




# PROGRESS ON DRINKING WATER AND SANITATION

SPECIAL FOCUS  
ON SANITATION

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 World Health  
Organization



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**Cover:** The provision of hand-washing facilities near toilets is critical for supporting school-based hygiene education efforts. Heshima Primary School, Nairobi, Kenya.



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# Foreword

## Sanitation and drinking water – at the heart of human health and development

2008 is the International Year of Sanitation. Accordingly, this report by the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) has sanitation as its focus.

The importance of sanitation is indisputable. It is a crucial stepping stone to better health: sanitation offers us the opportunity to save the lives of 1.5 million children a year who would otherwise succumb to diarrhoeal diseases, and to protect the health of many more. It is fundamental to gender equity as it protects women's dignity. And it is key to economic development: investments in sanitation protect investments made in other sectors, such as education and health, and bring measurable economic returns.

However, the data in this report show that the world is not on track to meet the MDG sanitation target, and 2.5 billion people still lack access to improved sanitation, including 1.2 billion who have no facilities at all. The message is clear: We need to greatly accelerate progress in sanitation, particularly in sub-Saharan Africa and Southern Asia. The number of people who still do not have access to improved sanitation is staggering, and we know that the disease, loss of earnings and indignity lock huge numbers of people into poverty.

But the news is not all bad. Although greater impetus is needed, the data show that people are choosing to move up the 'sanitation ladder', abandoning open defecation and revealing a demand for sanitation facilities.

In the case of drinking water supply, the news is good. For the first time, the number of people without improved drinking water has dropped below one billion. More than half of the global population now benefits from piped water reaching their homes, and the numbers using unimproved water supplies are going down. But we must maintain our efforts and galvanize the global community to continue to advance, focusing on those countries and regions, such as sub-Saharan Africa, which are struggling to stay on track.

The overall message from this report is positive. Progress can be made, and the sanitation and drinking water battle can be won. Our agencies are proud to present this report on status, and to press forward together.



Ann M. Veneman  
Executive Director  
UNICEF



Dr Margaret Chan  
Director-General  
World Health Organization



# The purpose of this report



This report details global progress towards the Millennium Development Goal (MDG) target for drinking water and sanitation, and what these trends suggest for the remainder of the Water for Life Decade 2005-2015.

In recognition of the large sanitation deficit, and the declaration of 2008 as the International Year of Sanitation, the report has a special focus on sanitation. It opens with a review of the current status of sanitation and an assessment of progress towards the sanitation target included in the MDGs.

The report also introduces a separate assessment of global, regional and country progress using the 'sanitation ladder' – a new way of analysing sanitation practices that highlights trends in using improved, shared and unimproved sanitation facilities and the trend in open defecation. Trends in drinking water coverage are presented in a similar format. They are disaggregated in a 'drinking water ladder', which shows the percentage of the world population that uses piped

connections into a dwelling, plot or yard; other improved water sources; and unimproved sources.

New data are also presented on the time taken to collect drinking water. The data show the proportion of people that spend more than 30 minutes on a single water-hauling trip and are thus likely to compromise their daily water consumption. In addition, survey data on who usually fetches water are presented to show how this burden is distributed among women, men, girls and boys.

Finally, the report provides a new perspective on progress. The country, regional and global estimates, starting on page 41, include a statistic on the proportion of the population that gained access to improved drinking water and sanitation since 1990. The intention is to recognize those countries that have made significant progress despite major obstacles, including low levels of coverage in 1990, rapid population growth or both.



# 2008: International Year of Sanitation

## INTERNATIONAL YEAR OF SANITATION



2008

Without improved sanitation, people suffer from ill health, lost income, inconvenience and indignity. Yet billions of people around the world lack basic sanitation. In recognition of the urgent need for greater political awareness and action on sanitation, the United Nations General Assembly declared 2008 as the International Year of Sanitation. The goal is to raise awareness and accelerate progress towards the MDG target of halving the proportion of people without sustainable access to basic sanitation by 2015.

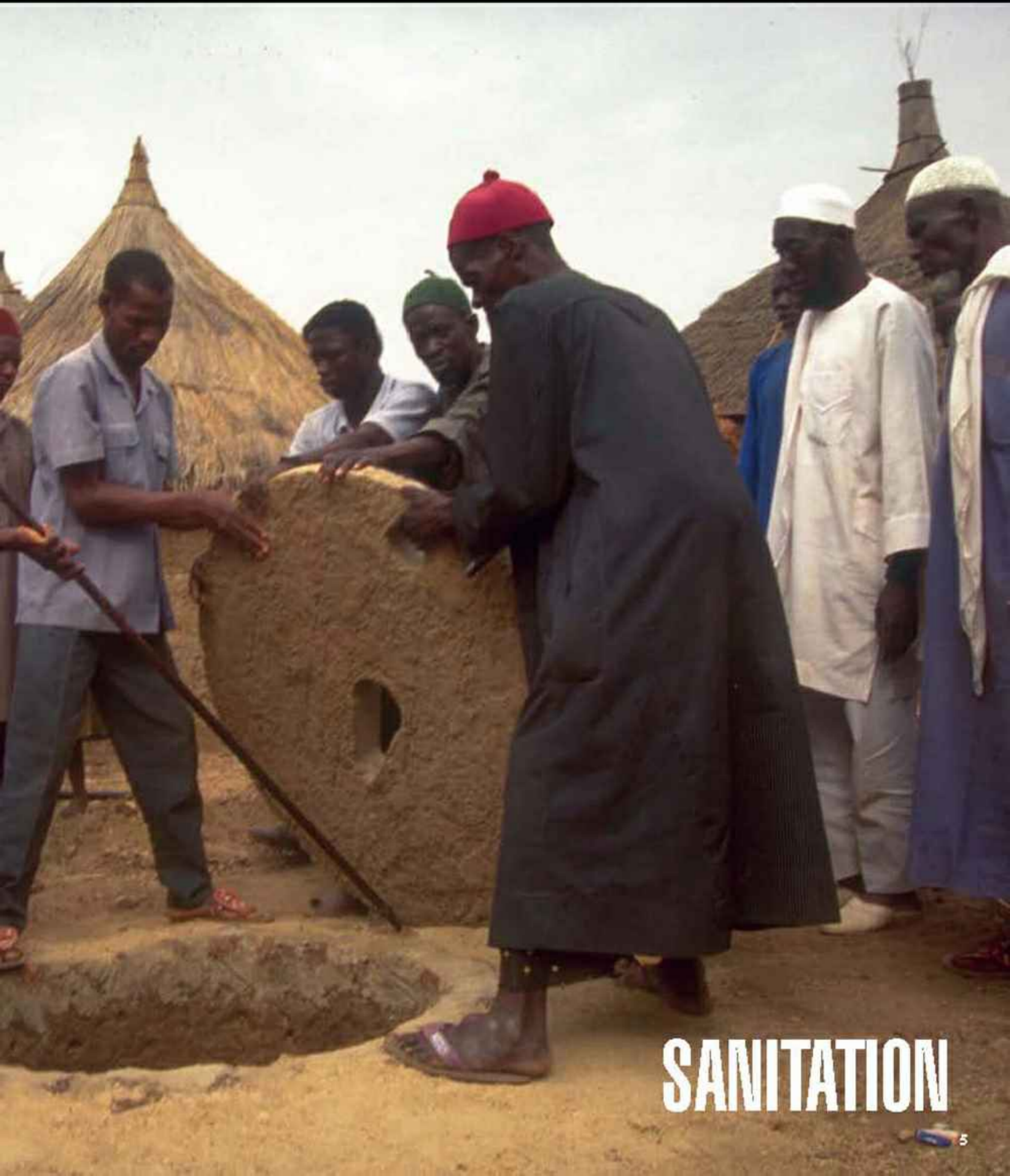
The five key messages of the International Year of Sanitation are:

- Sanitation is vital for human health
- Sanitation generates economic benefits
- Sanitation contributes to dignity and social development
- Sanitation helps the environment
- Sanitation is achievable!

More information is available at:  
[www.sanitation2008.org](http://www.sanitation2008.org)







**SANITATION**



# An new way to look at sanitation practices:

Readers of the *BMJ (British Medical Journal)* recently identified sanitation as “the most important medical advance since 1840.” Nevertheless, only 62 per cent of the world’s population has access to improved sanitation – that is, uses a sanitation facility that ensures hygienic separation of human excreta from human contact. A further 8 per cent shares an improved facility with one or more households, and another 12 per cent uses an unimproved sanitation facility – one that does not ensure hygienic separation of excreta from human contact. The remaining 18 per cent of the world’s population practises indiscriminate or open defecation.

In this report, sanitation coverage is presented as a four-step ladder that includes the proportion of the population:

- practising open defecation
- using an unimproved sanitation facility
- using a shared sanitation facility
- using an improved sanitation facility.

Figure 2 summarizes trends in the steps of the sanitation ladder for the various MDG regions. It shows that sanitation coverage in the developing world increased from 41 per cent in 1990 to 53 per cent in 2006. This means that an additional 1.1 billion people in developing regions are now using improved sanitation facilities. Steep coverage gains in South-eastern and Eastern Asia, which both saw 17 percentage-point increases, contributed significantly to this improvement. Sub-Saharan Africa recorded the least progress, with use of improved sanitation increasing from 26 per cent in 1990 to 31 per cent in 2006.

OPEN  
DEFECTION

**Open defecation:** Defecation in fields, forests, bushes, bodies of water or other open spaces, or disposal of human faeces with solid waste.

UNIMPROVED

**Unimproved sanitation facilities:** Facilities that do not ensure hygienic separation of human excreta from human contact. Unimproved facilities include pit latrines without a slab or platform, hanging latrines and bucket latrines.

SHARED

**Shared sanitation facilities:** Sanitation facilities of an otherwise acceptable type shared between two or more households. Shared facilities include public toilets.

IMPROVED

**Improved sanitation facilities:** Facilities that ensure hygienic separation of human excreta from human contact. They include:

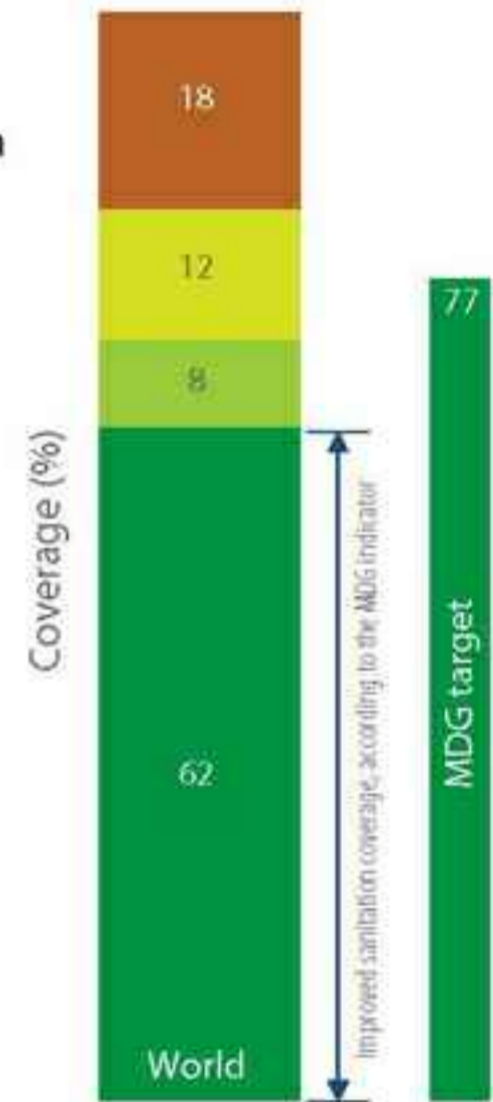
- Flush or pour-flush toilet/latrine to:
  - piped sewer system
  - septic tank
  - pit latrine
- Ventilated improved pit (VIP) latrine
- Pit latrine with slab
- Composting toilet.

The sanitation ladder shows that more than half of those without improved sanitation already use some type of sanitation facility.



# the sanitation ladder

**Figure 1** Proportion of the world's population using an improved, shared, or unimproved sanitation facility or practising open defecation, 2006

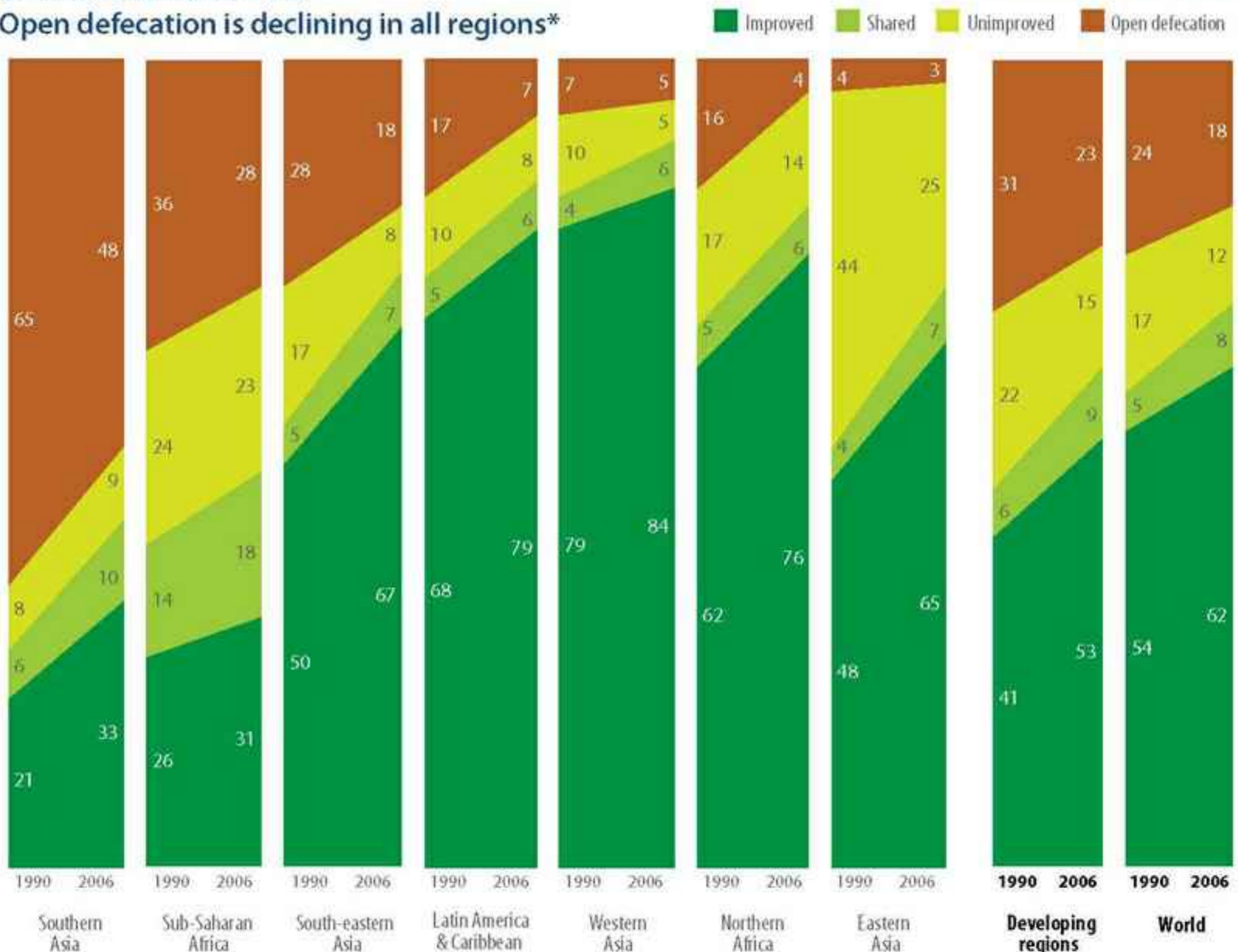


## 2.5 billion people are without improved sanitation

Figure 2 shows that open defecation is declining in all regions: dropping from 24 per cent worldwide in 1990 to 18 per cent in 2006. Open defecation is still most widely practised in Southern Asia and sub-Saharan Africa – by 48 per cent and 28 per cent of the population, respectively. In contrast, open defecation is common among only 3 per cent of the people in Eastern Asia. In four of the seven developing regions for which data are available, less than 10 per cent of the population practises open defecation.

## SANITATION COVERAGE

Open defecation is declining in all regions\*



**Figure 2** Trends in the proportion of the population using an improved, shared or unimproved sanitation facility or practising open defecation, by MDG regions in 1990 and 2006

\*Oceania and the Commonwealth of Independent States are not included due to lack of complete data.



# Progress towards the sanitation target

## The world is not on track to meet the MDG sanitation target

Between 1990 and 2006, the proportion of people without improved sanitation decreased by only 8 percentage points. Without an immediate acceleration in progress, the world will not achieve even half the MDG sanitation target by 2015. Based on current trends, the total population without improved sanitation in 2015 will have decreased only slightly since 1990, to 2.4 billion.

At the current rate, the world will miss the MDG sanitation target by over 700 million people. To meet the target, at least 173 million people on average per year will need to begin using improved sanitation facilities.

