

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

Access to drinking water sources		JMP99		Lao People's Dem Republic		Access to drinking water sources		MICS00		Laos	
Global Water Supply and Sanitation Assessment 2000.				Water Supply and Sanitation Sector Questionnaire - 1999. Form 6 sent to WHO.				Multiple Indicator Cluster Survey			
				1999				2000			
Original denomination	Classification	Urban	Rural	Total	Original denomination	Classification	Urban	Rural	Total		
Population served with household connection	Tap water	3088.0	795.2			Tap water	29.7	6.7			
	House connections	3088.0	795.2			House connections	25.4	3.9			
	Piped water into dwelling				Piped into dwelling	Piped water into dwelling	17.2	0.4			
	Piped water to yard/plot				Piped into yard or plot	Piped water to yard/plot	8.2	3.5			
	Public tap, standpipe				Public tap	Public tap, standpipe	4.3	2.8			
	Other					Other					
Population without household connection but with reasonable access to a public	Ground water	1486.8	3775.0			Ground water	48.8	38.2			
	Protected ground water	1486.8	3775.0			Protected ground water	32.2	22.3			
	Unprotected ground water				Protected dug well or protected spring	Unprotected ground water	16.6	15.9			
	Protected wells or springs					Protected wells or springs	14.0	6.9	0.0		
	Private					Private					
	Public					Public					
	Other					Other					
	Unprotected wells or springs				Unprotected dug well or spring	Unprotected wells or springs	16.6	15.9			
	Private					Private					
	Public					Public					
	Other					Other					
	All wells					All wells	18.2	15.4			
	Private					Private					
	Public					Public					
	Other					Other					
	Tubewell, borehole				Tubewell/ borehole with pump	Tubewell, borehole	18.2	15.4			
	Private					Private					
	Public					Public					
	Other					Other					
	Traditional wells					Traditional wells					
	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					
	All springs					All springs					
	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	0.1	0.0			
	Covered cistern/tank				Rain water collection	Covered cistern/tank	0.1	0.0			
	Uncovered cistern/tank					Uncovered cistern/tank					
	Bottled water					Bottled water	9.9	0.2			
	with other improved				Bottled water	with other improved	9.9	0.2			
	without other improved					without other improved					
	Surface water				Pond, river or stream	Surface water	4.2	32.9			
	River					River					
	Lake					Lake					
	Dam					Dam					
	Pond					Pond					
	Stream					Stream					
	Irrigation channel					Irrigation channel					
	Other					Other					
	Other improved sources					Other improved sources	4.1	8.6			
	Other				Gravity Fed System (GFS)	Other	4.1	8.6			
	Other					Other					
Total population unserved	Other non-improved	NOT stated	4.8			Other non-improved	3.2	13.3			
	Cart with small tank/drum					Cart with small tank/drum					
	Tanker truck provided				Tanker truck vendor	Tanker truck provided	0.0	0.1			
	Other				Other	Other	3.2	13.2			
	Other					Other					
	DK/missing				Missing/DK	DK/missing	0.0	0.1			
	Total	4574.8	4575.0			Total	100.0	100.0			
Calculations											
						Protected wells, based on MICS05	11.4	4.9			
Estimations											
						Proportion of bottled water + improved source based on MICS 2006	7.3	0.1			
Access to improved drinking water sources :					Access to improved drinking water sources :		73%	38%			
Access to house connections :					Access to house connections :		31%	4%			
Used for the estimates :		No	No		Used for the estimates :		Yes	Yes			
Used for the estimates :		No	No		Used for the estimates :		Yes	Yes			
Ratios	HC / Tap water	100%	100%		Ratios	HC / Tap water	86%	58%			
	Public tap / Tap water					Public tap / Tap water	14%	42%			
	Tubewell + protected well / All wells					Tubewell + protected well / All wells					
	Protected wells / Traditional wells					Protected wells / Traditional wells					
	Tubewell / All wells					Tubewell / All wells	100%	100%			
	Protected springs / All springs					Protected springs / All springs					
	Protect. well & spring / well & spring					Protect. well & spring / well & spring	46%	30%			
Number of people covered by the survey:		7817	4575.3		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	Wrong population data !				Comments						

