%	Access to improved drinking water sources :		94%	75%	80%	
Access to house connections :		54%	10%		Access to house connections :		52%	9%	21%	Access to house connections :		52%	9%	21%	
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		
Ratios	HC / Tap water				Ratios	HC / Tap water	69%	37%		Ratios	HC / Tap water	69%	37%		
	Public tap / Tap water					Public tap / Tap water	31%	63%			Public tap / Tap water	31%	63%		
	Tubewell + protected well / All wells					Tubewell + protected well / All wells	79%	71%			Tubewell + protected well / All wells	79%	71%		
	Protected wells / Traditional wells					Protected wells / Traditional wells	17%	11%			Protected wells / Traditional wells	17%	11%		
	Tubewell / All wells	77%	69%			Tubewell / All wells	75%	67%			Tubewell / All wells	75%	67%		
	Protected springs / All springs					Protected springs / All springs					Protected springs / All springs				
	Protect. well & spring / well & spring					Protect. well & spring / well & spring	79%	71%			Protect. well & spring / well & spring	79%	71%		
	Number of people covered by the survey:	998	998	998		Number of people covered by the survey:					Number of people covered by the survey:				
	Number of households covered by the survey:					Number of households covered by the survey:					Number of households covered by the survey:				
	Total population:					Total population:					Total population:				
Comments					Comments	on basis of the questionnaire it has been assumed that well in residence/plot/yard is a covered well and the "open well" is an open well in residential/plot/yard/standpipe/another enclosure/ public open well									