## 62 per cent of the world's population uses improved sanitation facilities

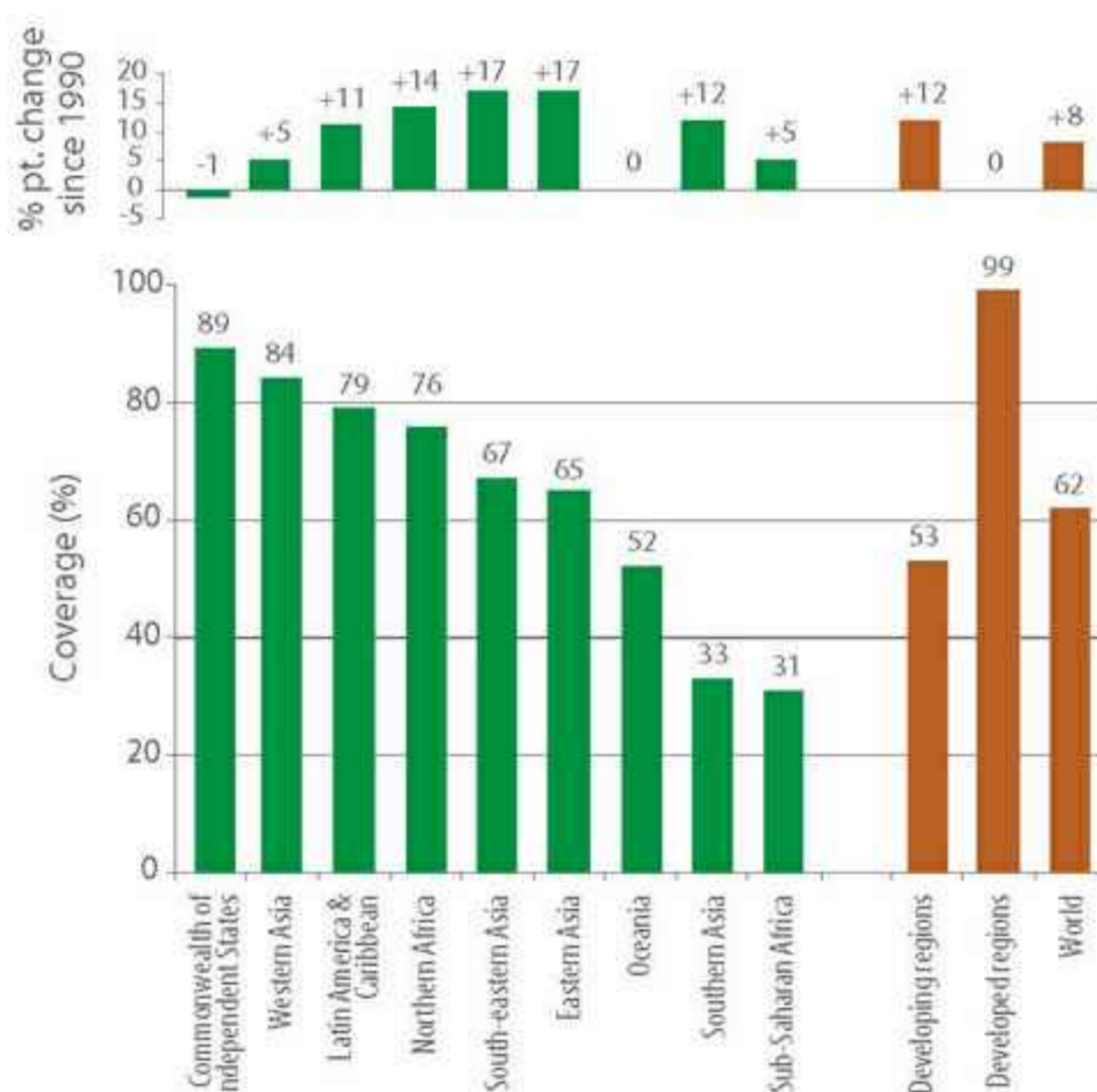


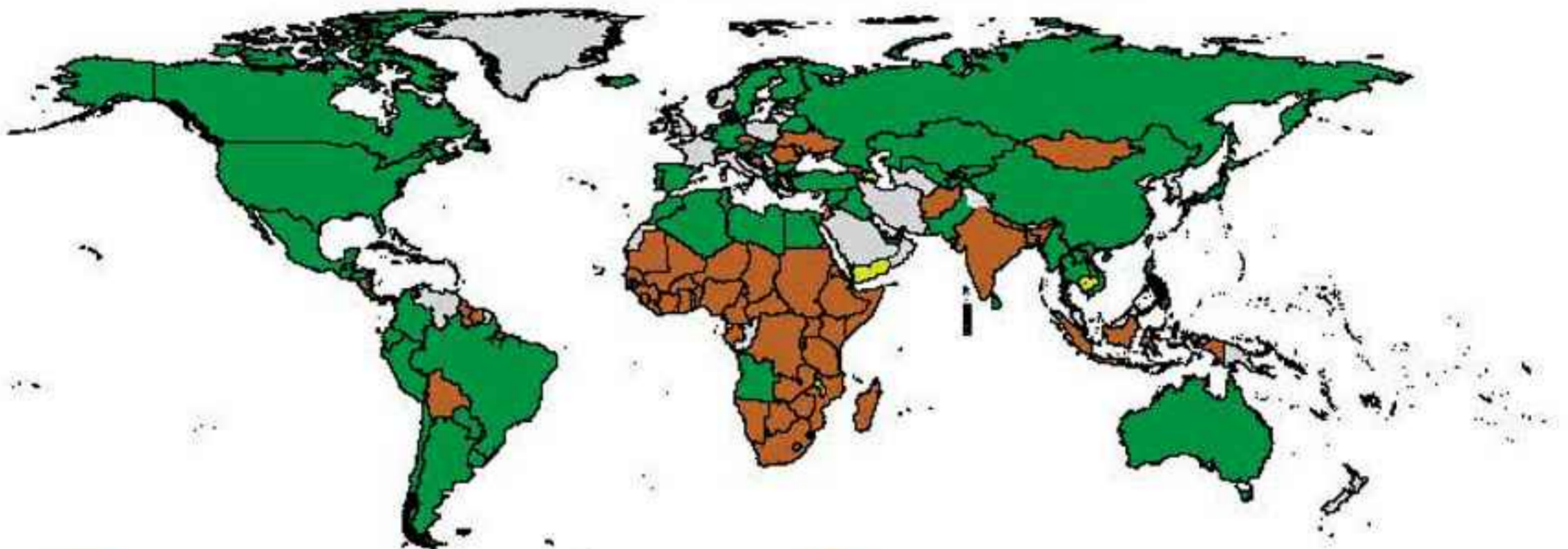
Figure 3 Coverage with improved sanitation facilities, by region in 2006 and percentage-point change 1990-2006

Table 1 Regional and global progress towards the MDG sanitation target

Region	Sanitation coverage (%)		Coverage needed to be on track in 2006 (%)	MDG target coverage (%)	Progress
	1990	2006			
Western Asia	79	84	86	90	On track
Latin America & Caribbean	68	79	78	84	On track
Northern Africa	62	76	74	81	On track
South-eastern Asia	50	67	64	75	On track
Eastern Asia	48	65	65	74	On track
<b>Developed regions</b>	<b>99</b>	<b>99</b>	<b>99</b>	<b>100</b>	<b>On track</b>
Commonwealth of Independent States	90	89	93	95	Not on track
Oceania	52	52	69	76	Not on track
Southern Asia	21	33	46	61	Not on track
Sub-Saharan Africa	26	31	50	63	Not on track
<b>Developing regions</b>	<b>41</b>	<b>53</b>	<b>60</b>	<b>71</b>	<b>Not on track</b>
<b>World</b>	<b>54</b>	<b>62</b>	<b>69</b>	<b>77</b>	<b>Not on track</b>



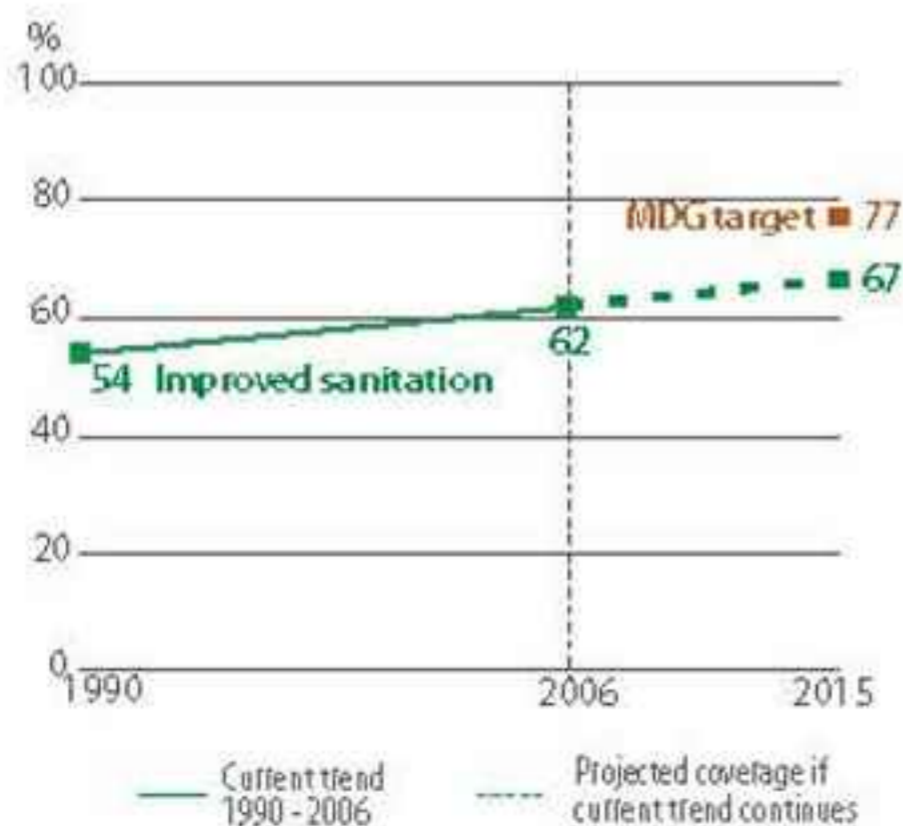
**Most countries that are not on track to meet the MDG sanitation target are in sub-Saharan Africa and in Southern Asia**



- **On track**  
Coverage in 2006 was less than 5 percent below the rate it needed to be for the country to reach the MDG target, or coverage was higher than 95%
- **Not on track**  
Coverage in 2006 was more than 10 percent below the rate it needed to be for the country to reach the MDG target, or the 1990-2006 trend shows unchanged or decreasing coverage
- **Progress but insufficient**  
Coverage in 2006 was 5 percent to 10 percent below the rate it needed to be for the country to reach the MDG target
- **No or insufficient data**  
Data were unavailable or insufficient to estimate trends

**Figure 4** Progress towards the MDG sanitation target, 2006

**The world is not on track to meet the MDG sanitation target**



**Figure 5** Trends in sanitation coverage 1990-2015



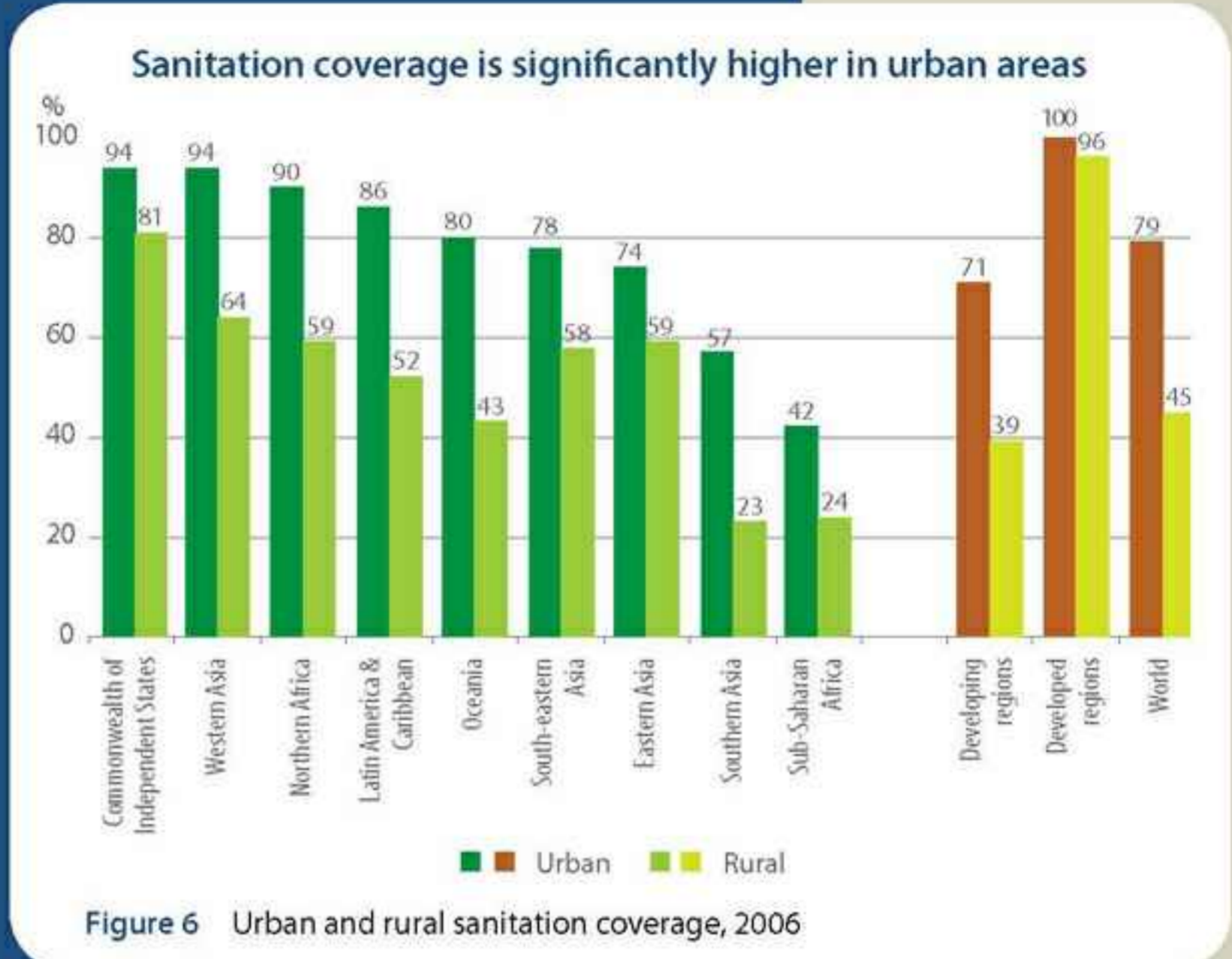


# Urban-rural disparities in sanitation coverage

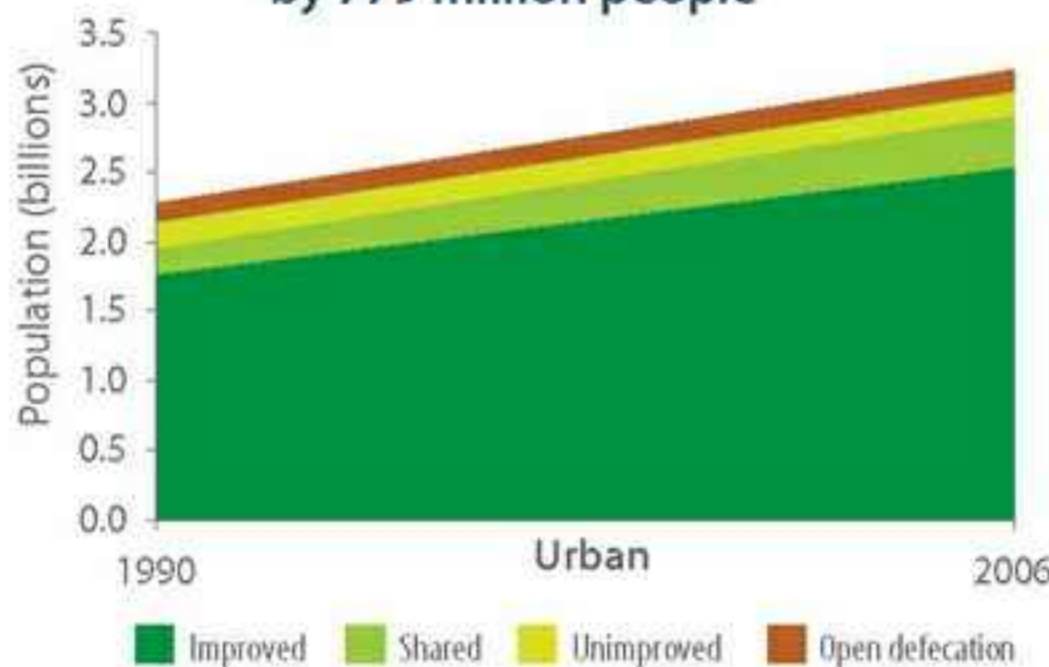
The MDG target for water and sanitation requires that indicators to measure progress be disaggregated by urban and rural populations. Although the target – halving the proportion of people without sustainable access to safe drinking water and basic sanitation – reflects total populations, progress towards the target is based on the sum of progress in both urban and rural areas. This report therefore highlights urban and rural disparities that would otherwise be masked by total numbers.

The world's urban sanitation coverage has risen to 79 per cent, while rural coverage has reached 45 per cent. The largest disparity between urban and rural sanitation coverage is found in Oceania, Latin America and the Caribbean, and Southern Asia. The urban-rural sanitation disparity is smallest in Eastern Asia, but even there it shows a 15 percentage-point difference.

In 2006, the world's population was almost equally divided between urban and rural dwellers. Nevertheless, more than 7 out of 10 people without improved sanitation were rural inhabitants. That said, rapid population growth in urban areas poses a growing challenge: The number of urban dwellers using improved sanitation has risen by 779 million since 1990, but has not kept pace with urban population growth of 956 million.

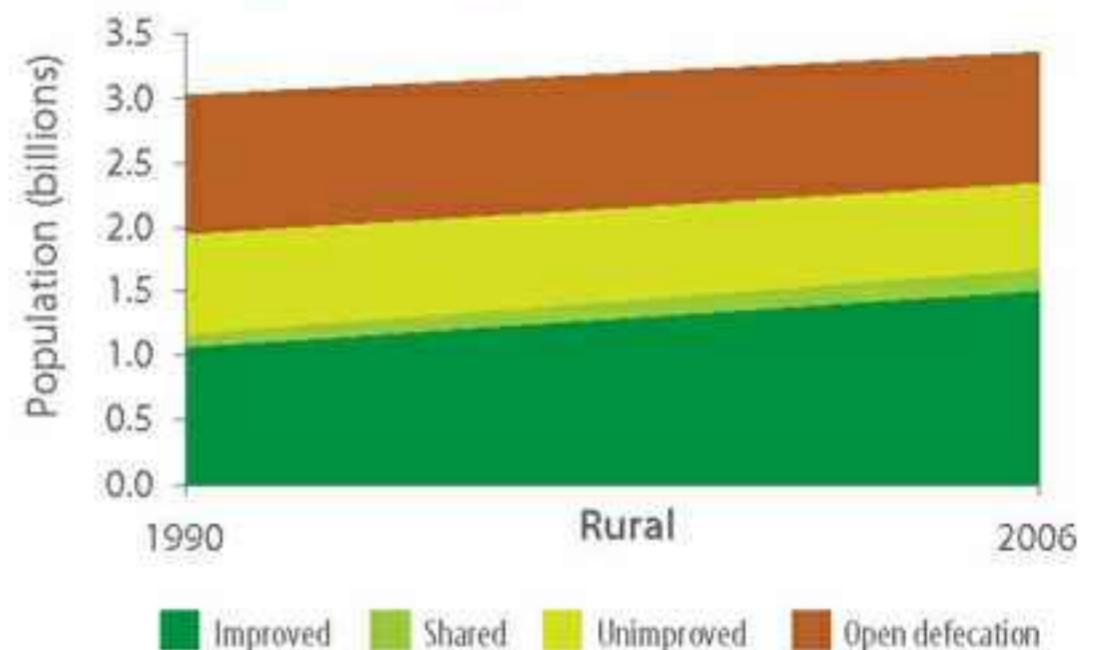


**Urban sanitation coverage increased by 779 million people**



**Figure 7 Trends in sanitation practices by urban populations, 1990-2006**

**One billion people in rural areas still practise open defecation**



**Figure 8 Trends in sanitation practices by rural populations, 1990-2006**



Urban-rural disparities in the use of improved sanitation facilities are significant in most developing regions