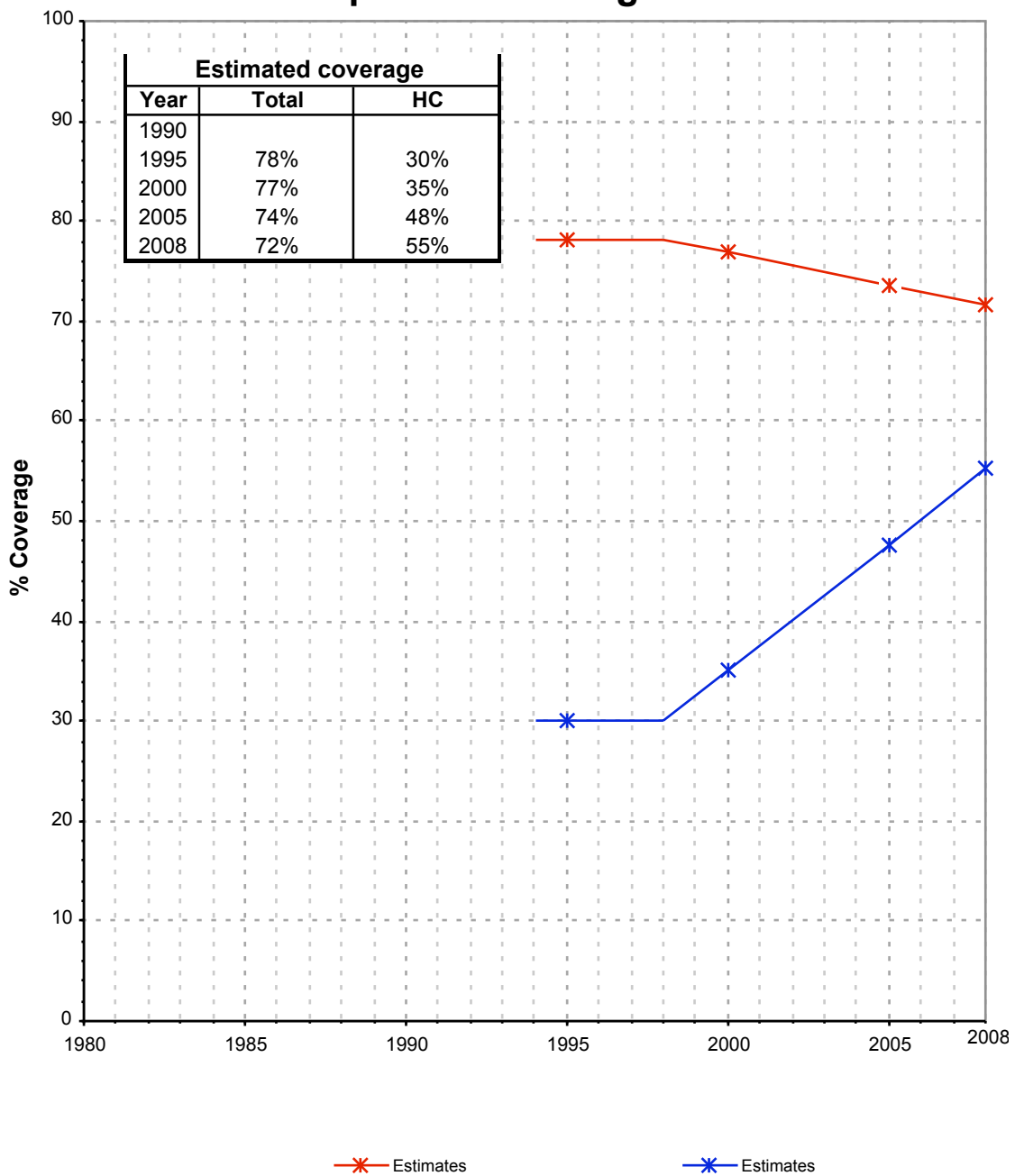
Access to drinking water sources		WHS03		Laos		Access to drinking water sources		MICS06		Laos					
World Health Survey				2003				Multiple Indicator Cluster Survey				2006			
Original denomination	Classification	Urban	Rural	Total	Original denomination	Classification	Urban	Rural	Total	Original denomination	Classification	Urban	Rural	Total	
	Tap water	61.8	24.0			Tap water	22.3	17.4			Tap water	22.3	17.4		
Piped water through house connection or yard	House connections	52.7	7.2			House connections	20.8	5.1			House connections	20.8	5.1		
	Piped water into dwelling				Piped into dwelling					Piped water into dwelling	16.7	1.2			
	Piped water to yard/plot				Piped into yard or plot					Piped water to yard/plot	4.1	3.9			
Public standpipe	Public tap, standpipe	9.0	16.8		Public tap/standpipe					Public tap, standpipe	1.5	12.3			
	Other									Other					
	Ground water	31.9	47.8			Ground water	24.3	57.8			Ground water	24.3	57.8		
	Protected ground water	20.4	23.4			Protected ground water	10.0	26.3			Protected ground water	10.0	26.3		
	Unprotected ground water	11.5	24.5			Unprotected ground water	14.3	31.5			Unprotected ground water	14.3	31.5		
Protected dug well or protected spring	Protected wells or springs	7.7	4.6	0.0		Protected wells or springs	10.0	26.3	0.0		Protected wells or springs	10.0	26.3	0.0	
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
Unprotected dug well or spring	Unprotected wells or springs	11.5	24.5			Unprotected wells or springs	14.3	31.5	0.0		Unprotected wells or springs	14.3	31.5	0.0	
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	All wells	12.7	18.8			All wells	19.8	41.2			All wells	19.8	41.2		
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
Protected tube well or bore hole	Tubewell, borehole	12.7	18.8		Tubewell/borehole					Tubewell, borehole	4.1	14.8			
	Private					Private				Private					
	Public					Public				Public					
	Other					Other				Other					
	Traditional wells					Traditional wells	15.7	26.4			Traditional wells	15.7	26.4		
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	Protected well				Protected well					Protected well	3.2	2.1			
	Private					Private				Private					
	Public					Public				Public					
	Other					Other				Other					
	Unprotected well				Unprotected well					Unprotected well	12.5	24.3			
	Private					Private				Private					
	Public					Public				Public					
	Other					Other				Other					
	All springs					All springs	4.5	16.6			All springs	4.5	16.6		
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	Protected spring				Protected spring					Protected spring	2.7	9.4			
	Private					Private				Private					
	Public					Public				Public					
	Other					Other				Other					
	Unprotected spring				Unprotected spring					Unprotected spring	1.8	7.2			
	Private					Private				Private					
	Public					Public				Public					
	Other					Other				Other					
	Rainwater	0.0	0.1			Rainwater	0.1	0.1			Rainwater	0.1	0.1		
Rainwater (into tank or cistern)	Covered cistern/tank	0.0	0.1		Rainwater collection					Covered cistern/tank	0.1	0.1			
	Uncovered cistern/tank									Uncovered cistern/tank					