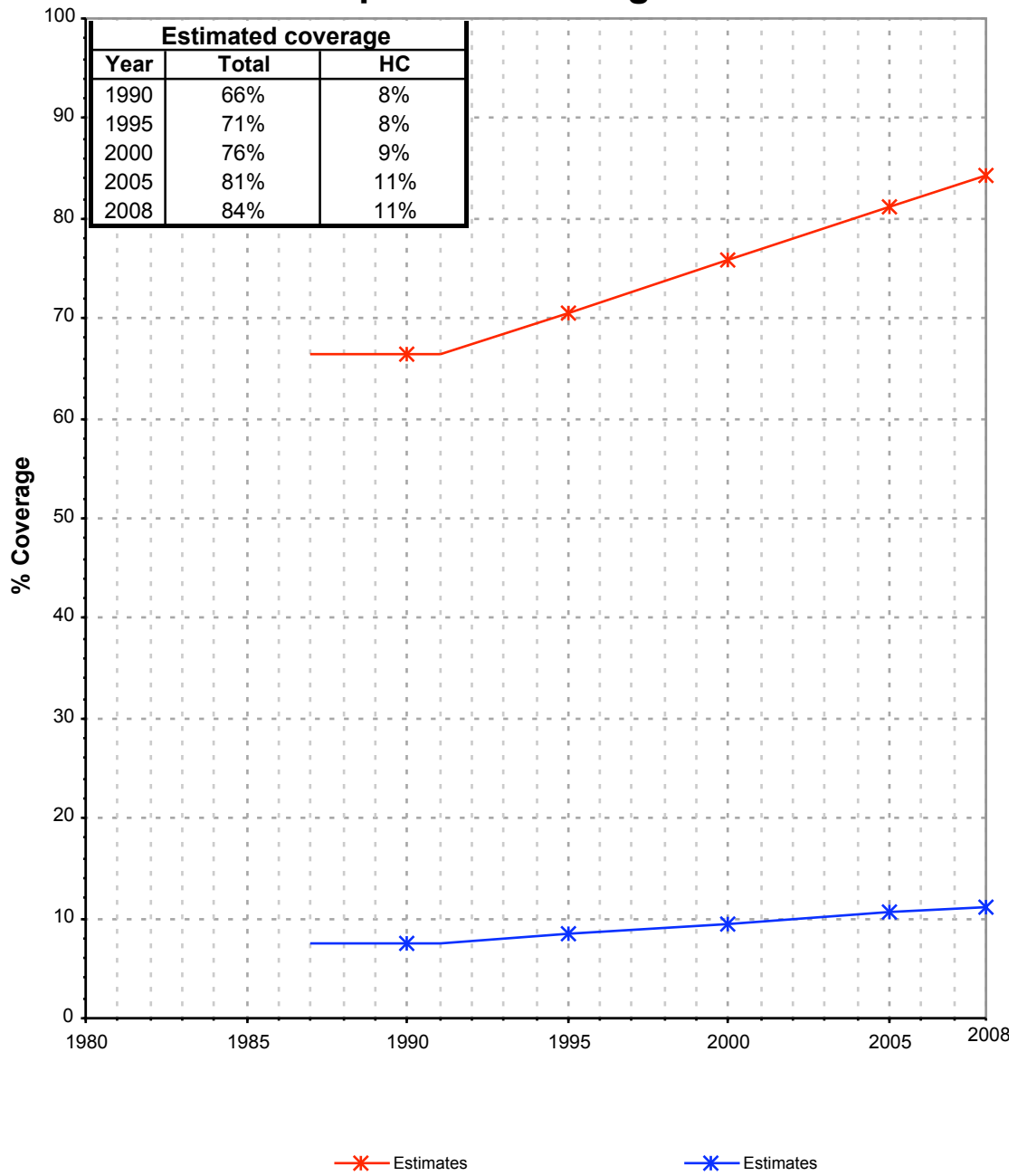
Access to drinking water sources		NFHS06		India		Access to drinking water sources		DLHS08		India	
Demographic and Health Survey				District Level Health Survey							
				2006				2008			
Original denomination	Classification	Urban	Rural	Total	Original denomination	Classification	Urban	Rural	Total		
	Tap water	69.7	24.9			Tap water	67.1	28.0	40.7		
	House connections	50.7	11.2		Piped water into dwelling/yard/plot	House connections	47.8	12.1	23.7		
Piped into dwelling	Piped water into dwelling	32.4	3.7			Piped water into dwelling					
Piped to yard/plot	Piped water to yard/plot	18.3	7.5			Piped water to yard/plot					
Public tap/standpipe	Public tap, standpipe	19.0	13.7		Public tap/standpipe	Public tap, standpipe	19.3	15.9	17.0		
	Other					Other					
	Ground water	27.8	72.3			Ground water	6.3	10.7	9.2		
	Protected ground water	24.9	58.9			Protected ground water	6.3	10.7	9.2		
	Unprotected ground water	2.9	13.4			Unprotected ground water					
	Protected wells or springs	24.9	58.9	0.0		Protected wells or springs	6.3	10.7	9.2		
	Private					Private					
	Public					Public					
	Other					Other					
	Unprotected wells or springs	2.9	13.4	0.0		Unprotected wells or springs					
	Private					Private					
	Public					Public					
	Other					Other					
	All wells	27.6	71.2			All wells	6.3	10.7	9.2		
	Private					Private					
	Public					Public					
	Other					Other					
Tube well or borehole	Tubewell, borehole	23.0	56.0		Tubewell/borehole	Tubewell, borehole	6.3	10.7	9.2		
	Private					Private					
	Public					Public					
	Other					Other					
	Traditional wells	4.6	15.2			Traditional wells					
	Private					Private					
	Public					Public					
	Other					Other					
Protected well	Protected well	1.8	2.6			Protected well					
	Private					Private					
	Public					Public					
	Other					Other					
Unprotected well	Unprotected well	2.8	12.6			Unprotected well					
	Private					Private					
	Public					Public					
	Other					Other					
	All springs	0.2	1.1			All springs					
	Private					Private					
	Public					Public					
	Other					Other					
Protected spring	Protected spring	0.1	0.3			Protected spring					
	Private					Private					
	Public					Public					
	Other					Other					
Unprotected spring	Unprotected spring	0.1	0.8			Unprotected spring					
	Private					Private					
	Public					Public					
	Other					Other					
	Rainwater	0.0	0.2			Rainwater					
Rainwater	Covered cistern/tank	0.0	0.2			Covered cistern/tank					
	Uncovered cistern/tank					Uncovered cistern/tank					
	Bottled water	0.7	0.1			Bottled water					
Bottled water	with other improved	0.7	0.1			with other improved					
	without other improved					without other improved					
River/dam/lake/ponds/stream/canal/irrigati	Surface water	0.7	1.9			Surface water					
	River					River					
	Lake					Lake					
	Dam					Dam					
	Pond					Pond					
	Stream					Stream					
	Irrigation channel					Irrigation channel					
	Other					Other					
	Other improved sources				Other improved	Other improved sources	21.0	41.0	34.5		
	Other					Other					
	Other					Other					
	Other non-improved	1.1	0.5		Non improved source	Other non-improved	5.6	20.4	15.6		
Cart with small tank	Cart with small tank/drum	0.0	0.2			Cart with small tank/drum					
Tanker truck	Tanker truck provided	0.9	0.2			Tanker truck provided					
Other	Other	0.2	0.1			Other					
	DK/missing					DK/missing					
	Total	100.0	99.9			Total	100.0	100.1	100.0		
Calculations					Calculations						
Estimations					Estimations						
Access to improved drinking water sources :		95%	84%		Access to improved drinking water sources :		94%	80%	84%		
Access to house connections :		51%	11%		Access to house connections :		48%	12%	24%		
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	73%	45%		Ratios	HC / Tap water	71%	43%			
	Public tap / Tap water	27%	55%			Public tap / Tap water	29%	57%			
	Tubewell + protected well / All wells	90%	82%			Tubewell + protected well / All wells					
	Protected wells / Traditional wells	39%	17%			Protected wells / Traditional wells					
	Tubewell / All wells	83%	79%			Tubewell / All wells	100%	100%			
	Protected springs / All springs	50%	27%			Protected springs / All springs					
	Protect. well & spring / well & spring	90%	81%			Protect. well & spring / well & spring					
	Springs/Groundwater	1%	2%			Springs/Groundwater					
Number of people covered by the survey:				Number of people covered by the survey:							
Number of households covered by the survey:				Number of households covered by the survey:							
Total population:				Total population:							
Comments	NFHS (= DHS)			Comments							