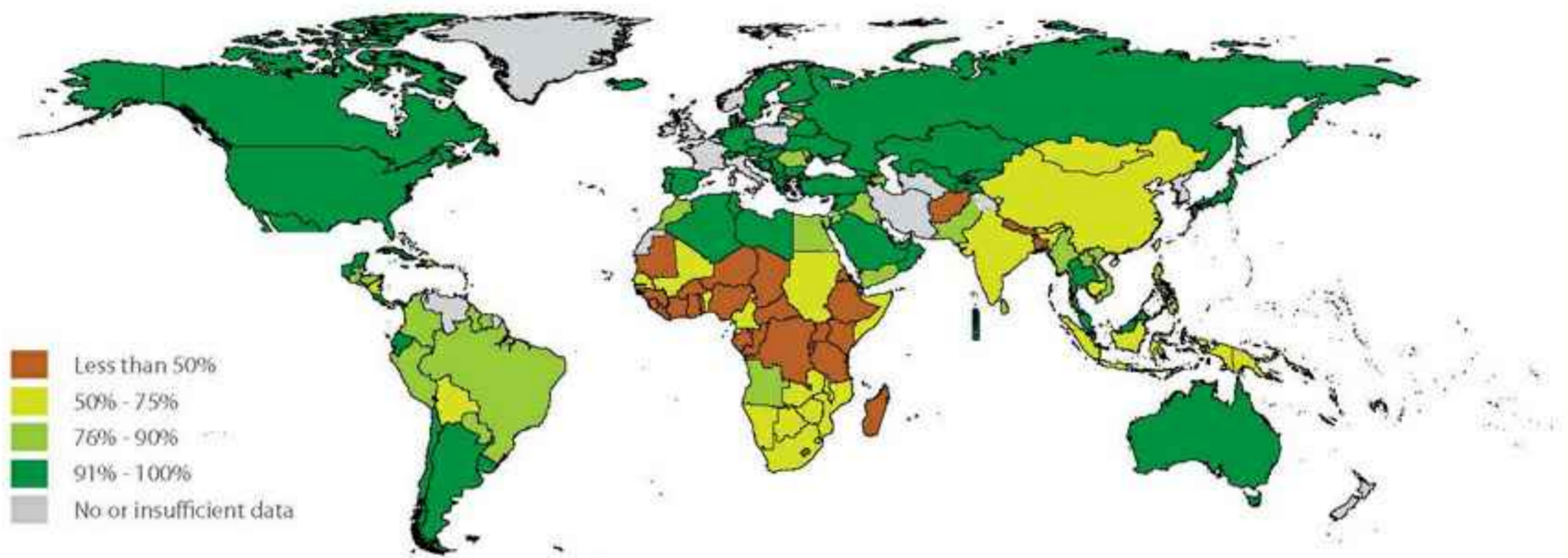


Figure 9 Sanitation coverage in urban areas, 2006

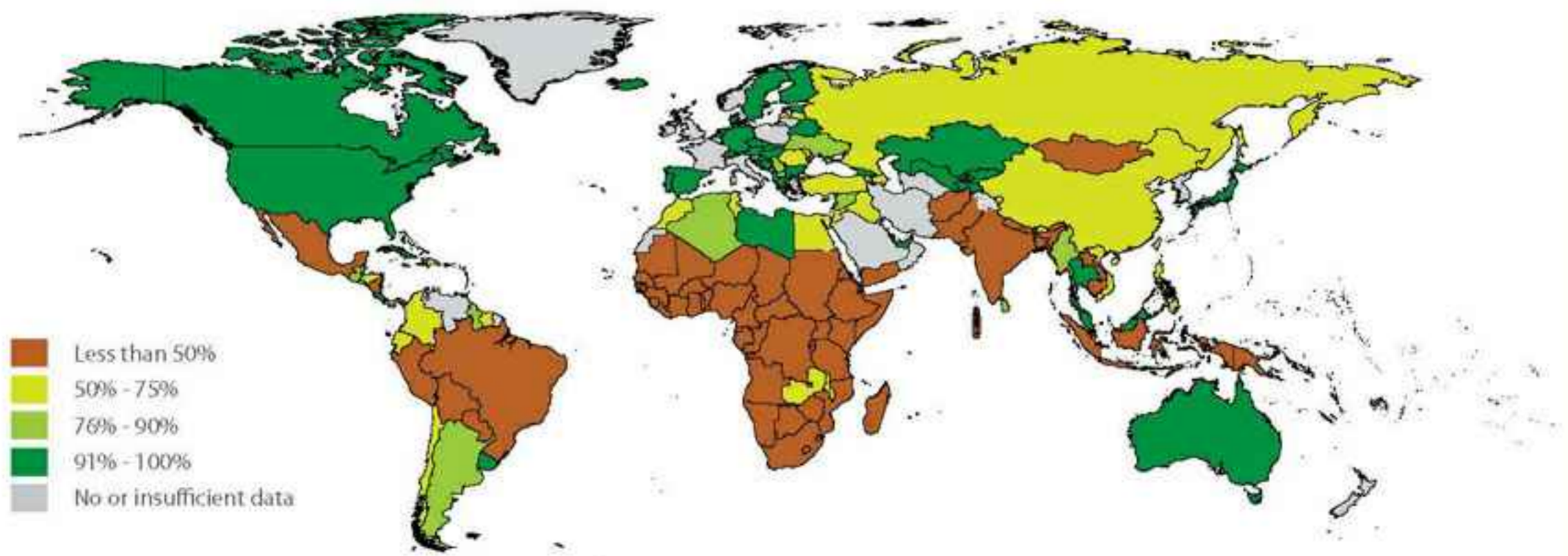


Figure 10 Sanitation coverage in rural areas, 2006



# Improved sanitation

## Improved sanitation facilities:

Facilities that ensure hygienic separation of human excreta from human contact.

They include:

- Flush or pour-flush toilet/latrine to:
  - piped sewer system
  - septic tank
  - pit latrine
- Ventilated improved pit latrine
- Pit latrine with slab
- Composting toilet

Sixty-two per cent of the world's population uses improved sanitation, up from 54 per cent in 1990. The lowest coverage is found in sub-Saharan Africa, where only 31 per cent of the population uses improved sanitation, up just 5 percentage points since 1990.

Improved sanitation coverage is also low in Southern Asia, but significant efforts since 1990 have moved regional coverage from 21 per cent to 33 per cent in 2006 – more than doubling the number of people who use improved sanitation facilities.

The richest are three times more likely to use improved sanitation than the poorest

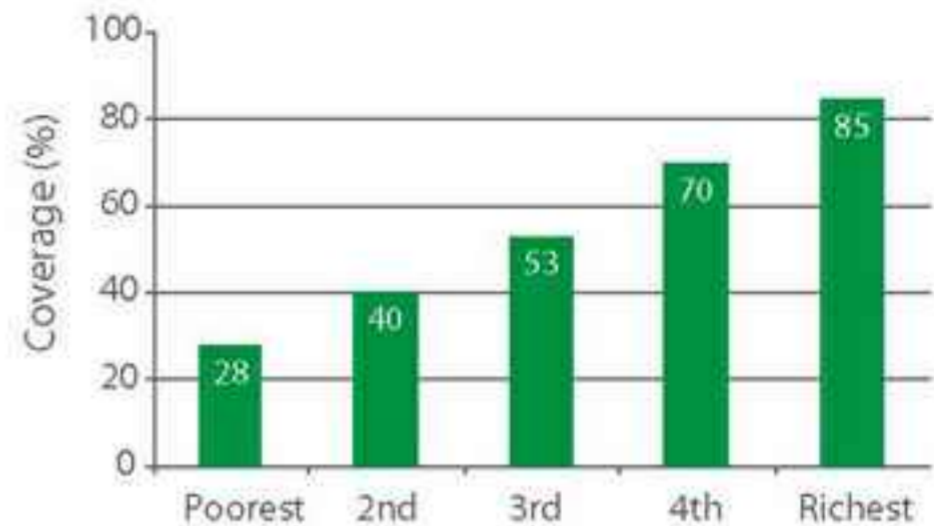


Figure 11 Improved sanitation coverage by wealth quintiles in 38 developing countries

Source: Based on data drawn from Multiple Indicator Cluster Surveys (MICS) and Demographic and Health Surveys (DHS) in 38 developing countries in 2005 and 2006

The vast majority of those without improved sanitation are in Asia and sub-Saharan Africa

Despite increases in coverage, more than 2.5 billion people remain without improved sanitation. Almost 1.8 billion of them – 70 per cent – live in Asia; 22 per cent of them, more than half a billion people, live in sub-Saharan Africa.

## Sanitation coverage remains low in sub-Saharan Africa and Southern Asia

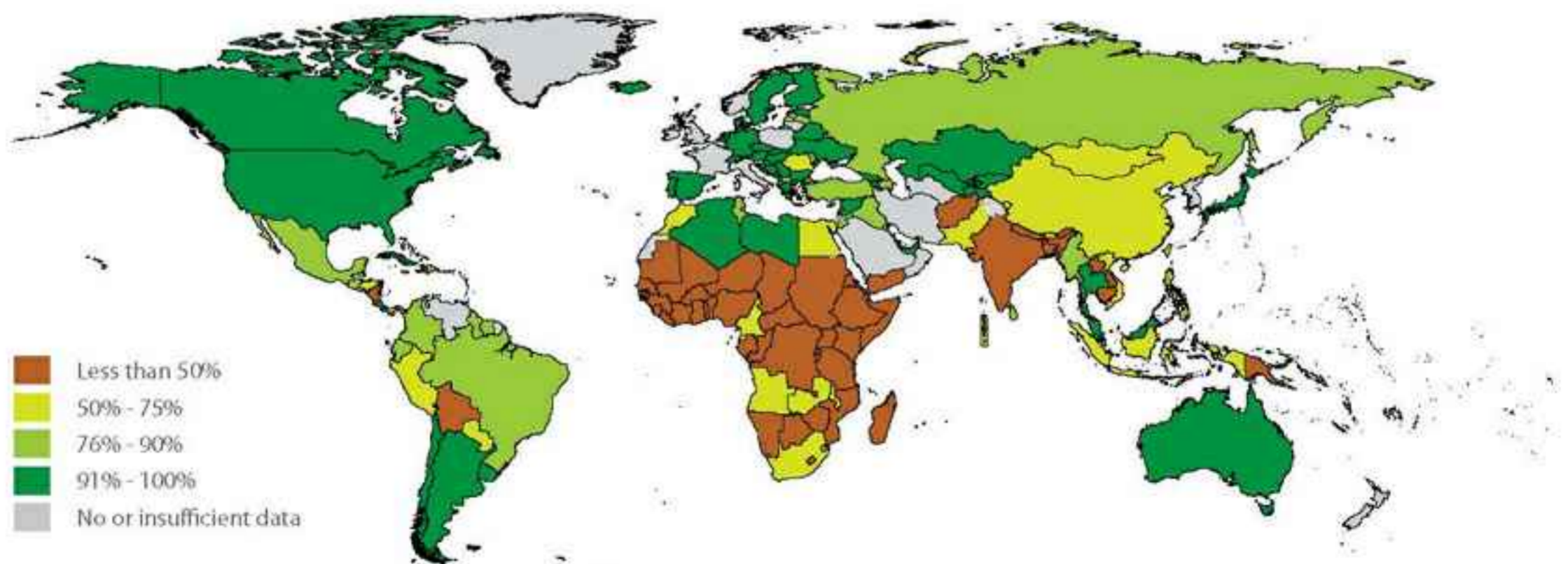


Figure 12 Improved sanitation coverage, 2006



More than 2.5 billion people do not use an improved sanitation facility; almost 1.8 billion of them are in Asia

At least two thirds of the population in 34 countries are not using improved sanitation facilities. Only eight of these countries are outside sub-Saharan Africa. Despite low sanitation coverage, it is worth noting that, in these 34 countries, 274 million people gained access to improved sanitation since 1990. Moreover, several of these countries managed to double their 1990 sanitation coverage.

The use of improved sanitation facilities is substantially lower among the poor than the rich. An analysis across 38 developing countries shows that the poorest 20 per cent of the population has only one third the access to improved sanitation as the richest quintile. In sub-Saharan Africa, inequality is higher still: The richest 20 per cent of the population is five times more likely to use an improved sanitation facility than the poorest 20 per cent.

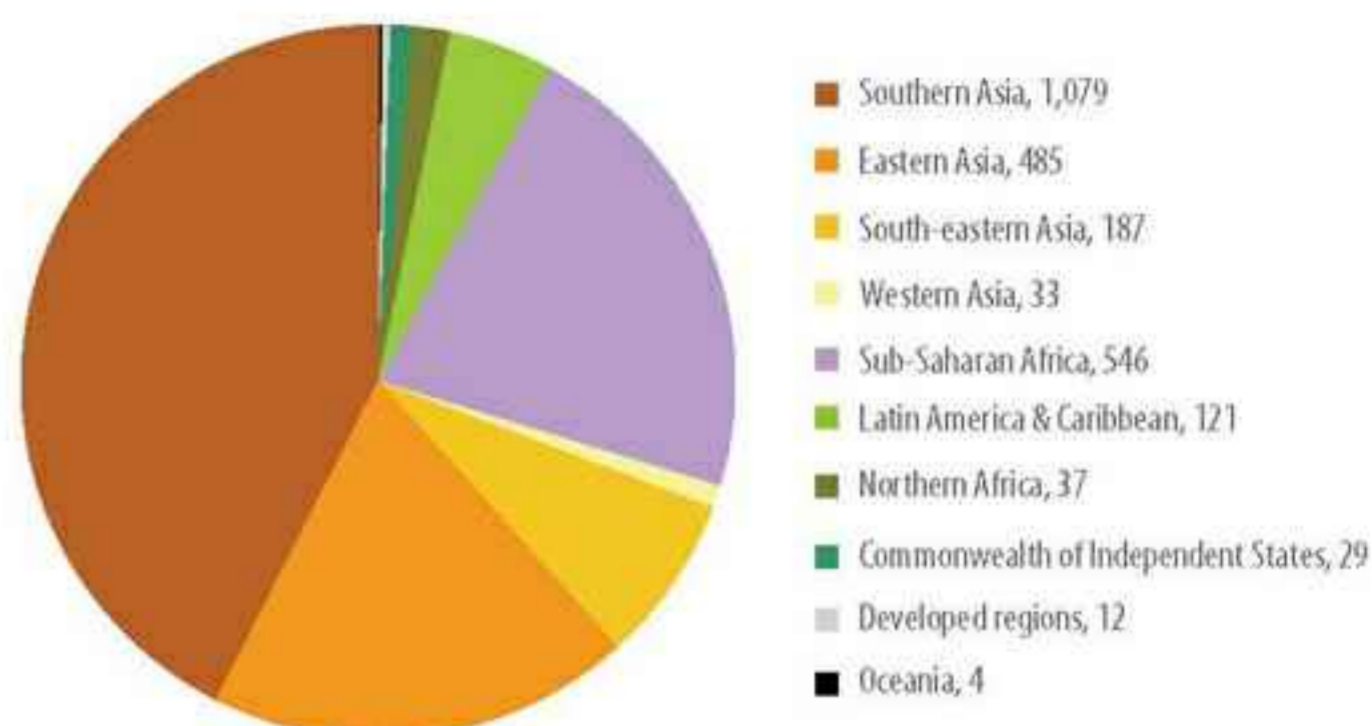


Figure 13 Population without improved sanitation, by region in 2006 (millions)

Table 2 Countries in which coverage with improved sanitation was 33 per cent or less in 2006

Countries with low improved sanitation coverage			
	Improved sanitation coverage (%)		Number of people who gained access to improved sanitation (thousands)
	1990	2006	
Eritrea	3	5	143
Niger	3	7	714
Chad	5	9	640
Ghana	6	10	1,465
Ethiopia	4	11	6,858
Sierra Leone*	-	11	147
Madagascar	8	12	1,353
Togo	13	12	222
Burkina Faso	5	13	1,365
Guinea	13	19	991
Haiti	29	19	-162
Congo	-	20	-
Rwanda	29	23	38
Somalia*	-	23	605
Côte d'Ivoire	20	24	1,905
Mauritania	20	24	340
Sao Tome and Principe*	-	24	11
Micronesia (Federal States of)	29	25	-1
Nepal	9	27	5,922
Cambodia*	-	28	3,026
India	14	28	198,442
Senegal	26	28	1,324
Afghanistan*	-	30	1,894
Benin	12	30	2,025
Nigeria	26	30	18,849
Central African Republic	11	31	982
Democratic Republic of the Congo	15	31	12,660
Mozambique*	-	31	2,993
Liberia	40	32	282
Solomon Islands	29	32	62
Guinea-Bissau*	-	33	190
Kiribati	22	33	15
Uganda	29	33	4,841
United Republic of Tanzania	35	33	4,284

\* No 1990 data were available, therefore the estimates are derived from the population that gained access to improved sanitation over the period 1995-2006.



# Shared sanitation

## Shared sanitation facilities:

Sanitation facilities of an otherwise acceptable type that are shared between two or more households, including public toilets.

Note: Data on shared sanitation facilities presented here exclude shared facilities that are unimproved, such as shared pit latrines without a slab or shared open pits.

Sanitation facilities that are shared among households – whether fully public or accessible only to some – are not considered ‘improved’ facilities, according to the definition used for the MDG indicator.

While the use of shared sanitation does reflect demand, limited data confirm the widely held perception that many of these facilities, especially public ones, fail to ensure hygienic separation of human excreta from human contact. Serious concern has also been expressed about the actual accessibility of such facilities throughout the day and about the security of users, especially at night. Further research on the nature and acceptability of shared facilities is needed.

The proportion of people using shared sanitation facilities is 10 per cent or less in all developing regions except sub-Saharan Africa, where they are used by 18 per cent of the population.

Recent household surveys, namely Multiple Indicator Cluster Surveys (MICS) and Demographic and Health Surveys (DHS), provide information about the number of households sharing a sanitation facility. The analysis in Table 3 shows that, for most countries in which at least 10 per cent of the urban population shares a sanitation facility of an acceptable technology, the majority share a facility with five or fewer households. An exception is Ghana, where a considerably larger proportion of households in both urban and rural areas share sanitation facilities with more than five households.



**Table 3** Percentage of households sharing a sanitation facility of an acceptable type

Country	Most households sharing a sanitation facility do so with five or fewer households			
	Urban (%)		Rural (%)	
	2-5 households	More than 5 households	2-5 households	More than 5 households
Malawi	37	6	26	1
Gambia	32	11	21	2
Mongolia	29	2	21	2
Sierra Leone	26	18	8	5
Somalia	23	5	5	1
Togo	23	21	4	2
Haiti	19	4	5	1
Iraq	19	1	12	1
Central African Republic	18	6	11	4
Jamaica	14	2	12	1
Burundi	14	5	3	1
Bangladesh	14	4	9	0
Côte d'Ivoire	12	13	8	3
Ghana	10	58	4	35

Source: MICS surveys in 37 countries in 2005 and 2006



Sharing sanitation facilities is three times more likely in urban than in rural areas of the developing world.

### Shared sanitation remains largely an urban phenomenon

The 2006 coverage estimates confirm that more than two thirds of shared sanitation users are urban dwellers. In Eastern Asia, 92 per cent of the users of shared facilities are found in urban areas. In urban areas of sub-Saharan Africa, every third person uses a shared sanitation facility. This finding reflects the limited sanitation options available in many congested cities and towns, an issue that is likely to become increasingly serious if urban and peri-urban populations continue to grow at current rates.