	Bottled water					Bottled water	51.4	5.6			Bottled water	51.4	5.6		
	with other improved				Bottled water + improved source					with other improved	38.0	2.1			
	without other improved				Bottled water + other source					without other improved	13.4	3.5			
Water taken directly from pond-water or stream	Surface water	5.7	27.9		Surface water					Surface water	1.4	18.8			
	River									River					
	Lake									Lake					
	Dam									Dam					
	Pond									Pond					
	Stream									Stream					
	Irrigation channel									Irrigation channel					
	Other									Other					
	Other improved sources					Other improved sources				Other improved sources					
	Other					Other				Other					
	Other					Other				Other					
	Other non-improved	0.7	0.1			Other non-improved	0.5	0.2			Other non-improved	0.5	0.2		
	Cart with small tank/drum					Cart with small tank/drum				Cart with small tank/drum					
Tanker-truck, vendor	Tanker truck provided	0.7	0.1		Tanker-truck					Tanker truck provided	0.3	0.0			
	Other				Other					Other	0.2	0.2			
	Other				Other					Other					
	DK/missing					DK/missing				DK/missing					
	Total	100.0	100.0			Total	100.0	99.9			Total	100.0	99.9		
Calculations					Calculations	Bottled water+unimproved source/all piped + bottled	18%	15%							
						HCC/all piped and bottled water	68%	23%							
		Protected wells, based on MICS05	6.3	3.3											
	Protected springs based on MICS05	1.4	1.3												
Estimations					Estimations										
							Bottled water + houseconnection	29.6	0.3						
Access to improved drinking water sources :		82%	48%		Access to improved drinking water sources :		70%	46%		Access to improved drinking water sources :		70%	46%		
Access to house connections :		53%	7%		Access to house connections :		50%	5%		Access to house connections :		50%	5%		
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	85%	30%		Ratios	HC / Tap water	97%	31%			HC / Tap water	97%	31%		
	Public tap / Tap water	15%	70%			Public tap / Tap water	7%	71%			Public tap / Tap water	7%	71%		
	Tubewell + protected well / All wells					Tubewell + protected well / All wells	37%	41%			Tubewell + protected well / All wells	37%	41%		
	Protected wells / Traditional wells					Protected wells / Traditional wells	20%	8%			Protected wells / Traditional wells	20%	8%		
	Tubewell / All wells	100%	100%			Tubewell / All wells	21%	36%			Tubewell / All wells	21%	36%		
	Protected springs / All springs					Protected springs / All springs	60%	57%			Protected springs / All springs	60%	57%		
	Protect. well & spring / well & spring	40%	16%			Protect. well & spring / well & spring	41%	46%			Protect. well & spring / well & spring	41%	46%		
						Springs/Groundwater	19%	29%			Springs/Groundwater	19%	29%		
				Bottled water + houseconnection/all piped + bottled water	58%	5%			Bottled water + houseconnection/all piped + bottled water	58%	5%				
				Bottled water+improved/all bottled water	74%	38%			Bottled water+improved/all bottled water	74%	38%				
Number of people covered by the survey:					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	Bottled water with HCC has been based on a separate analysis of the MICS06 data									