India			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
Demographic and Health Survey	DHS93	1993	50.5		89.1		8.3		64.5	
National Sample Survey	NSS93	1993	51.3		90.5		8.1		67.3	
National Sample Survey	NSS96	1996	53.7		93.3		10.0		74.8	
Demographic and Health Survey	NFHS99	1999	51.7		93.6		9.3		75.5	
Global Water Supply and Sanitation Assessment 2000.	JMP99	1999		56.4		90.1				
Multiple Indicator Cluster Survey	MICS00	2000	46.5		94.3		7.5		79.2	
National Census	CEN01	2001	46.9		92.7		8.4		78.1	
World Health Survey	WHS03	2003		59.6		98.5		19.0		85.3
Demographic and Health Survey	NFHS06	2006	50.7		95.3		11.2		84.1	
District Level Health Survey	DLHS08	2008	47.8		94.4		12.1		79.7	

India - urban - Use of improved drinking water sources



India - rural - Use of improved drinking water sources



Drinking Water

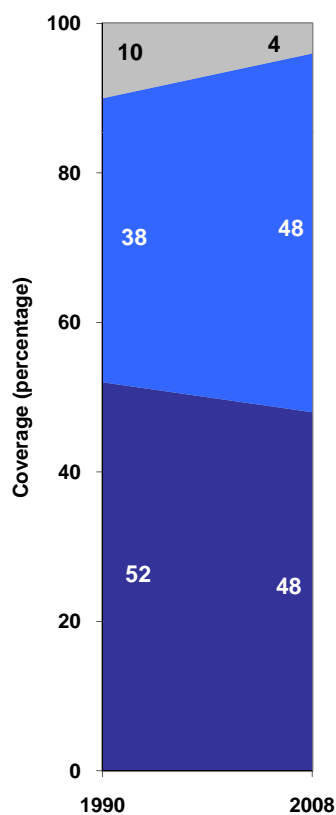
India	Drinking water coverage estimates					
	Urban (%)		Rural (%)		Total (%)	
	1990	2008	1990	2008	1990	2008
Piped into premises	52	48	8	11	19	22
Other improved source	38	48	58	73	53	66
Unimproved source	10	4	34	16	28	12

Source: WHO/UNICEF JMP, 2010

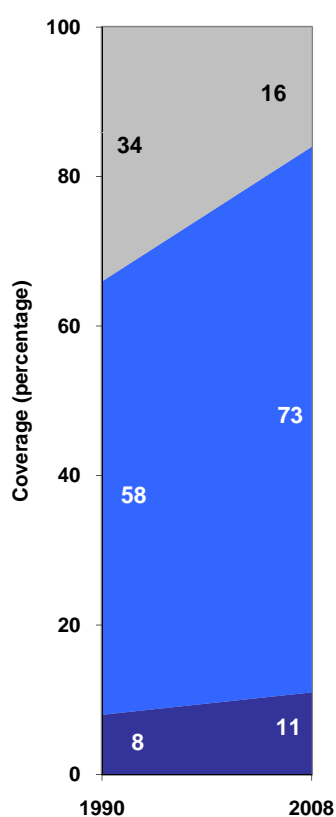
India	Urban		Rural		Total	
	1990	2008	1990	2008	1990	2008
Population (x1000)	220 256	348 091	641905	833321	862 162	1 181 412

Source: UN / Population Division, 2008

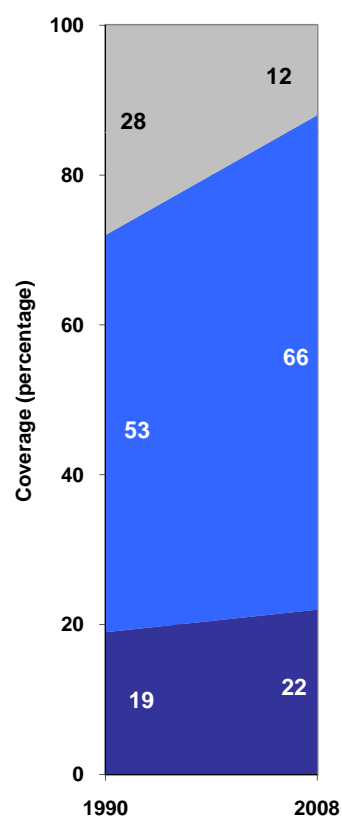
Urban drinking water trends



Rural drinking water trends



Total drinking water trends



■ Unimproved sources

■ Other improved sources

■ Piped onto premises

■ Piped on premises

■ Other improved sources

■ Unimproved sources

■ Unimproved sources

■ Other improved sources

■ Piped onto premises