### Sharing sanitation facilities is more prevalent in regions with the lowest sanitation coverage

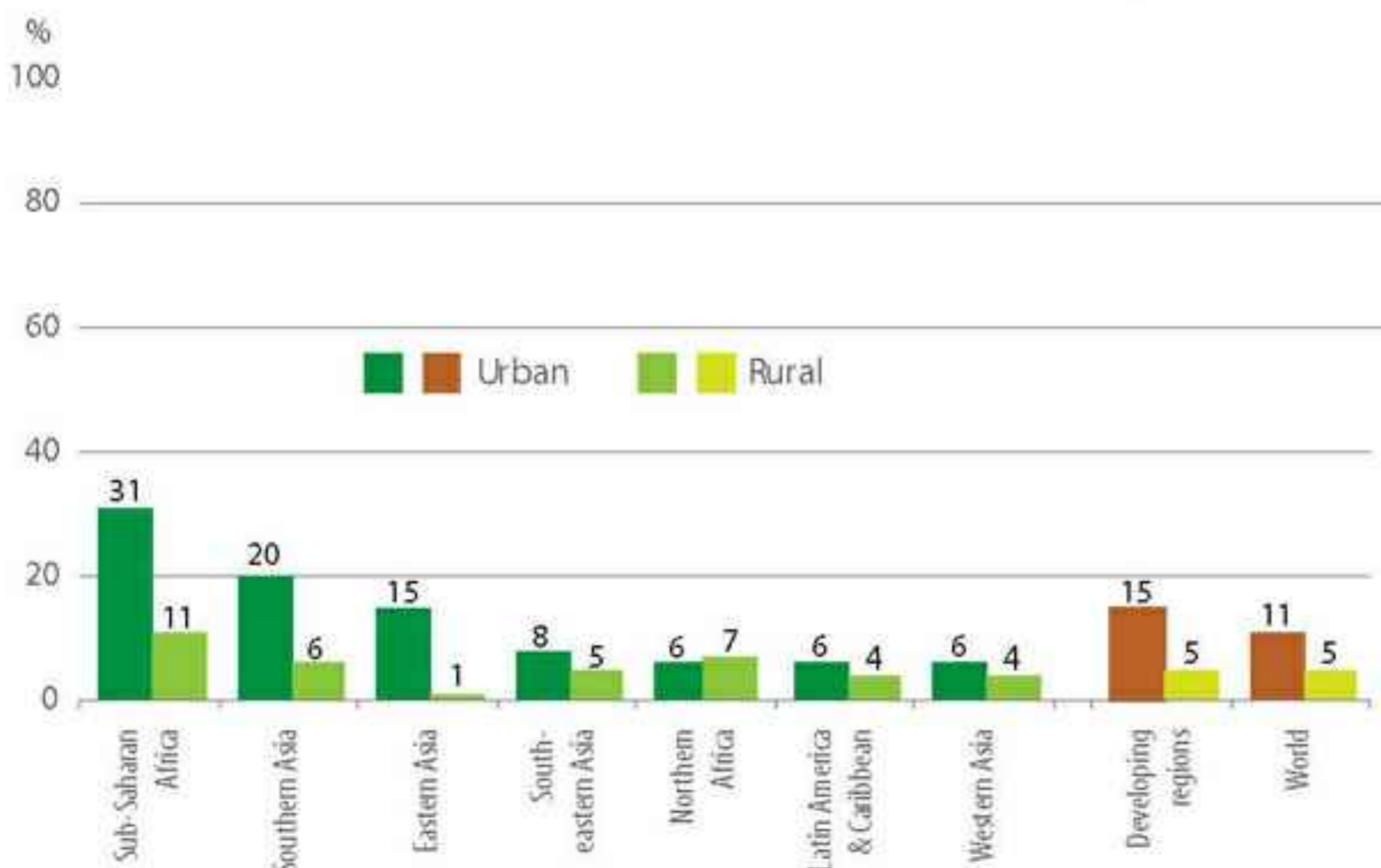


Figure 14 Percent of population using shared sanitation in urban and rural areas, by region in 2006

Table 4 Sanitation practices in countries with the highest use of shared sanitation facilities

Shared sanitation is a common option in many African countries				
Country	Improved (%)	Shared (%)	Unimproved (%)	Open defecation (%)
Ghana	10	51	19	20
Congo	20	37	34	9
Gabon	36	37	25	2
Kenya	42	37	10	11
Gambia	52	34	10	4
Mongolia	50	28	9	13
Sierra Leone	11	26	36	27
South Africa	59	23	8	10
Swaziland	50	23	7	20
Zimbabwe	46	23	5	26
Malawi	60	22	7	11
Togo	12	22	10	56
Nigeria	30	21	29	20
Zambia	52	20	6	22
Madagascar	12	19	32	37
Côte d'Ivoire	24	18	28	30
Iraq	76	18	4	2
Central African Republic	31	17	30	22
Bangladesh	36	16	37	11
Bolivia	43	15	16	26
Dominican Republic	79	15	2	4
Guinea	19	15	40	26
Senegal	28	15	33	24

Countries in which 15 per cent or more of the total population uses a shared sanitation facility, 2006



# Unimproved sanitation facilities

## Unimproved sanitation facilities:

Facilities that do not ensure hygienic separation of human excreta from human contact. Included in this category are pit latrines without a slab or platform, hanging latrines and bucket latrines. Also included are improved facilities that lack adequate disposal, such as pour-flush toilets that discharge directly into open drains, ditches or other bodies of water.

Use of an unimproved sanitation facility represents the first step up the sanitation ladder. The user is no longer defecating in the open, but has moved to some sort of facility, albeit one that fails to effectively separate human excreta from human contact. Nevertheless, it shows demand for sanitation. Unimproved sanitation facilities can be upgraded to improved sanitation. For this reason, their users constitute a critical audience for health promotion activities.

Eight out of ten users of unimproved facilities live in rural areas.

Use of unimproved sanitation facilities is four times higher in rural than in urban areas

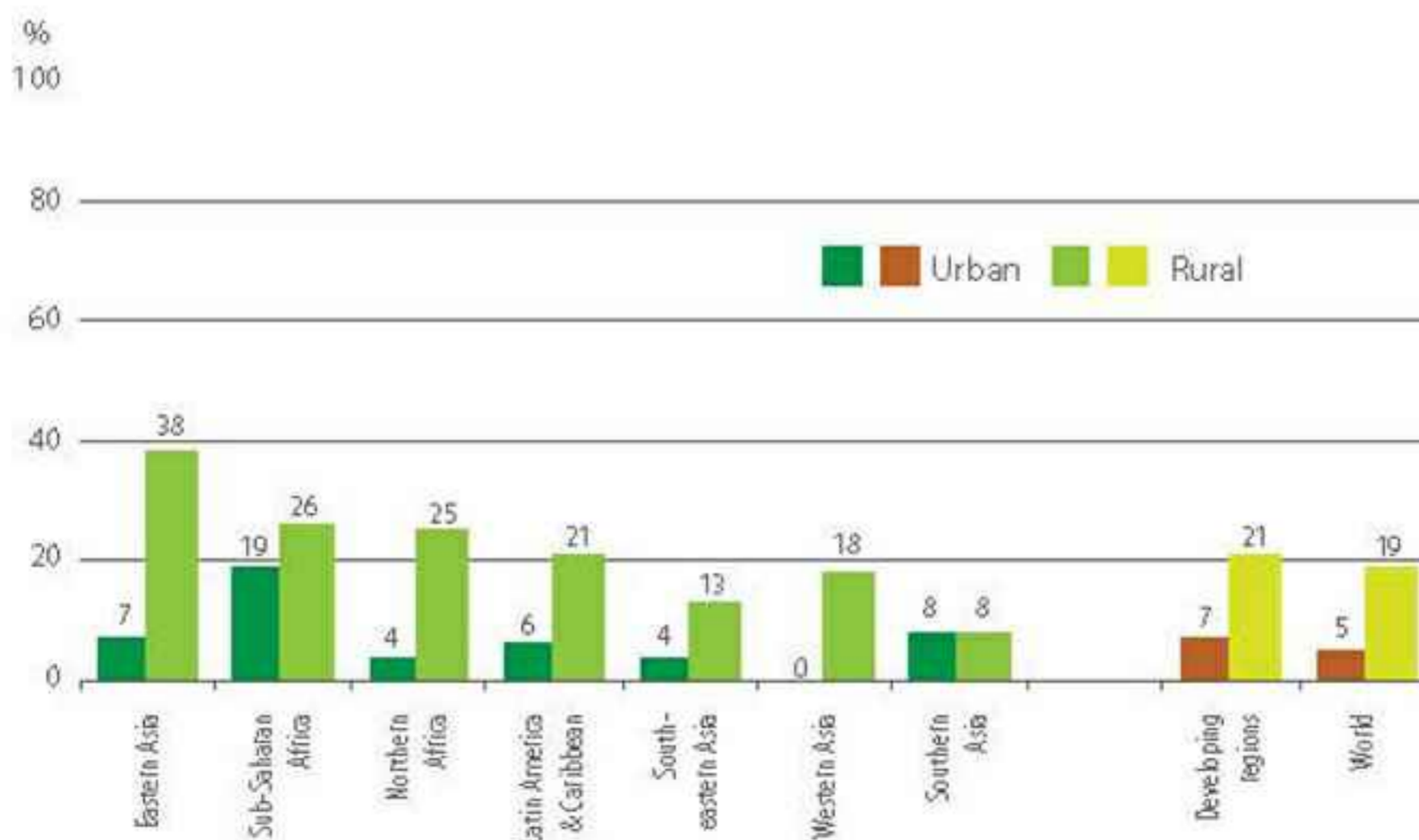


Figure 15 Use of unimproved sanitation facilities in urban and rural areas, by region in 2006







# Open defecation

## Open defecation:

Defecation in fields, forests, bushes, bodies of water or other open spaces, or disposal of human faeces with solid waste.

Open defecation is the last recourse for those without any form of sanitation – those at the bottom of the sanitation ladder who must endure the daily indignity of defecating in open, often publicly accessible, spaces. Open defecation is of fundamental importance to development because of the health hazard it poses to anyone living nearby. If some members of a community continue to defecate in the open, then the whole community is at greater risk of diarrhoeal diseases, worm infestations and hepatitis than people living in communities where open defecation is not practised.

## The practice of open defecation is decreasing

The proportion of people practising open defecation has decreased in developing regions, dropping from 31 per cent in 1990 to 23 per cent in 2006. Almost two thirds of those who practise open defecation – 778 million people – live in Southern Asia. Despite the drop in percentage terms, population growth means that the number of people who practise open defecation today is little changed from 1990. In sub-Saharan Africa, 221 million people are defecating in the open, the second largest total for any region. Nevertheless, the proportion of the population practising open defecation is 20 percentage points higher in Southern Asia.

Nearly one third (31 per cent) of the world's rural population practises open defecation. In Southern Asia, the figure is a remarkable 63 per cent. The relatively high proportion of the rural population who practise open defecation in Latin America and the Caribbean (23 per cent) and Western Asia (14 per cent) is noteworthy, especially in contrast with the urban areas of these regions.

Open defecation is six times more frequent in rural than in urban areas

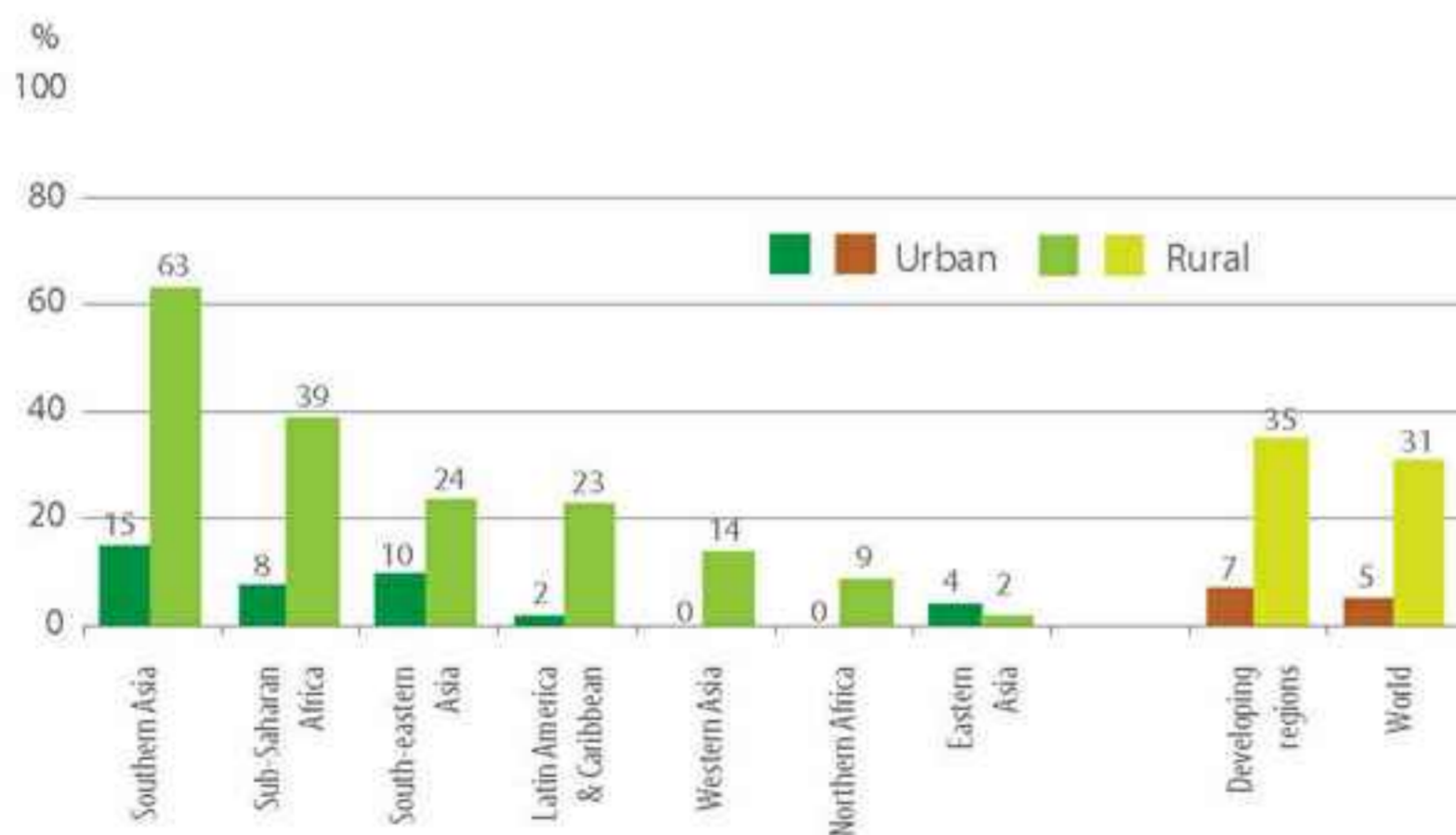


Figure 16 Proportion of urban and rural populations practising open defecation, by region in 2006



## Open defecation is predominantly a rural practice

Eighteen per cent of the world's population – 1.2 billion people – are practising open defecation. However, only 13 per cent of them live in urban areas. It is mostly a rural phenomenon, practised by over a billion rural inhabitants. In developing regions, more than one out of three rural dwellers defecate in the open. The one exception is Eastern Asia, where the practice is uncommon.

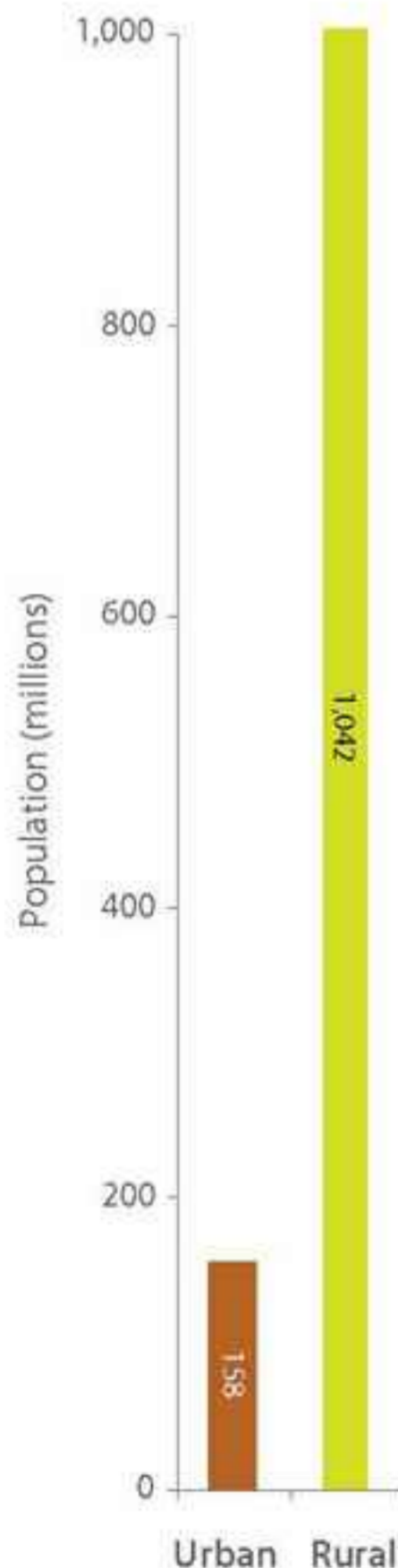


Figure 17 Number of people practising open defecation, by urban and rural areas in 2006

Table 5 Countries with a decline of 15 percentage points or more in the practice of open defecation, 1990-2006

Open defecation is declining			
Country	Percentage practising open defecation		Percentage-point decline in open defecation 1990-2006
	1990	2006	
Nepal	84	50	34
Lao People's Democratic Republic*	76	46	30
Madagascar	67	37	30
Ethiopia	91	64	27
Peru	35	10	25
Morocco	38	14	24
Honduras	39	16	23
Mexico	25	2	23
Pakistan	54	31	23
Botswana	36	14	22
Malawi	31	11	20
Bolivia	45	26	19
Bangladesh	29	11	18
Thailand	18	0	18
Viet Nam	30	12	18
Mozambique*	65	48	17
Sao Tome and Principe*	75	59	16
El Salvador	20	4	16
Myanmar	22	6	16
Guatemala	21	6	15
India	73	58	15
Senegal	39	24	15
Tunisia	20	5	15

\* Countries with a decline in open defecation over the period 1995-2006.

## Globally, 1.2 billion people practise open defecation, 83 per cent of whom live in 13 countries

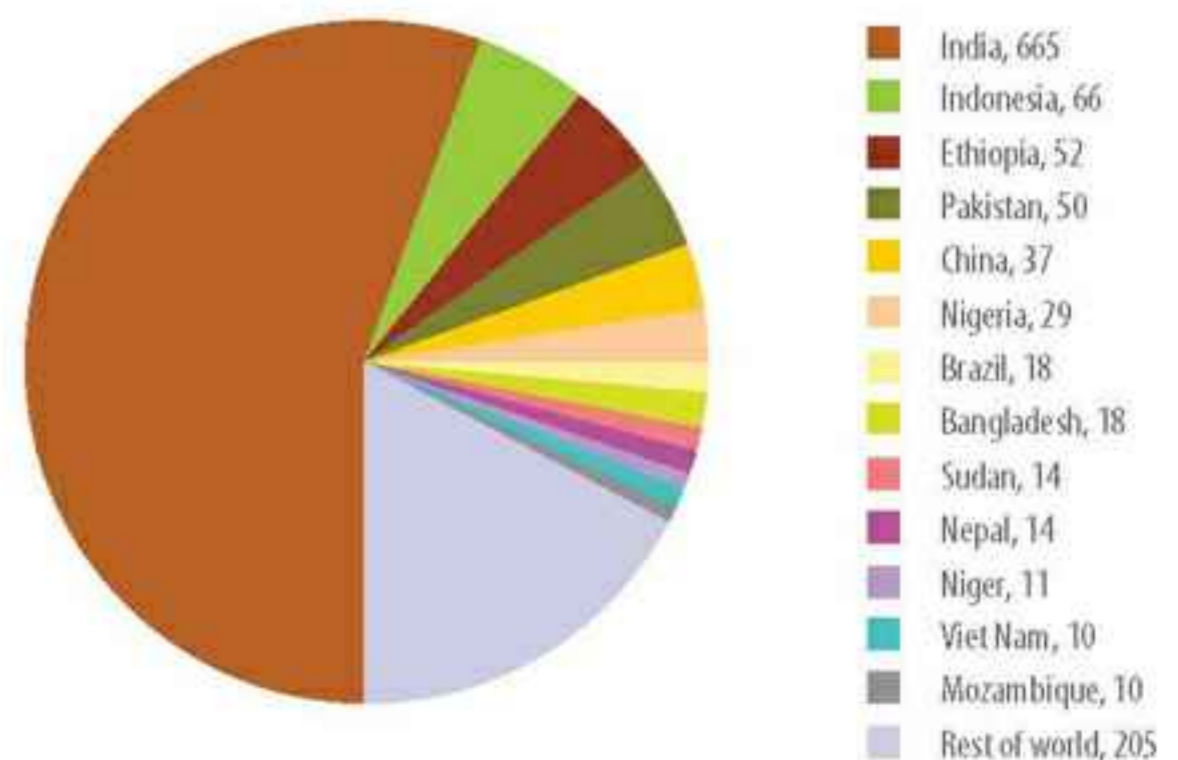


Figure 18 Population practising open defecation, by countries with highest prevalence in 2006 (millions)



# A different perspective on progress

## Many countries are making rapid progress, despite formidable odds

The MDG target requires halving the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015. For countries that had a high proportion of people without access in the baseline year 1990, the task is much greater than for countries that already had high coverage levels. Moreover, many of the countries that started with low coverage had the additional challenge of rapid population growth. Tables 6 and 7 show countries that have made rapid progress between 1990 and 2006,<sup>1</sup> despite one or both challenges.

Table 7 lists the six countries that have progressed most rapidly among countries not on track to meet the sanitation target. These are all countries with low coverage baselines in 1990. Five of them are in sub-Saharan Africa, illustrating the results of accelerated efforts being made in that region.