Access to drinking water sources		RHS00			Laos			Access to drinking water sources		CEN05			Laos		
Reproductive Health Survey 2000					2000								2005		
Original denomination	Classification	Urban	Rural	Total	Original denomination	Classification	Urban	Rural	Total	Original denomination	Classification	Urban	Rural	Total	
Tap water	Tap water	55.5	2.9			Tap water	42.7	1.4			Tap water	42.7	1.4		
	House connections	31.0	1.3			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, standpipe					Public tap, standpipe				
Filter water	Other	24.5	1.6		Piped inside/outside	Other	42.7	1.4			Other	42.7	1.4		
	Ground water	36.4	48.0			Ground water	45.4	46.1			Ground water	45.4	46.1		
	Protected ground water	36.4	48.0			Protected ground water	24.1	21.3			Protected ground water	24.1	21.3		
	Unprotected ground water					Unprotected ground water	21.3	24.8			Unprotected ground water	21.3	24.8		
	Protected wells or springs	36.4	48.0	0.0		Protected wells or springs	24.1	21.3	0.0		Protected wells or springs	24.1	21.3	0.0	
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	Unprotected wells or springs					Unprotected wells or springs	21.3	24.8	0.0		Unprotected wells or springs	21.3	24.8	0.0	
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	All wells	36.4	48.0			All wells	45.4	46.1			All wells	45.4	46.1		
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
Bore	Tubewell, borehole	24.6	30.9		Well borehole (protected)	Tubewell, borehole	24.1	21.3			Tubewell, borehole	24.1	21.3		
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	Traditional wells	11.8	17.1			Traditional wells	21.3	24.8			Traditional wells	21.3	24.8		
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
Pump	Protected well	11.8	17.1			Protected well					Protected well				
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	Unprotected well				Well borehole (unprotected)	Unprotected well	21.3	24.8			Unprotected well	21.3	24.8		
	Private					Private					Private				
	Public					Public					Public				
	Other					Other					Other				
	All springs					All springs					All springs				
	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				
	Rainwater				Rainwater from tank	Rainwater	0.1	0.2			Rainwater	0.1	0.2		
	Covered cistern/tank					Covered cistern/tank	0.1	0.2			Covered cistern/tank	0.1	0.2		
	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				
River or stream	Surface water	8.0	48.2		River, stream or dam	Surface water	5.0	26.5			Surface water	5.0	26.5		
	River					River					River				
	Lake					Lake					Lake				
	Dam					Dam					Dam				
	Pond					Pond					Pond				
	Stream					Stream					Stream				
	Irrigation channel					Irrigation channel					Irrigation channel				
	Other					Other					Other				
	Other improved sources				Mountain source (GFS)	Other improved sources	5.3	24.5			Other improved sources	5.3	24.5		
	Other					Other	5.3	24.5			Other	5.3	24.5		
	Other non-improved	0.1	0.9			Other non-improved	0.5	0.7			Other non-improved	0.5	0.7		
	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	Other	0.5	0.7			Other	0.5	0.7		
	Other	0.1	0.9			Other					Other				
Other	DK/missing				ND	DK/missing	0.9	0.7			DK/missing	0.9	0.7		
	Total	100.0	100.0			Total	99.9	100.1			Total	99.9	100.1		
Calculations						Calculations					Calculations				
Estimations						Estimations					Estimations				
							Houseconnections based on MICS06	41.5	0.4						
	Access to improved drinking water sources :	92%	51%			Access to improved drinking water sources :	72%	47%			Access to improved drinking water sources :	72%	47%		
	Access to house connections :	31%	1%			Access to house connections :	41%	0%			Access to house connections :	41%	0%		
	Used for the estimates :	No	No			Used for the estimates :	Yes	Yes			Used for the estimates :	Yes	Yes		
	Used for the estimates :	No	No			Used for the estimates :	Yes	Yes			Used for the estimates :	Yes	Yes		
Ratios	HC / Tap water	56%	45%			Ratios					HC / Tap water				
	Public tap / Tap water					Public tap / Tap water					Public tap / Tap water				
	Tubewell + protected well / All wells	100%	100%			Tubewell + protected well / All wells					Tubewell + protected well / All wells				
	Protected wells / Traditional wells	100%	100%			Protected wells / Traditional wells					Protected wells / Traditional wells				
	Tubewell / All wells	68%	64%			Tubewell / All wells	53%	46%			Tubewell / All wells	53%	46%		
	Protected springs / All springs					Protected springs / All springs					Protected springs / All springs				
	Protect. well & spring / well & spring					Protect. well & spring / well & spring	53%	46%			Protect. well & spring / well & spring	53%	46%		
	Number of people covered by the survey:					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	Not used for poor description of service categories					Comments									