<sup>1</sup> Relative to the 1998 (mid-point between 1990-2006) population

**Table 6** Countries with the largest proportion of population that gained access to improved sanitation, 1990-2006

Countries making the most rapid progress	
Country	Proportion of the population that gained access to improved sanitation since 1990 (%)
Myanmar	68
Syrian Arab Republic	48
Viet Nam	47
Guatemala	44
Philippines	43
Angola	42
Honduras	40
Pakistan	40
Mexico	39

**Table 7** Countries not on track to meet the MDG sanitation target with the largest proportion of population that gained access to improved sanitation, 1990-2006

Countries not on track but making rapid progress	
Country	Proportion of the population that gained access to improved sanitation since 1990 (%)
Yemen	39
Benin	30
Cameroon	29
Comoros	29
Mali	29
Zambia	27





# DRINKING WATER



# The drinking water ladder

Drinking water supply can be broken down into three categories, which are illustrated in the form of a 'drinking water ladder' similar to that developed for sanitation. The category 'improved drinking water sources' includes sources that, by nature of their construction or through active intervention, are protected from outside contamination, particularly faecal matter. These include piped water in a dwelling, plot or yard, and other improved sources. 'Unimproved sources' make up the third part of the ladder.

In this report, drinking water coverage is presented as a three-step ladder that includes the proportion of the population using:

- unimproved drinking water sources
- improved drinking water sources other than piped water
- water piped into a dwelling, plot or yard.



## UNIMPROVED

### Unimproved drinking water sources:

Unprotected dug well, unprotected spring, cart with small tank/drum, tanker truck, and surface water (river, dam, lake, pond, stream, canal, irrigation channels), bottled water.

## OTHER IMPROVED

### Other improved drinking water sources:

Public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs and rainwater collection.

## PIPED INTO DWELLING, PLOT OR YARD

**Piped water on premises:** Piped household water connection located inside the user's dwelling, plot or yard.



## The population not using improved drinking water sources has fallen below one billion

Today, 87 per cent of the world's population uses drinking water from improved sources: 54 per cent uses a piped connection in their dwelling, plot or yard, and 33 per cent uses other improved drinking water sources.

This translates into 5.7 billion people worldwide who are now using drinking water from an improved source, an increase of 1.6 billion since 1990. About 3.6 billion people use a piped connection that provides running water in or near their homes.

Estimates for 2006 show that the population reliant on unimproved drinking water sources is below one billion, and now stands at 884 million.

Improved drinking water coverage in sub-Saharan Africa is still considerably lower than in other regions. Nevertheless, it has increased from 49 per cent in 1990 to 58 per cent in 2006, which means that an additional 207 million Africans are now using safe drinking water.

Figure 19

Proportion of the world's population using a piped drinking water connection, another improved drinking water source or an unimproved source, 2006



## DRINKING WATER SUPPLY COVERAGE

Coverage is improving in all regions\*

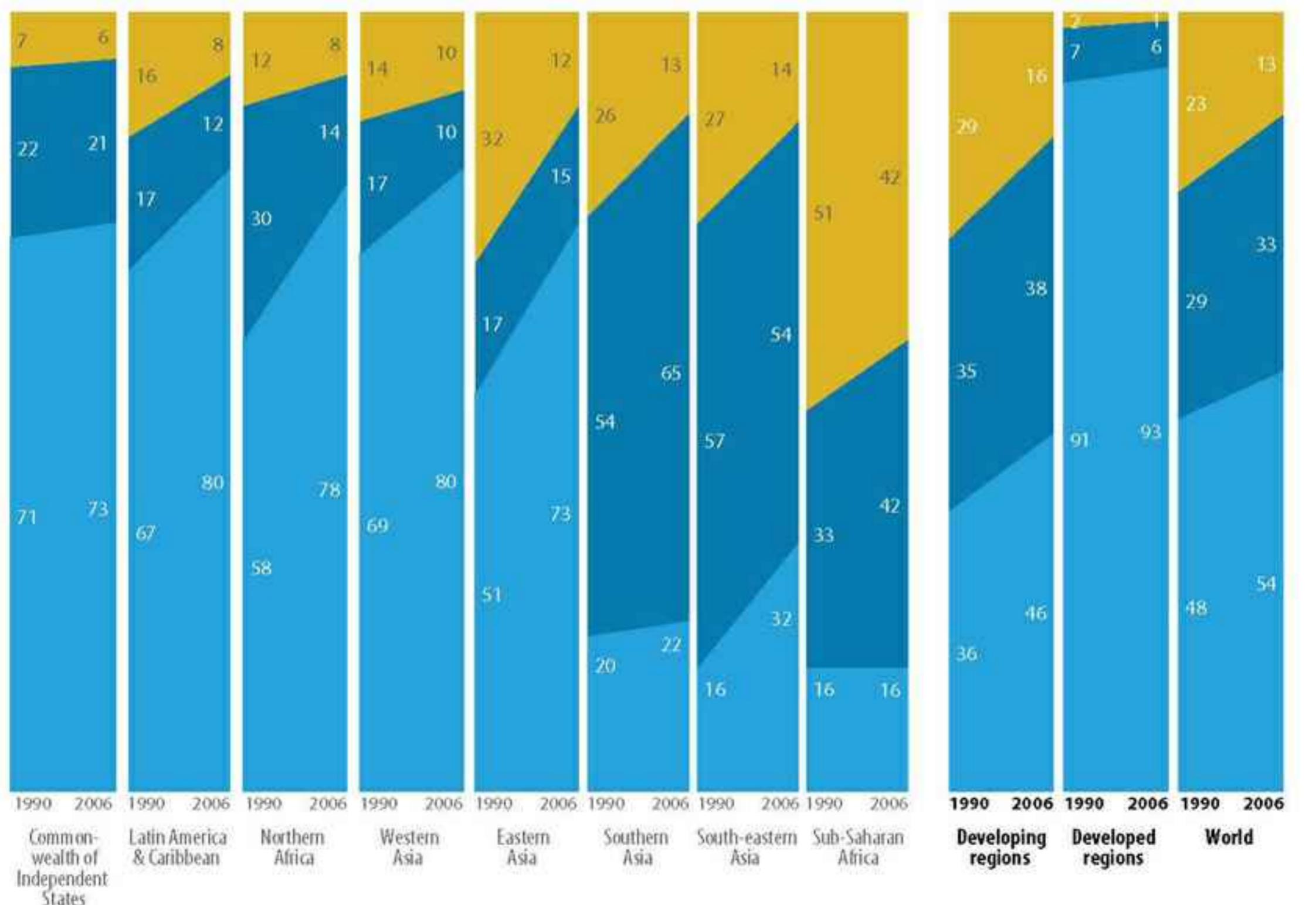


Figure 20 Trends in the proportion of the population using a piped water connection, other improved drinking water sources or an unimproved source, by MDG region in 1990 and 2006

\*Oceania is not included due to lack of complete data.



# Progress towards the drinking water target

## The world is on track to meet the drinking water target

The world is on track to meet the MDG drinking water target. Current trends suggest that more than 90 per cent of the global population will use improved drinking water sources by 2015.

## All regions report gains, except Oceania

Eighty-seven per cent of the global population now uses improved drinking water sources, compared to 77 per cent in 1990. Gains were made in all regions except Oceania, where drinking water coverage slipped back slightly. Eastern Asia stands out for increasing its drinking water coverage by 20 percentage points, which represents 416 million people who have gained access to improved water sources since 1990.

## Sub-Saharan Africa is making the slowest progress

Population forecasts suggest that an additional 784 million people worldwide will need to gain access to improved drinking water sources to meet the MDG target. Accelerated progress is needed especially in sub-Saharan Africa, home to more than a third of those using unimproved drinking water sources.

## 87 per cent of the world's population uses an improved drinking water source

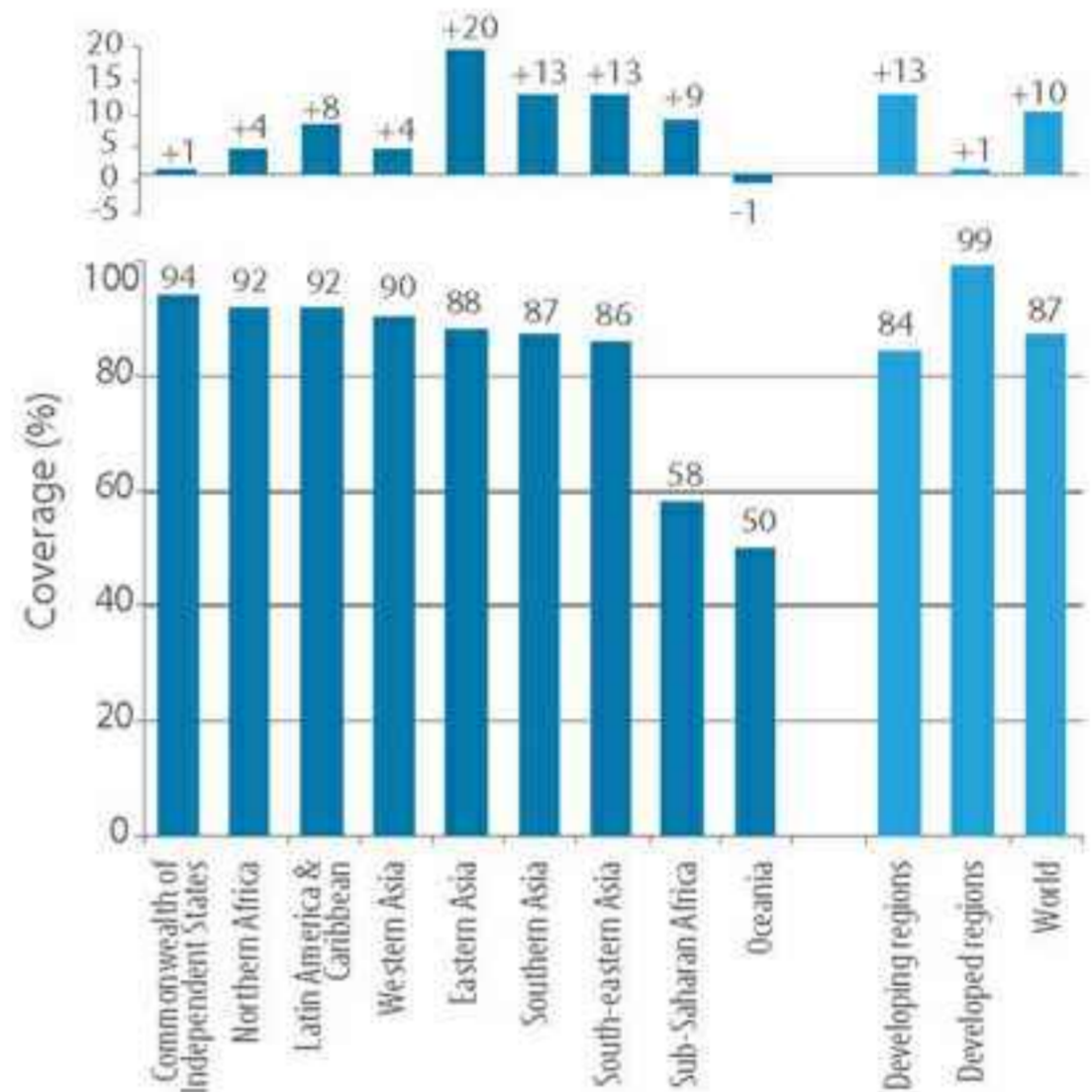


Figure 21 Improved drinking water coverage, by region in 2006 and percentage-point change 1990-2006

## Countries in sub-Saharan Africa face the greatest challenges in drinking water

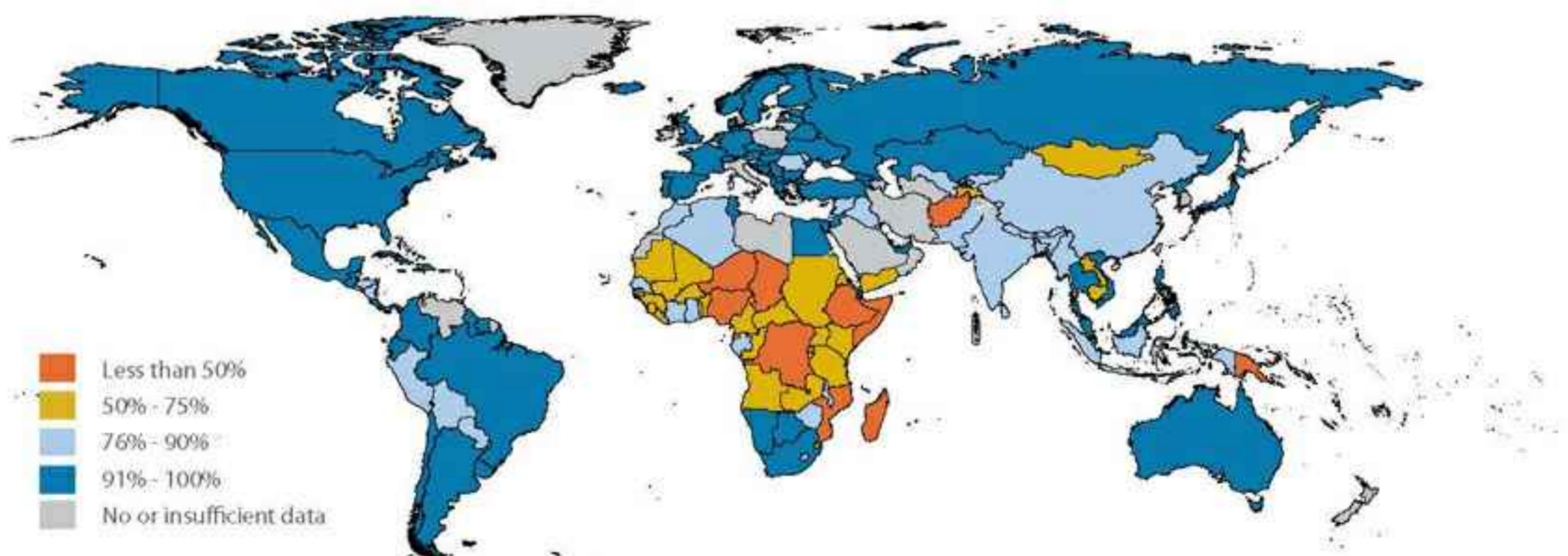


Figure 22 Drinking water coverage, 2006



Trends indicate that most countries are on track to meet the MDG drinking water target, except in sub-Saharan Africa

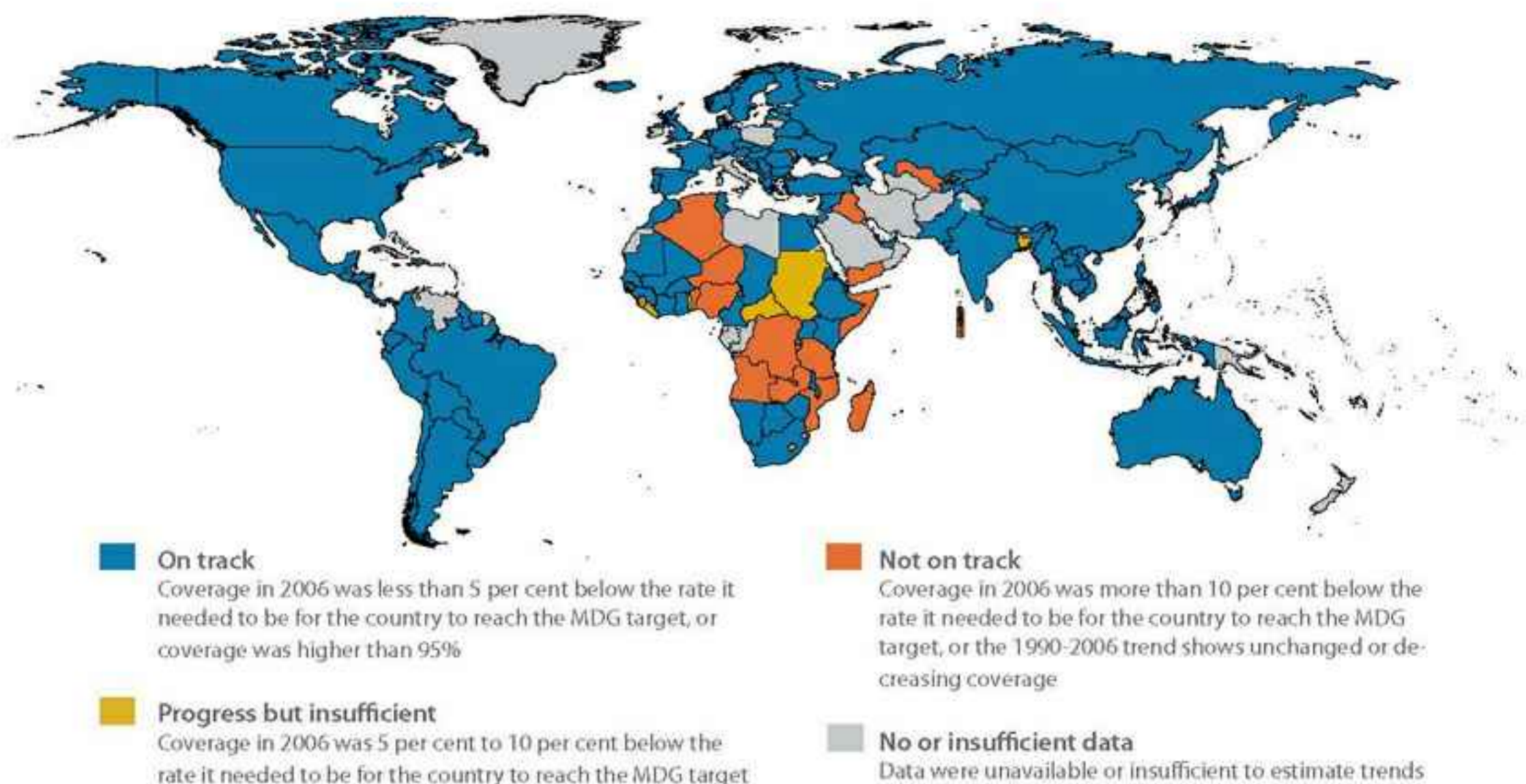


Figure 23 Progress towards the MDG drinking water target, 2006

Table 8 Regional and global progress towards the MDG drinking water target

Region	Drinking water coverage (%)		Coverage needed to be on track in 2006 (%)	MDG target coverage (%)	Progress
	1990	2006			
Commonwealth of Independent States	93	94	95	97	On track
Northern Africa	88	92	92	94	On track
Latin America & Caribbean	84	92	89	92	On track
Western Asia	86	90	90	93	On track
Eastern Asia	68	88	78	84	On track
Southern Asia	74	87	82	87	On track
South-eastern Asia	73	86	82	87	On track
Developing regions	71	84	80	86	On track
Developed regions	98	99	99	99	On track
<b>World</b>	<b>77</b>	<b>87</b>	<b>84</b>	<b>89</b>	<b>On track</b>
Sub-Saharan Africa	49	58	65	75	Not on track
Oceania	51	50	67	76	Not on track



# Urban-rural disparities in drinking water coverage

The MDG target for water and sanitation requires that indicators to measure progress be disaggregated by urban and rural populations. This report therefore highlights urban and rural disparities, which would otherwise be masked by aggregate figures.

## Rural access to improved drinking water sources remains low

The world's rural inhabitants represent 84 per cent of the population using unimproved sources of drinking water. An estimated 746 million rural dwellers are without improved drinking water supplies, compared to 137 million urban residents. That said, there is some positive news: 717 million rural inhabitants have gained access to safe drinking water since 1990.

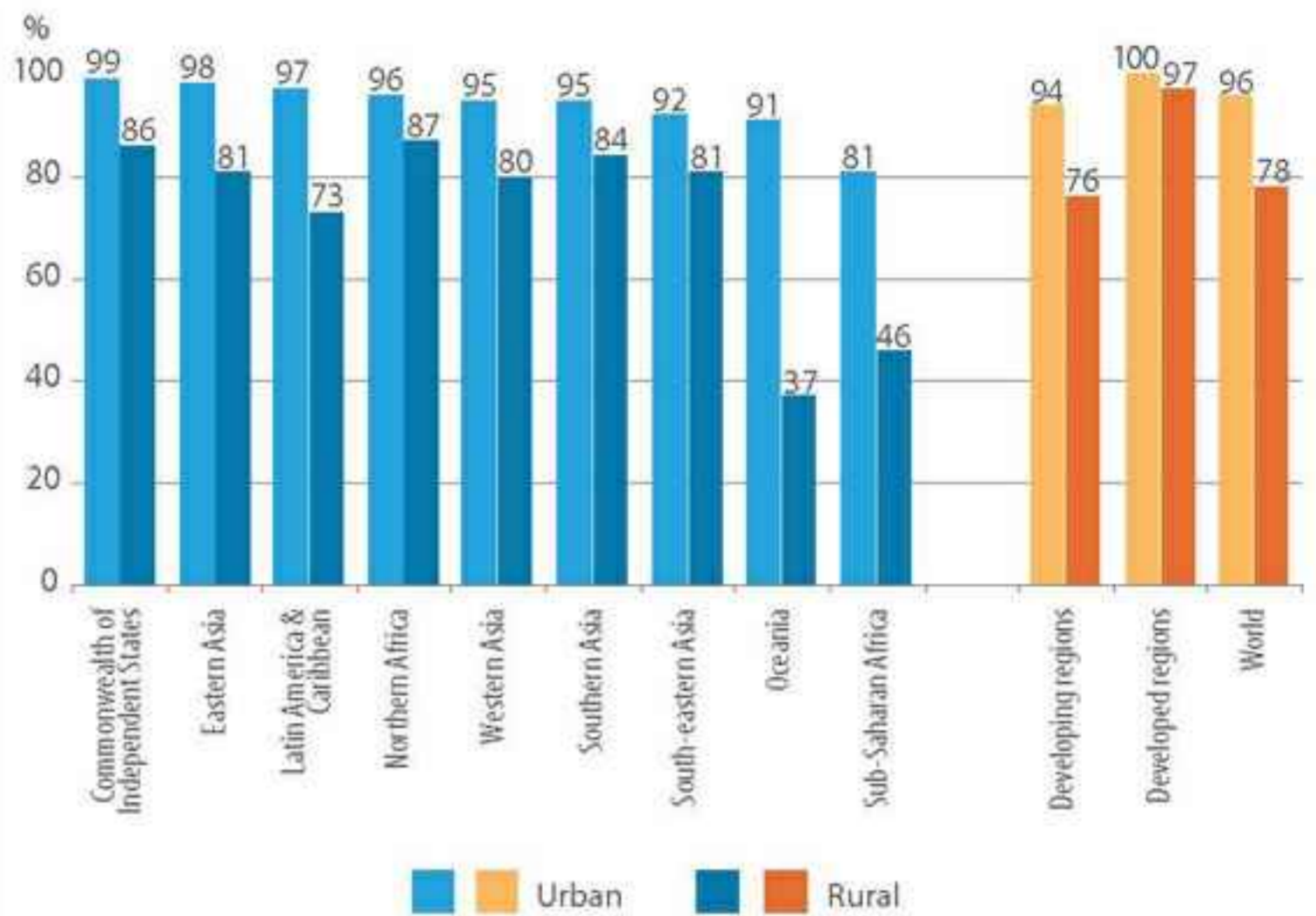


Figure 24 Urban and rural water supply coverage, 2006

## Urban coverage is struggling to keep pace with population growth

While the rural challenge remains significant, the urban challenge is growing fast. Since 1990, the world's urban population has risen by 956 million people. During that period, 926 million urban dwellers gained access to improved drinking water sources. At the same time, the urban population without improved drinking water sources increased from 107 million to 137 million. Most of this increase took place in urban areas of the developing world.

### 137 million people in urban areas do not use an improved source of drinking water

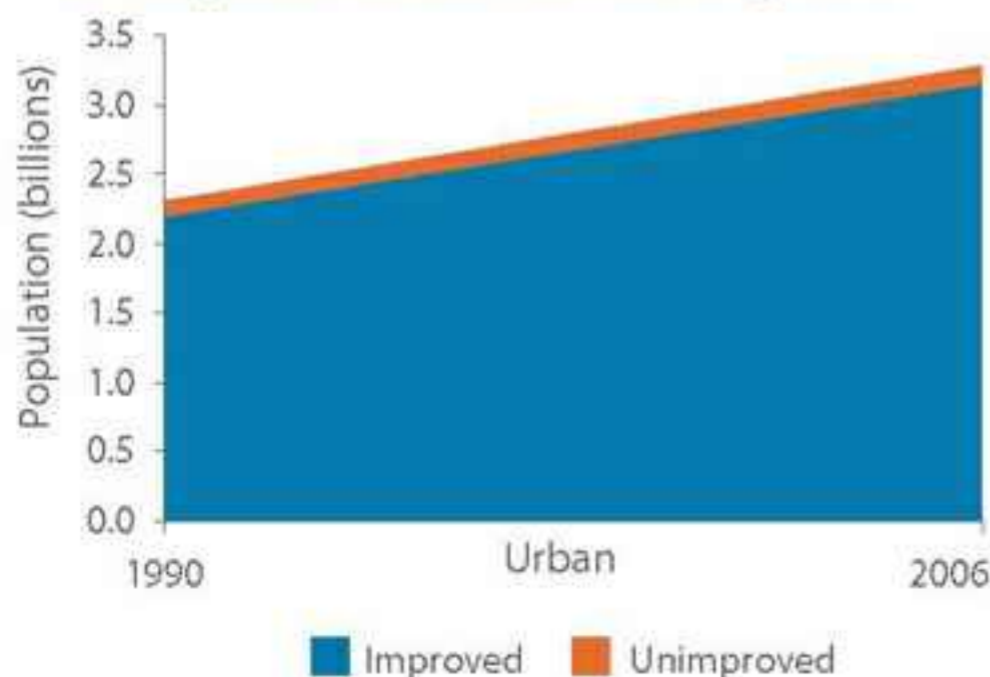


Figure 25 Trends in urban drinking water coverage by population, 1990-2006

### 746 million people in rural areas do not use an improved source of drinking water

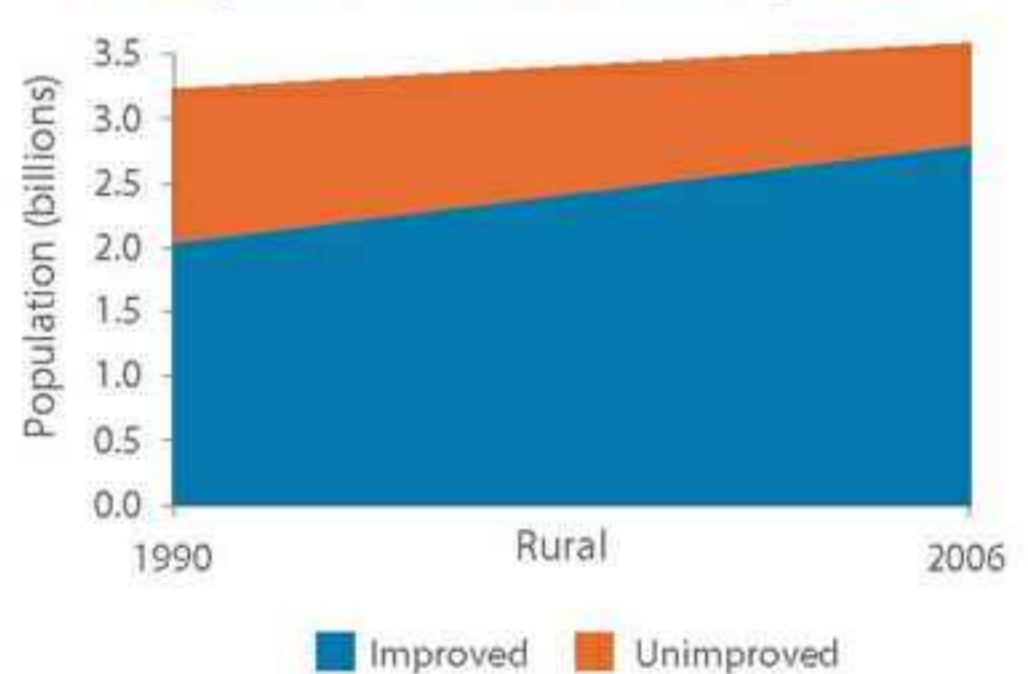


Figure 26 Trends in rural drinking water coverage by population, 1990-2006







# Piped water on premises

## Piped water on premises:

Piped connections into a dwelling, plot or yard.

### Solid progress is being made in piped drinking water coverage

Good progress has been made in the use of piped drinking water on premises, which represents the highest rung of the drinking water ladder where health gains are maximized. Use of piped drinking water has risen by six percentage points since 1990, reaching 54 per cent in 2006. While this may seem modest, it represents an increase of one billion people. This progress is impressive. However, piped drinking water remains largely an urban privilege: 2.5 billion urban inhabitants use a piped drinking water connection on premises, compared to only 1.1 billion people in rural areas.

### Urban dwellers are more than twice as likely as rural dwellers to have piped water connections

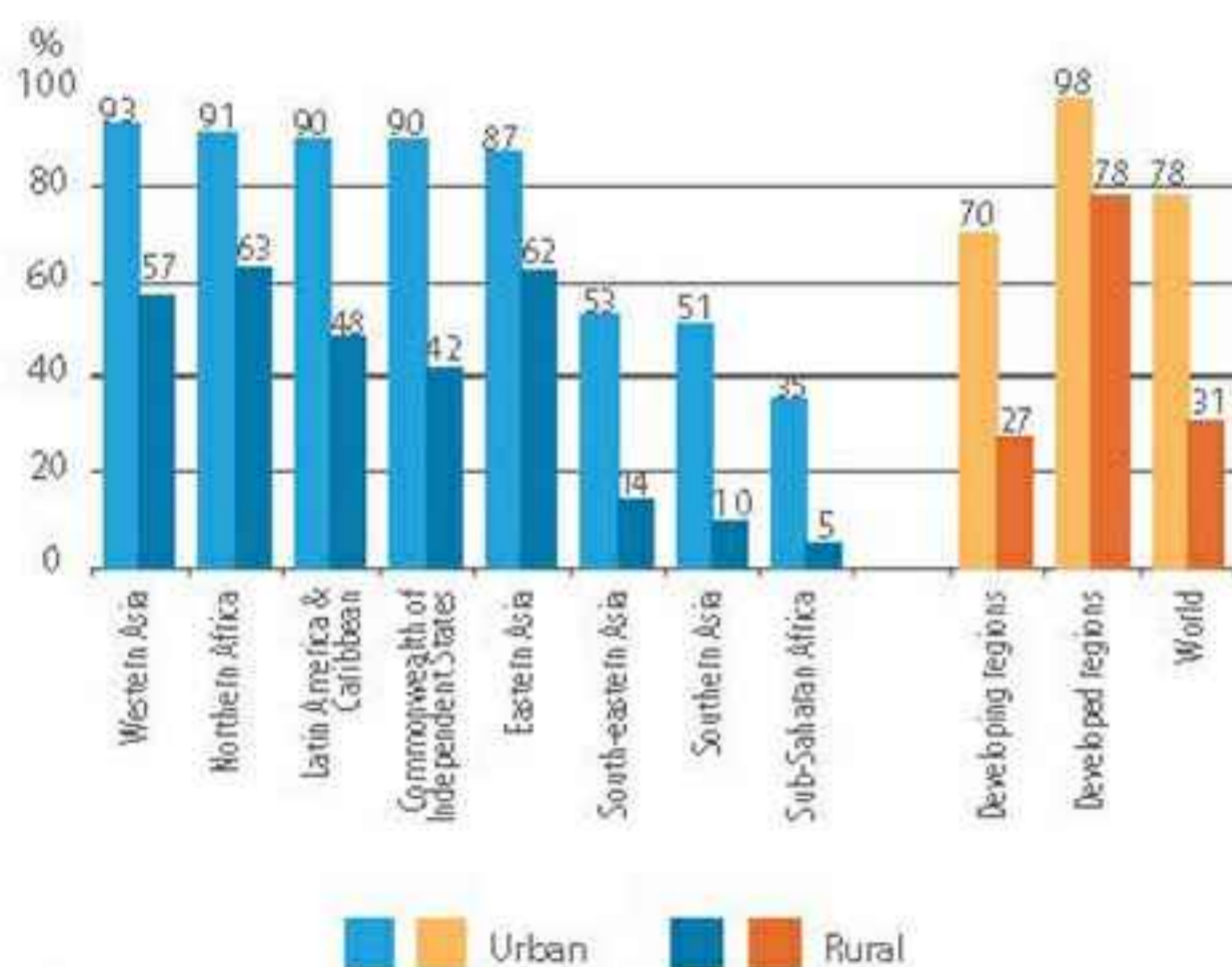


Figure 29 Piped water coverage, urban and rural, by region, 2006

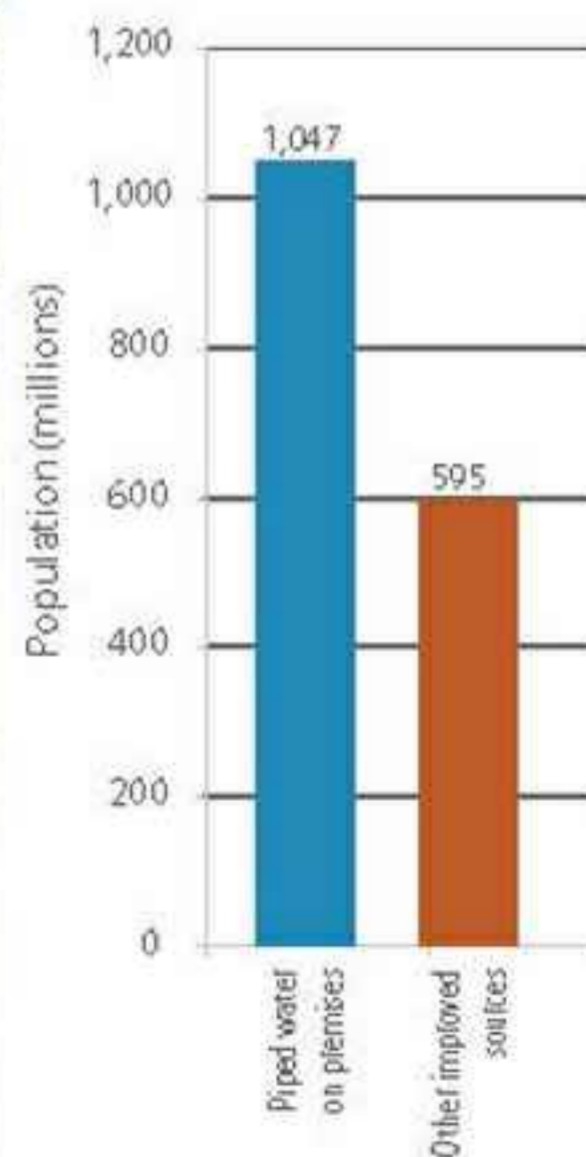


Figure 30 Population that gained access to a piped connection in their dwelling, plot or yard and to other improved sources, 1990-2006





# Other improved sources of drinking water



## Other improved sources:

Sources of drinking water likely to be protected from outside contamination, particularly faecal matter, but excluding piped connections into dwelling, plot or yard. They include public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs and rainwater collection.

Use of other improved drinking water sources remains high globally and has increased since 1990. Populations in Southern Asia rely heavily on these drinking water sources, where use has increased from 54 per cent to 65 per cent since 1990. In sub-Saharan Africa, use has increased from 33 per cent to 42 per cent during the same period. In South-eastern Asia, use of other improved drinking water sources has declined slightly, though more than half the population (54 per cent) depends on them. In all other regions, use of these sources is decreasing – most notably in Northern Africa, where use declined from 30 per cent in 1990 to 14 per cent in 2006.

**Rural dwellers are more than twice as likely as urban dwellers to rely on other improved sources of drinking water**



**Figure 31** Coverage of other improved sources of drinking water, urban and rural, by region in 2006



# Unimproved sources of drinking water

## Unimproved drinking water sources:

Unprotected dug wells, unprotected springs, cart with small tank/drum, bottled water, tanker truck, and surface water (river, dam, lake, pond, stream, canal, irrigation channels).

The lowest rung of the drinking water ladder is use of unimproved drinking water sources. Thirteen per cent of the world's population – 884 million people – now consumes drinking water from unimproved sources. This represents a reduction of 10 percentage points since 1990. Sub-Saharan Africa has the largest population using unimproved water sources, but figures have dropped for this region from 51 per cent in 1990 to 42 per cent in 2006.

Oceania is the only developing region that has failed to lower use of unimproved drinking water sources since 1990. Half of the 9.2 million people in that region continue to use unimproved sources.



884 million people – about half of whom live in Asia – still use an unimproved drinking water source

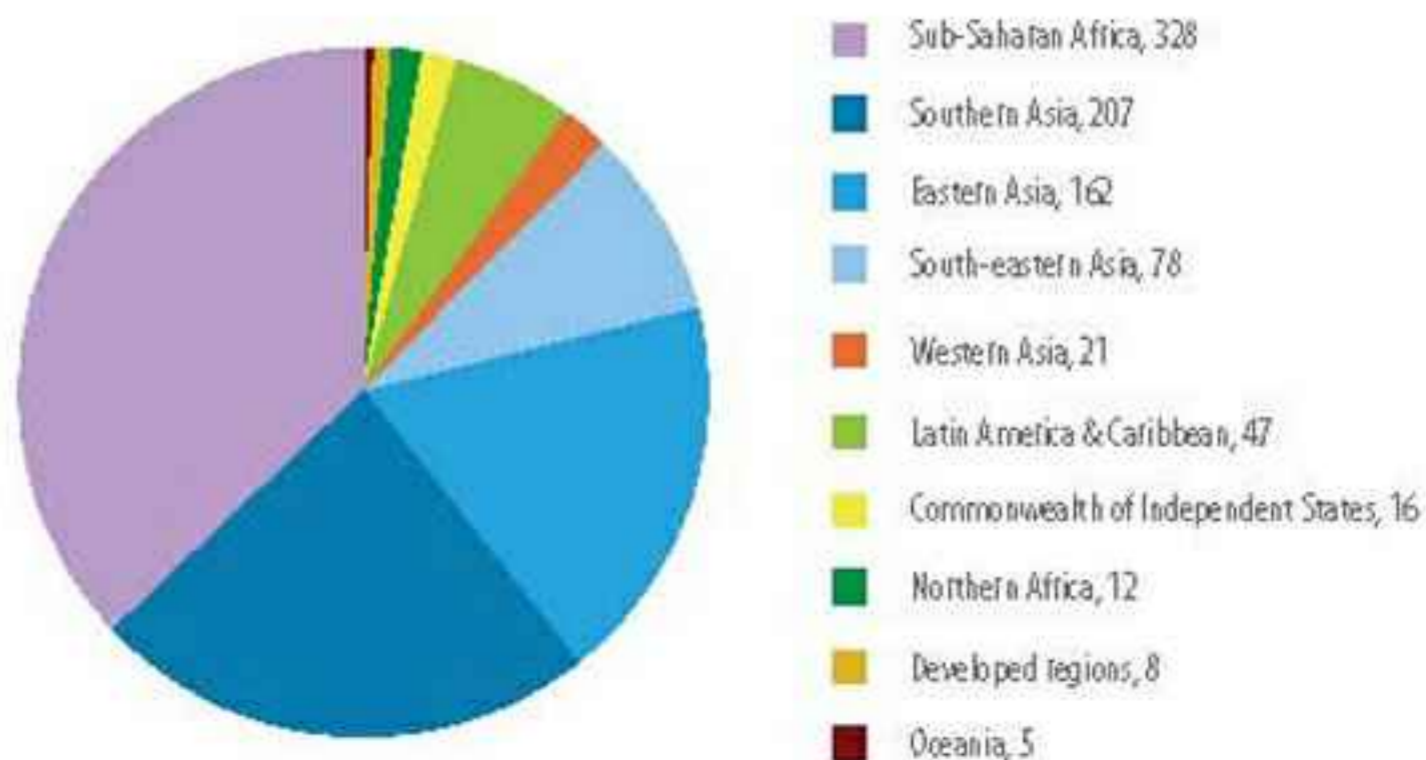


Figure 32 Population using an unimproved drinking water source, by region in 2006 (millions)





### Use of bottled water is a growing phenomenon

Surveys show that bottled water is a significant source of drinking water in some developing countries. The water comes in both bottles and plastic sachets and is usually packaged by private enterprises, both large and small. Tap water is often resold in bottles by public water vendors.