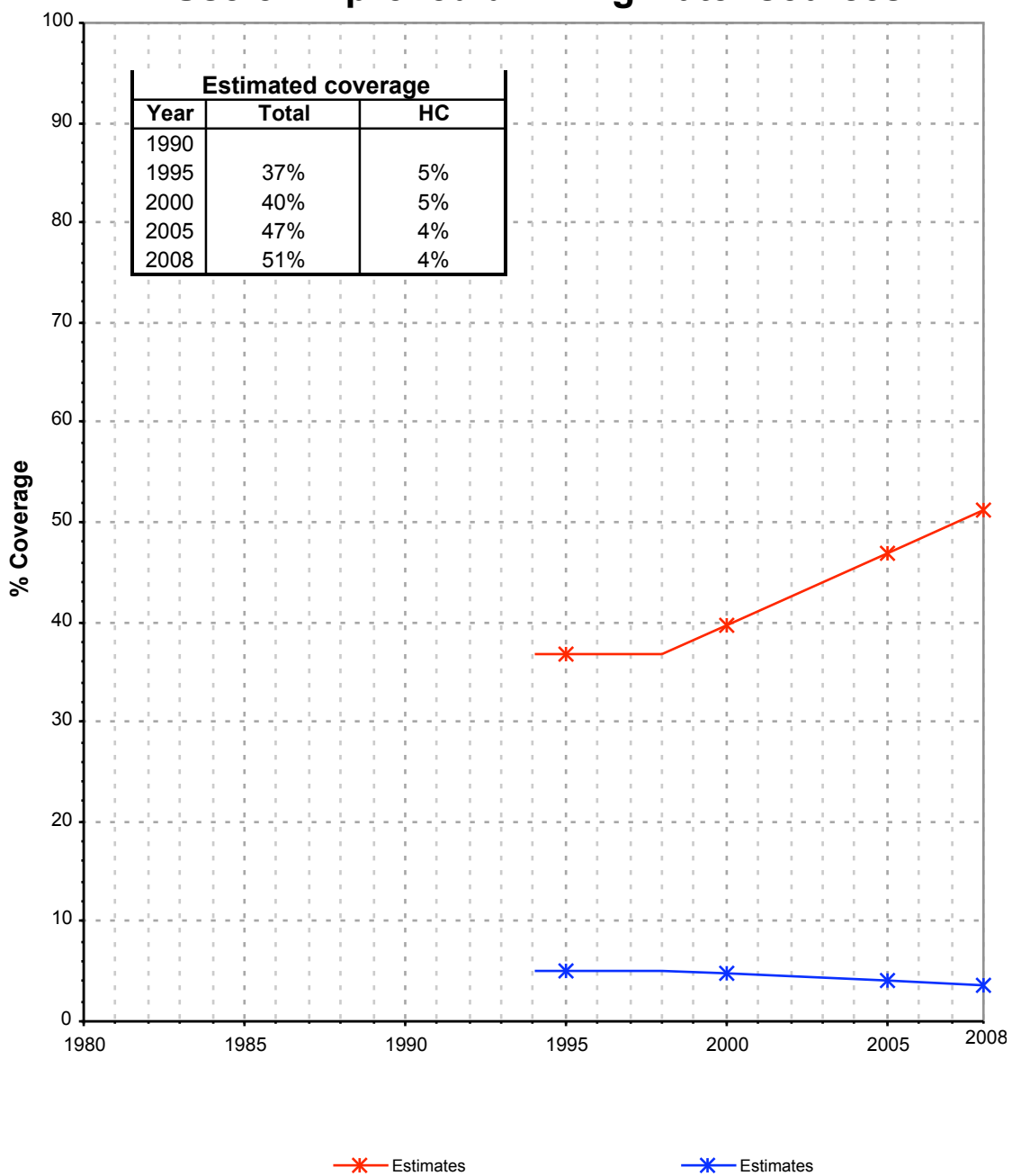
Access to drinking water sources		RHS05		Laos	
Reproductive Health Survey 2005				2005	
Original denomination	Classification	Urban	Rural	Total	
	Tap water	57.5	2.2		
	House connections				
	Piped water into dwelling				
	Piped water to yard/plot				
	Public tap, standpipe				
Mineral/Piped water	Other	57.5	2.2		
	Ground water	31.9	61.7		
	Protected ground water	20.6	43.0		
	Unprotected ground water	11.3	18.7		
	Protected wells or springs	20.6	43.0	0.0	
	Private				
	Public				
	Other				
	Unprotected wells or springs	11.3	18.7	0.0	
	Private				
	Public				
	Other				
	All wells	31.9	61.7		
	Private				
	Public				
	Other				
Bore	Tubewell, borehole	2.8	21.0		
	Private				
	Public				
	Other				
	Traditional wells	29.1	40.7		
	Private				
	Public				
	Other				
Well with cover	Protected well	17.8	22.0		
	Private				
	Public				
	Other				
Well without cover	Unprotected well	11.3	18.7		
	Private				
	Public				
	Other				
	All springs				
	Private				
	Public				
	Other				
	Protected spring				
	Private				
	Public				
	Other				
	Unprotected spring				
	Private				
	Public				
	Other				
Rainwater	Rainwater	10.3	35.1		
	Covered cistern/tank	10.3	35.1		
	Uncovered cistern/tank				
	Bottled water				
	with other improved				
	without other improved				