The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) considers bottled water a source of improved drinking water *only* when another improved source is also used for cooking and personal hygiene. For countries where information on the use of alternative sources is not yet available, bottled water is considered on a case-by-case basis.

The JMP will be analysing the role of bottled water in an upcoming report on the safety and quality of drinking water.

**Table 9** Countries in which more than 5 per cent of the urban population uses bottled water as their main drinking water source

Country	Bottled water users (%)	
	Urban	Rural
Dominican Republic	67	34
Lao People's Democratic Republic	52	6
Thailand	45	18
Guatemala	31	10
Guyana	28	14
Turkey	26	3
Yemen	25	1
Haiti*	15	8
Albania	12	1
Ghana**	12	1
Philippines*	10	1
Serbia	7	4
Cambodia	7	1
Indonesia	6	1

Source: MKS, DHS, Encuesta Nacional de Salud Materno Infantil (ENSMI) and Pan Arab Project for Family Health (PA-PFAM) surveys, 2002-2006

\* All or part of the water is sold from refilling stations that fill bottles with tap water.

\*\* Data for Ghana only describe use of sachet water (300 millilitre plastic bags of water).



# A different perspective on progress

## Countries facing exceptional challenges deserve recognition

As described on page 20, this report recognizes the efforts of countries that face the greatest challenges in meeting the MDG water and sanitation target, due to either low baseline coverage levels or rapid population growth. Table 10 lists ten countries on track to meet the MDG drinking water target that have made the most rapid progress between 1990 and 2006.<sup>2</sup> Seven of these countries are in sub-Saharan Africa.

Table 11 lists the five countries that have progressed most rapidly among countries not on track to meet the drinking water target. All of them had low coverage baselines in 1990, and all are in sub-Saharan Africa.

<sup>2</sup> Relative to the 1996 (mid-point 1990-2006) population

**Table 10** Countries with the largest proportion of population that gained access to an improved drinking water source, 1990-2006

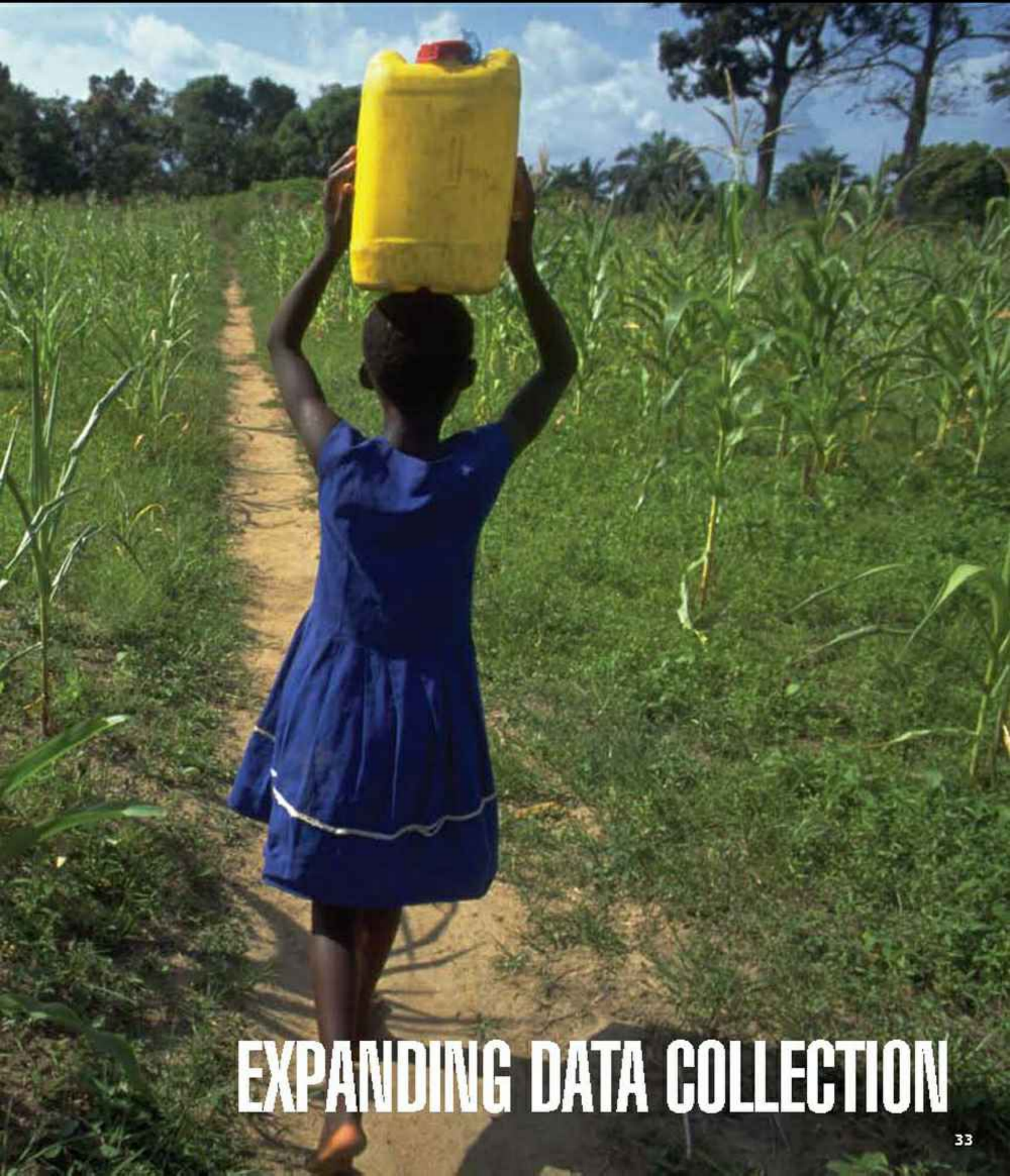
Countries making the most rapid progress	
Country	Proportion of the population that gained access to an improved drinking water source since 1990 (%)
Burkina Faso	66
Namibia	61
Malawi	59
Viet Nam	59
Jordan	53
Guatemala	52
Ghana	51
Uganda	49
Mali	49
Djibouti	47

**Table 11** Countries not on track to meet the MDG drinking water target with the largest proportion of population that gained access to an improved drinking water source, 1990-2006

Countries not on track but making rapid progress	
Country	Proportion of the population that gained access to an improved drinking water source since 1990 (%)
Benin	37
Angola	33
Comoros	31
Burundi	29
United Republic of Tanzania	28







**EXPANDING DATA COLLECTION**



# Expanding data collection

The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation has played an increasingly important role in improving the indicators and methods used for monitoring national and global drinking water supply and sanitation. In 2004, work began on developing a series of questions related to this topic that are recommended for inclusion in all national household surveys. The dual aims of this exercise are to increase coherence among surveys over time and the comparability of estimates among countries. This set of questions has already been adopted by two of the major household survey programmes in the developing world – that is, the UNICEF-supported Multiple Indicator Cluster Surveys and the USAID-supported Demographic and Health Surveys. The work was carried out in collaboration with national and international authorities on household surveys as well as academics and sector specialists. This set of ‘Core Questions’ can be found on the JMP website ([www.wssinfo.org](http://www.wssinfo.org)). Work in this area will continue as other indicators are developed and adopted at national and international levels.

The set of Core Questions includes questions related to household drinking water treatment practices and on the gender aspects of drinking water collection. The latest round of MICS, conducted in 2005 and 2006, and a series of DHS carried out since 2005 have enabled the JMP to include the findings from these questions in this report. The inclusion of a question on household water treatment was particularly timely since it provides national baseline data for over 70 countries, now that household water treatment is being more widely promoted.

## Household water treatment

Unhygienic handling of water during transport or within the home can contaminate previously safe water. A high percentage of people could therefore benefit from effective household water treatment and safe storage practices. Such household-level interventions can be very effective in preventing disease if they are used correctly and consistently.

Two main household surveys used by the JMP now include questions on household water treatment. Results from recent surveys conducted in 35 countries show that a variety of treatment methods are used. Additional evidence can be obtained and a trend analysis carried out as more surveys become available over time.

The JMP is currently undertaking an investigation to explore issues related to household water treatment technologies, with a view to evaluating their potential role in providing measurable access to a safe and sustainable drinking water supply.

**Table 12** Percentage of households using different water treatment methods

Drinking water treatment practices vary greatly among countries									
Country	No treatment	Boil	Add bleach/chlorine	Use water filter	Let it stand and settle	Strain through a cloth	Solar disinfection	Other	Don't know
Mongolia	0	95	1	2	0	2	0	0	0
Viet Nam	6	90	6	14	10	3	0	2	0
Guinea-Bissau	26	1	3	0	6	71	0	1	0
Lao PDR	30	64	0	1	7	2	0	0	0
Cambodia	34	60	0	2	12	0	0	2	0
Jamaica	46	36	30	2	2	1	0	0	0
Guyana	46	10	43	1	6	1	0	0	0
Honduras	55	22	23	6	0	1	0	0	0
Thailand	56	11	1	15	13	6	2	0	0
Uganda	61	37	1	1	1	2	0	2	0
India	67	9	2	6	1	17	0	3	0
Haiti	67	2	30	1	0	0	0	3	0
Somalia	69	8	13	4	9	4	2	1	0
Gambia	78	0	3	0	0	19	0	0	0
Malawi	80	11	9	0	1	2	0	1	0
Algeria	83	1	15	1	0	0	0	1	0
Iraq	85	5	4	1	8	0	1	0	0
Nepal	87	7	1	5	0	3	0	0	0

Note: Multiple responses were possible, so totals do not add up to 100 per cent.  
Source: MICS and DHS surveys in 2005 and 2006.



## Gender dimensions of hauling water

Some recent household surveys included the question, "Who usually goes to the source to fetch water for the household?" The findings, presented in Figure 33, confirm the anecdotal evidence that women shoulder the bulk of the water-collecting responsibility when drinking water is not available on premises. Women are more than twice as likely as men to go and fetch drinking water. Interestingly, the findings also suggest that children (boys and girls) play a relatively small role in water collection (only 11 per cent of households report that children are the main water haulers). Moreover, men appear to play a larger role in collecting water than they were previously given credit for: 1 out of 4 households report that men are usually responsible for collecting water.

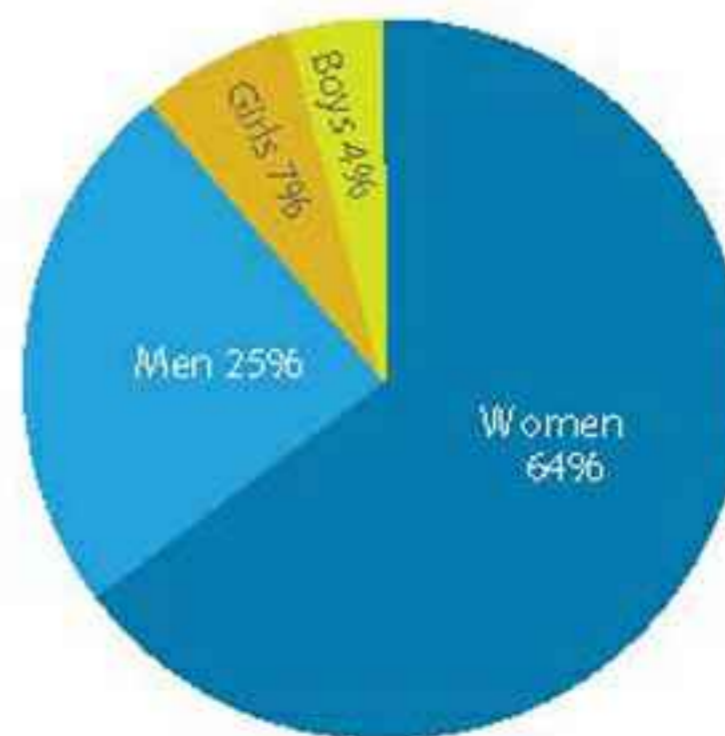


**Table 13** Distribution of those usually responsible for collecting water, by percentage of women, men, girls and boys

Collecting water is predominantly a woman's responsibility				
	Women (%)	Men (%)	Girls (%)	Boys (%)
(highest)				
Guinea-Bissau	94	1	5	0
Bangladesh	90	5	4	1
Djibouti	88	11	1	0
Malawi	87	6	6	1
Côte d'Ivoire	86	4	8	2
Burkina Faso	86	8	5	1
Nepal	86	8	5	1
Gambia	84	7	8	1
Lao People's Democratic Republic	84	8	6	2
Ethiopia	82	6	9	3
India	82	13	4	1
(lowest)				
Cameroon	46	25	15	14
Cambodia	44	48	5	3
Guyana	39	50	5	6
Algeria	34	54	5	7
Jamaica	33	59	4	4
Mongolia	32	49	6	13
Syrian Arab Republic	23	75	1	1
Trinidad and Tobago	22	75	1	2

Source: MICS and DHS surveys from 35 developing countries in 2005 and 2006

## Women shoulder the largest burden in collecting water



**Figure 33** Distribution of those who usually collect water

Source: MICS and DHS surveys from 35 developing countries in 2005 and 2006.



# Expanding data collection

## Safe disposal of children's faeces

In many developing countries, young children defecate either in or close to home, or in diapers and potties. Infant and child excreta often ends up contaminating soil, drains and water bodies, either through direct disposal or defecation, or through the washing of diapers, potties and children in areas without safe wastewater disposal.

As with open defecation, unsafe disposal of child excreta poses a health risk to anyone living or playing nearby. When left in the open in the yard or direct vicinity of the household, child faeces, which may carry a higher pathogen load than adult faeces, pose a particular risk for young children, whose play areas frequently overlap with disposal areas. Safe disposal of children's faeces is therefore at least as important as stopping open defecation.



**Table 14** Practices of disposing the faeces of young children (less than 36 months of age), by selected developing countries

Country	Adequate		Adequacy depends on solid waste collection		Inadequate		Other (%)
	Used toilet or rinsed in toilet (%)	Buried (%)	Thrown into garbage/with solid waste (%)	Put/rinsed in drain or ditch (%)	Left in the open (%)		
Sao Tome and Principe	20	2	4	2	49	23	
Bangladesh	23	1	11	22	37	6	
Guinea-Bissau	37	1	19	7	29	7	
Burkina Faso	18	2	38	15	26	1	
Somalia	36	10	29	4	20	1	
Mongolia	61	3	12	2	18	4	
Togo	27	9	35	5	14	10	
Viet Nam	52	4	2	15	14	13	
Cameroon	65	1	14	5	9	6	
Côte d'Ivoire	44	0	30	3	8	15	
Iraq	41	1	37	14	7	0	
Thailand	65	9	16	1	7	2	
Burundi	70	9	3	6	5	7	
Central African Republic	53	1	28	9	4	5	
Guyana	76	1	11	6	3	3	
Ghana	45	7	24	15	2	7	
Malawi	79	4	4	8	2	3	
Gambia	83	0	11	5	0	1	
Jamaica	37	2	57	1	0	3	
Sierra Leone	42	0	25	19	0	14	
Suriname	34	7	45	3	0	11	

Source: MICS surveys in 21 countries in 2005 and 2006.



**Table 15** Percentage of urban and rural populations using improved drinking water sources over 30 minutes away (round-trip)

**Collecting water is a time-consuming task in many African countries**

Country	People who use an improved drinking water source more than 30 minutes away* (%)		
	Urban	Rural	Total
Uganda	28	43	41
Burundi	13	38	36
Burkina Faso	35	36	35
Malawi	55	35	33
Mauritania	36	26	30
Rwanda	23	29	28
Mauritius	0	45	26
Lesotho	12	25	23
Central African Republic	22	22	22
Gambia	15	23	21
Namibia	5	27	20
Zimbabwe	0	28	19
Nigeria	22	13	19
Cameroon	15	18	18
United Republic of Tanzania	14	20	18
Chad	4	22	18
Ethiopia	12	15	18
Ghana	8	19	15
Congo	16	13	15
Kenya	2	17	14
Swaziland	4	15	13
Sao Tome and Principe	11	12	11
Côte d'Ivoire	2	17	11
Guinea	14	9	11
Togo	8	12	11
Guinea-Bissau	8	12	11
South Africa	7	15	10
Senegal	4	16	10
Madagascar	13	8	10
Niger	7	10	10
Zambia	4	12	9
Mali	3	8	7
Sierra Leone	16	3	7
Somalia	9	6	7
Comoros	5	5	5

\*According to data from the latest household survey on file.



**Time spent to go to the source, collect water and come back**

When drinking water is not available in the home or close to it, the time taken to collect water (that is, to go to the source, stand in line, fill water containers and return home) is critical in determining whether a household can obtain enough water for drinking, food preparation and personal hygiene.

Studies have found that if the time spent collecting drinking water is between 3 and 30 minutes, the amount collected is fairly constant and suitable to meet basic needs – defined as between 15 and 25 litres per person per day. However, if the total time taken per round trip exceeds 30 minutes, people tend to collect less water, thus compromising their basic drinking water needs. The MDG indicator does not include a measure for time taken to collect water. However, some argue that, because it is a factor in drinking water use, the time needed to collect water should be considered when determining whether a source is 'improved' or not.

Data from 35 recent household surveys show that 18 per cent of the population in sub-Saharan Africa relies on an improved drinking water source that is more than 30 minutes away.



# JMP methodology

## The JMP

The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation is the official United Nations mechanism tasked with monitoring progress towards the MDG drinking water and sanitation target. In fulfilling this mandate, the JMP publishes updated estimates every two years on the various types of drinking water sources and sanitation facilities being used worldwide.

This JMP report presents global, regional and national estimates of the use of improved drinking water sources and improved sanitation facilities in 2006. These coverage estimates show what proportion of the population remained without improved drinking water sources and improved sanitation in 2006 and what the increase in use has been since the MDG baseline in 1990. In addition, the changes in coverage between 1990 and 2006 are used to assess progress towards the 2015 MDG targets for drinking water and sanitation.

In line with the MDG indicator definition, which stipulates 'use of improved facilities' as a proxy for 'access to improved facilities', the JMP measures and reports on the actual use of facilities. It is worth noting that the household surveys on which the JMP relies also measure 'use' and not 'access' – since access involves many additional criteria other than use. Measurability of many of these other criteria at the national scale, which is the scale required by the JMP, poses a huge challenge.

## Data sources and the JMP database

The water supply and sanitation coverage estimates presented in this report originate from data collected by national statistics offices and other relevant institutions through nationally representative household surveys and national censuses. The survey data used were mainly drawn from Demographic and Health Surveys, Multiple Indicator Cluster Surveys, World Health Surveys, Living Standards Measurement Surveys, Core Welfare Indicator Questionnaires, Health and Nutrition Surveys, Household Budget Surveys, Pan Arab Project for Family Health surveys and Reproductive Health Surveys.

The JMP assembles, reviews and assesses these household survey and census data. The JMP database currently comprises data from over 600 surveys and censuses.

## Population estimates

The population estimates in this report, including the proportion of people living in urban and rural areas, are those published by the United Nations Population Division (2006 revision). These estimates may differ from national estimates.

## Methodology to derive MDG progress estimates

For each country, survey and census data are plotted on a time scale from 1980 to the present. A linear trend line, based on the least-squares method, is drawn through these data points to estimate coverage for 1990 and 2006. The total coverage estimates are based on the aggregate of the population-weighted urban and rural coverage numbers, divided by the total population.