River, stream, dam	Surface water	0.2	0.7		
	River				
	Lake				
	Dam				
	Pond				
	Stream				
	Irrigation channel				
	Other				
	Other improved sources				
	Other				
	Other				
	Other non-improved	0.1	0.2		
	Cart with small tank/drum				
	Tanker truck provided				
Other	Other	0.1	0.2		
	Other				
Not stated	DK/missing	0.0	0.0		
	Total	100.0	99.9		
Calculations					
Estimations	Mineral piped adjusted for bottled water with unimproved source based on MICS06	47.0	1.9		
	Houseconnections of mineral/piped based on MICS06	39.3	0.5		
Access to improved drinking water sources :		78%	80%		
Access to house connections :		39%	1%		
Used for the estimates :		No	No		
Used for the estimates :		No	No		
Ratios	HC / Tap water				
	Public tap / Tap water				
	Tubewell + protected well / All wells	65%	70%		
	Protected wells / Traditional wells	61%	54%		
	Tubewell / All wells	9%	34%		
	Protected springs / All springs				
	Protect. well & spring / well & spring	65%	70%		
	Number of people covered by the survey:				
	Number of households covered by the survey:				
	Total population:				
Comments	Survey not used. It is likely that based on other surveys on file that a large proportion of rainwater users rely on unimproved sources during the dry season and thus only have access part of the year.				

Lao People's Dem Republic			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
Global Water Supply and Sanitation Assessment 2000.	JMP99	1999								
Multiple Indicator Cluster Surve	MICS00	2000	31.1		73.4		3.9		37.7	
World Health Survey	WHS03	2003	52.7		82.1		7.2		47.5	
Multiple Indicator Cluster Survey	MICS06	2006	50.4		70.4		5.4		45.9	
Reproductive Health Survey 2000	RHS00	2000		31.0		91.9		1.3		50.9
	CEN05	2005	41.5		72.2		0.4		47.4	
Reproductive Health Survey 2005	RHS05	2005		39.3		77.9		0.5		80.0

Lao People's Dem Republic - urban - Use of improved drinking water sources



Lao People's Dem Republic - rural - Use of improved drinking water sources



Drinking Water

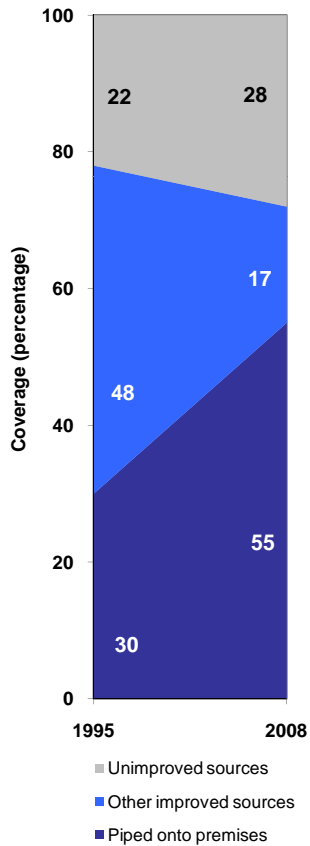
Lao People's Dem Republic	Drinking water coverage estimates					
	Urban (%)		Rural (%)		Total (%)	
	1995	2008	1995	2008	1995	2008
Piped into premises	30	55	5	4	9	20
Other improved source	48	17	32	47	35	37
Unimproved source	22	28	63	49	56	43

Source: WHO/UNICEF JMP, 2010

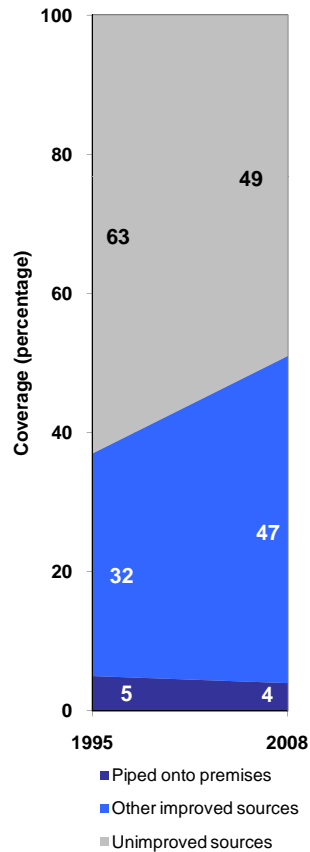
Lao People's Dem Republic	Urban		Rural		Total	
	1995	2008	1995	2008	1995	2008
Population (x1000)	836	1915	3,973	4290	4 809	6205

Source: UN / Population Division, 2008

Urban drinking water trends



Rural drinking water trends



Total drinking water trends