Trend analysis at the country level has been carried out for the following categories:

Drinking water:

- Piped water into dwelling, plot or yard
- Improved drinking water sources

Sanitation:

- Improved sanitation facilities
- Open defecation

The coverage estimates for improved sanitation facilities presented in this report are discounted by the proportion of the population that shared an improved type of sanitation facility. The ratio (the proportion of the population that shares a sanitation facility of an otherwise adequate type among two or more households) derived from the latest household survey/census is subtracted from the trend estimates of improved sanitation facilities. This results in the estimates for shared sanitation facilities.

## Regional averages

Regional coverage estimates are calculated when the available data cover at least 50 per cent of the population in a region. For this report, insufficient data were available to disaggregate each of the rungs of the sanitation ladder for the developed regions, the Commonwealth of Independent States and Oceania.

The MDG regional groupings (see map on the inside back cover) have been used in all regional analyses and tabulations.

## Differences in national coverage estimates

Indicator definitions and population estimates used by the JMP sometimes differ from those used by national governments. Coverage estimates in this report may therefore differ from national estimates.

## Data comparability between JMP reports

For each report published by JMP, the country, regional and global estimates on water and sanitation are revised. For this reason, the data published in successive JMP reports are not comparable.



## Definitions and indicators

Millennium Development Goal 7 calls on countries to “halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.” This report assesses the proportion of people with access to safe drinking water and basic sanitation using the following MDG indicators:

- The proportion of the population that uses an improved drinking water source, urban and rural.
- The proportion of the population that uses an improved sanitation facility, urban and rural.

**An improved drinking water source** is defined as a drinking water source or delivery point that, by nature of its construction and design, is likely to protect the water source from outside contamination, in particular from faecal matter. The JMP uses the following classifications to differentiate improved from unimproved drinking water sources.

### Improved drinking water sources

Piped water into dwelling, plot or yard  
Public tap/stand pipe  
Tube well/borehole  
Protected dug well  
Protected spring  
Rainwater collection

### Unimproved drinking water sources

Unprotected dug well  
Unprotected spring  
Cart with small tank/drum  
Tanker truck  
Surface water (river, dam, lake, pond, stream, canal, irrigation channel)  
Bottled water<sup>3</sup>

**An improved sanitation facility** is defined as one that hygienically separates human excreta from human contact. The JMP uses the following classifications to differentiate improved from unimproved sanitation facilities. However, sanitation facilities are not considered improved when shared with other households, or open for public use.

### Improved sanitation facilities

Flush or pour-flush to:

- piped sewer system
- septic tank
- pit latrine

Ventilated improved pit latrine  
Pit latrine with slab  
Composting toilet

### Unimproved sanitation facilities<sup>4</sup>

Flush or pour-flush to elsewhere<sup>5</sup>  
Pit latrine without slab or open pit  
Bucket  
Hanging toilet or hanging latrine  
No facilities or bush or field (open defecation)

Since the last report, the JMP database has been updated with data from over 120 new surveys and censuses covering 84 countries:

Albania, Algeria, Angola, Argentina, Armenia, Bangladesh, Belarus, Bhutan, Bosnia and Herzegovina, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Central African Republic, Chad, China, Colombia, Congo, Costa Rica, Côte d'Ivoire, Djibouti, Dominican Republic, Egypt, El Salvador, Ethiopia, Gambia, Georgia, Ghana, Greece, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, India, Indonesia, Iraq, Israel, Jamaica, Kazakhstan, Kyrgyzstan, Lao People's Democratic Republic, Lesotho, Malawi, Mexico, Moldova (Republic of), Mongolia, Montenegro, Morocco, Namibia, Nepal, Niger, Pakistan, Panama, Peru, Portugal, Romania, Rwanda, Sao Tome and Principe, Senegal, Serbia, Sierra Leone, Somalia, South Africa, Spain, Suriname, Swaziland, Syrian Arab Republic, Tajikistan, Thailand, The former Yugoslav Republic of Macedonia, Togo, Trinidad and Tobago, Uganda, Ukraine, United Republic of Tanzania, Uzbekistan, Venezuela, Viet Nam, Zambia, Zimbabwe

<sup>3</sup> Bottled water is considered to be improved only when the household uses water from an improved source for cooking and personal hygiene; where this information is not available, bottled water is classified on a case-by-case basis.

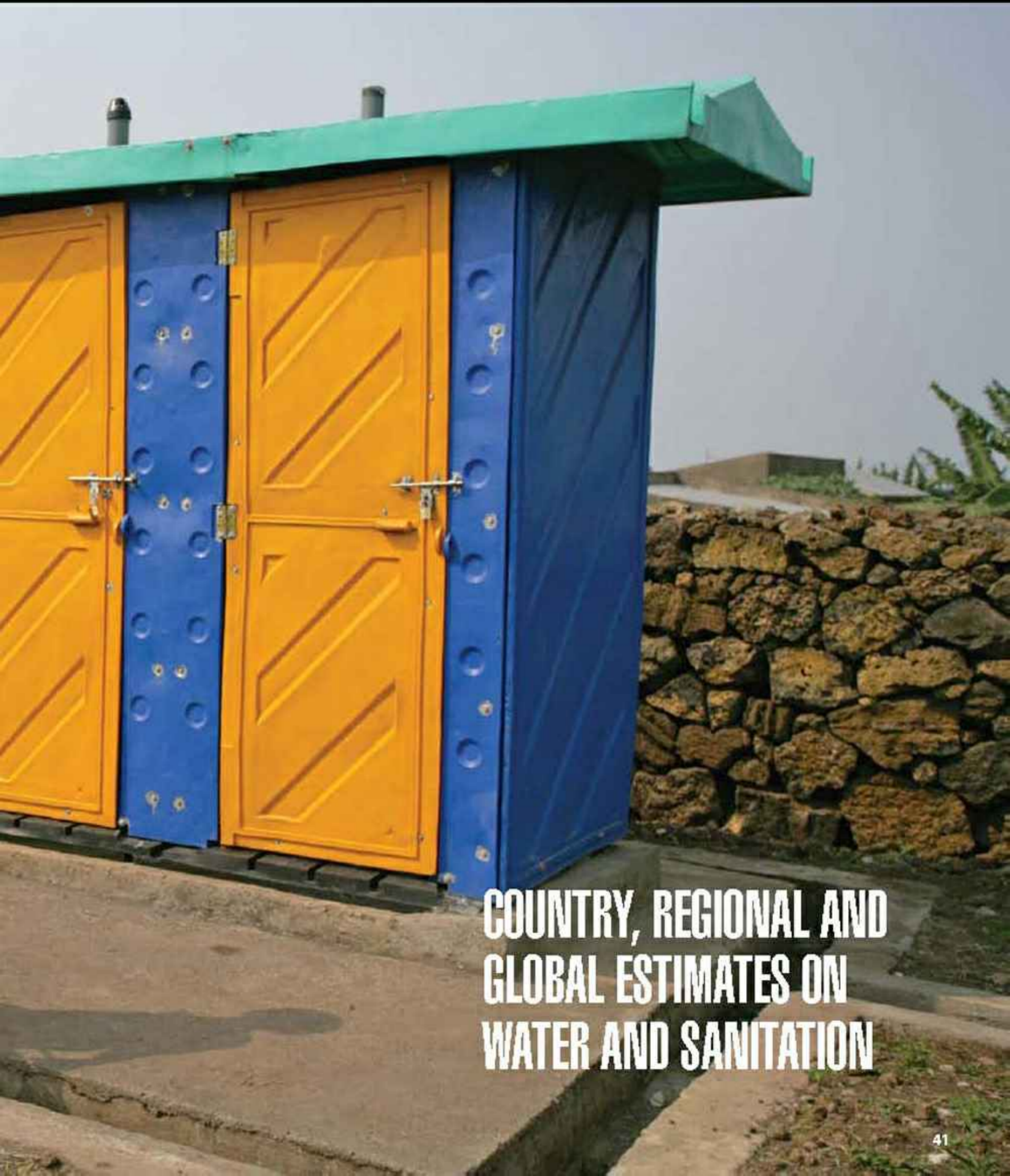
<sup>4</sup> Shared or public facilities are not considered improved.

<sup>5</sup> Excreta are flushed into the street, yard or plot, open sewer, a ditch, a drainage way or other location.









**COUNTRY, REGIONAL AND  
GLOBAL ESTIMATES ON  
WATER AND SANITATION**











Country, area or territory	Year	Population (thousands)	Urban (%)	Drinking water coverage (%)										Sanitation coverage (%)																			
				Urban					Rural					Total					Urban					Rural					Total				
				Improved	Piped into dwelling, yard or plot	Other improved	Unimproved	% of population that gained coverage (1990-2006) with respect to median population (Year 1998)	Improved	Piped into dwelling, yard or plot	Other improved	Unimproved	% of population that gained coverage (1990-2006) with respect to median population (Year 1998)	Improved	Piped into dwelling, yard or plot	Other improved	Unimproved	% of population that gained coverage (1990-2006) with respect to median population (Year 1998)	Improved	Shared	Unimproved	Open defecation	% of population that gained coverage (1990-2006) with respect to median population (Year 1998)	Improved	Shared	Unimproved	Open defecation	% of population that gained coverage (1990-2006) with respect to median population (Year 1998)					
Chile	1990	13,179	83	99	97	2	1	49	22	27	51	91	84	7	9	25	91	6	3	3	48	45	7	84	12	4	30						
	2006	16,465	88	98	98	0	2	72	46	26	28	95	92	3	5	25	97	2	1	1	74	25	1	94	5	1							
China	1990	1,149,069	27	97	81	16	3	55	37	18	45	67	49	18	33	32	61	12	24	3	43	1	51	48	4	25							
	2006	1,320,864	41	98	87	11	2	81	62	19	19	88	72	16	12	32	74	15	7	4	59	1	38	65	7	3							
Colombia	1990	34,875	69	98	94	4	2	68	36	32	32	89	76	13	11	28	81	12	3	4	39	5	13	68	10	6	29						
	2006	45,558	73	99	96	3	1	77	63	14	23	93	87	6	7	28	85	13	1	1	58	7	15	78	11	5							
Comoros	1990	527	28	98	50	48	2	91	23	68	9	93	31	62	7	31	98	2	62	2	12	1	81	18	1	29							
	2006	818	38	91	30	61	9	81	3	78	19	85	13	72	15	31	49	3	48	0	26	2	72	35	2	0							
Congo	1990	2,422	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
	2006	3,689	61	95	43	52	5	35	3	32	65	71	27	44	29	-	19	45	33	3	21	24	37	20	37	9							
Cook Islands	1990	18	58	99	-	-	-	87	-	-	13	94	-	-	6	?	100	-	0	0	91	-	9	96	-	4	?						
	2006	14	75	98	-	-	-	88	-	-	12	95	-	-	5	?	100	-	0	0	100	-	0	100	-	0	?						
Costa Rica	1990	3,076	51	-	-	-	-	88	74	14	12	-	-	-	-	-	96	2	1	1	92	3	1	94	2	2	35						
	2006	4,399	62	99	99	0	1	96	95	1	4	98	97	1	2	-	96	2	1	1	95	3	2	96	2	1							
Côte d'Ivoire	1990	12,780	40	71	49	22	29	65	5	60	35	67	22	45	33	41	39	25	30	6	8	8	20	64	20	15	12						
	2006	18,914	45	98	62	36	2	66	13	53	34	81	35	46	19	-	38	25	33	4	12	13	24	51	24	18							
Croatia	1990	4,517	54	100	95	5	0	98	-	-	2	99	-	-	1	1	99	1	0	0	98	1	1	99	1	0	1						
	2006	4,556	57	100	95	5	0	98	71	27	2	99	85	14	1	1	99	1	0	0	98	1	1	99	1	0							
Cuba	1990	10,605	73	95	77	18	5	-	31	-	-	-	65	-	-	-	99	-	1	-	95	-	5	98	-	2	6						
	2006	11,267	75	95	82	13	5	78	49	29	22	91	74	17	9	-	99	-	1	-	95	-	5	98	-	2							
Cyprus	1990	681	67	100	100	0	0	100	100	0	0	100	100	0	0	22	100	-	0	0	100	-	0	100	-	0	22						
	2006	846	69	100	100	0	0	100	100	0	0	100	100	0	0	-	100	-	0	0	100	-	0	100	-	0							
Czech Republic	1990	10,303	75	100	97	3	0	100	-	-	0	100	-	-	0	?	100	0	0	0	98	2	0	100	0	0	?						
	2006	10,189	73	100	97	3	0	100	91	9	0	100	95	5	0	-	100	0	0	0	98	2	0	99	1	0							
Democratic People's Rep. of Korea	1990	20,143	58	100	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
	2006	23,708	62	100	81	19	0	100	71	29	0	100	77	23	0	-	-	-	-	-	-	-	-	-	-	-	-						
Democratic Republic of the Congo	1990	37,942	28	90	79	11	10	25	0	25	75	43	22	21	57	24	53	-	41	6	1	-	74	25	15	65	26						
	2006	60,644	33	82	27	55	18	29	1	28	71	46	9	37	54	-	42	-	55	3	25	-	62	13	31	59	10						
Denmark	1990	5,140	85	100	100	0	0	100	100	0	0	100	100	0	0	6	100	-	0	0	100	-	0	100	-	0	6						
	2006	5,430	86	100	100	0	0	100	100	0	0	100	100	0	0	-	100	-	0	0	100	-	0	100	-	0							
Djibouti	1990	561	76	79	69	10	21	68	21	47	32	76	57	19	24	47	76	-	-	-	-	-	-	-	-	-	-						
	2006	819	87	98	81	17	2	54	8	46	46	92	71	21	8	-	76	6	15	3	11	1	12	76	67	5							
Dominica	1990	69	68	100	98	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
	2006	68	73	100	98	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Dominican Republic	1990	7,295	55	98	85	13	2	66	35	31	34	84	63	21	16	36	77	15	5	3	57	12	12	19	68	14	31						
	2006	9,615	68	97	92	5	3	91	62	29	9	95	82	13	5	-	81	15	2	2	74	15	3	8	79	15							
Ecuador	1990	10,272	55	82	72	10	18	61	27	34	39	73	52	21	27	43	88	3	4	5	50	3	15	32	71	3	32						
	2006	13,202	63	98	91	7	2	91	65	26	9	95	81	14	5	-	91	3	4	2	72	4	12	12	84	3	6						



Country, area or territory	Year	Population		Drinking water coverage (%)												Sanitation coverage (%)																
		Total (thousands)	Urban (%)	Urban				Rural				Total				Urban				Rural				Total								
				Improved	Piped into dwelling, yard or plot	Other improved	Unimproved	Improved	Piped into dwelling, yard or plot	Other improved	Unimproved	Improved	Piped into dwelling, yard or plot	Other improved	Unimproved	Improved	Shared	Unimproved	Open defecation	Improved	Shared	Unimproved	Open defecation	Improved	Shared	Unimproved	Open defecation					
Egypt	1990	55,137	43	97	89	8	3	92	39	53	8	8	94	61	33	6	33	68	2	29	1	37	5	40	18	50	4	35	11	33		
	2006	74,167	43	99	99	0	1	98	82	16	2	98	89	9	2	2	33	85	2	13	0	52	7	41	0	66	5	29	0	33		
El Salvador	1990	5,110	49	90	74	16	10	48	16	32	52	69	45	24	31	16	36	88	8	0	4	59	6	0	35	73	7	0	20	35		
	2006	6,762	60	94	78	16	6	68	38	30	32	84	62	22	16	16	36	90	9	0	1	80	8	3	9	86	9	1	4	35		
Equatorial Guinea	1990	340	35	45	12	33	55	42	0	42	58	43	4	39	57	17	17	60	-	40	-	46	-	54	-	51	-	49	-	20		
	2006	496	39	45	16	29	55	42	0	42	58	43	6	37	57	17	17	60	-	40	-	46	-	54	-	51	-	49	-	20		
Eritrea	1990	3,158	16	62	40	22	38	39	0	39	61	43	6	37	57	43	43	20	24	26	30	0	0	0	100	3	4	4	89	4		
	2006	4,692	20	74	42	32	26	57	0	57	43	60	8	52	40	43	43	20	14	18	25	3	3	0	2	95	5	4	6	85	4	
Estonia	1990	1,566	71	100	92	8	0	99	51	48	1	100	80	20	0	2	2	96	4	0	0	94	6	0	0	95	5	0	0	3	3	
	2006	1,340	69	100	97	3	0	99	75	24	1	100	90	10	0	2	2	96	4	0	0	94	6	0	0	95	5	0	0	3	3	
Ethiopia	1990	51,148	13	74	1	73	26	4	0	4	96	13	0	13	87	41	41	19	25	0	56	2	0	2	16	74	11	7	18	64	10	
	2006	81,021	16	96	50	46	4	31	1	30	69	42	9	33	58	6	6	27	35	27	11	8	2	16	74	11	7	18	64	10		
Fiji	1990	724	42	43	32	11	57	51	7	44	49	48	17	31	52	6	6	87	-	13	-	55	-	45	-	68	-	32	-	12		
	2006	833	51	43	32	11	57	51	7	44	49	47	20	27	53	6	6	87	-	13	-	55	-	45	-	71	-	29	-	12		
Finland	1990	4,986	61	100	96	4	0	100	85	15	0	100	92	8	0	5	5	100	-	0	0	100	-	0	0	100	-	0	0	5	5	
	2006	5,261	61	100	100	0	0	100	-	-	0	100	-	0	0	5	5	100	-	0	0	100	-	0	0	100	-	0	0	5	5	
France	1990	56,735	74	100	100	0	0	-	95	-	-	-	99	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2006	61,330	77	100	100	0	0	100	100	0	0	100	100	0	0	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-
French Polynesia	1990	195	56	100	99	1	0	100	96	4	0	100	98	2	0	28	28	99	-	1	-	97	-	3	-	98	-	2	-	28	28	
	2006	259	52	100	99	1	0	100	96	4	0	100	98	2	0	28	28	99	-	1	-	97	-	3	-	98	-	2	-	28	28	
Gabon	1990	918	69	95	-	-	5	-	-	-	-	-	-	-	-	-	-	37	40	21	2	30	24	41	5	36	37	25	2	-	-	
	2006	1,311	84	95	52	43	5	47	8	39	53	87	45	42	13	-	-	37	40	21	2	30	24	41	5	36	37	25	2	-	-	
Gambia	1990	962	38	-	-	-	-	-	2	-	-	-	-	-	-	-	-	50	43	6	1	55	23	15	7	52	34	10	4	-	-	
	2006	1,663	55	91	51	40	9	81	5	76	19	86	30	56	14	-	-	50	43	6	1	55	23	15	7	52	34	10	4	-	-	
Georgia	1990	5,460	55	91	81	10	9	58	22	36	42	76	55	21	24	3	3	96	3	1	0	91	1	7	1	94	2	4	0	3	3	
	2006	4,433	52	100	87	13	0	97	38	59	3	99	64	35	1	3	3	94	3	3	0	92	1	6	1	93	2	5	0	3	3	
Germany	1990	79,433	73	100	100	0	0	100	97	3	0	100	99	1	0	4	4	100	-	0	0	100	-	0	0	100	-	0	0	4	4	
	2006	82,641	75	100	100	0	0	100	97	3	0	100	99	1	0	4	4	100	-	0	0	100	-	0	0	100	-	0	0	4	4	
Ghana	1990	15,579	36	86	40	46	14	39	2	37	61	56	16	40	44	51	51	11	47	31	11	3	19	47	31	6	29	41	24	8	8	
	2006	23,008	49	90	37	53	10	71	4	67	29	80	20	60	20	51	51	15	69	8	8	6	34	28	32	10	51	19	20	8	8	
Gibraltar	1990	27	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2006	29	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	1990	10,161	59	99	99	0	1	91	82	9	9	96	92	4	4	12	12	99	-	0	0	93	-	0	7	97	-	0	3	10	10	
	2006	11,123	59	100	100	0	0	99	99	0	1	100	100	0	0	12	12	99	-	1	0	97	-	2	1	98	-	2	0	10	10	
Grenada	1990	96	32	97	-	-	3	-	-	-	-	-	-	-	-	-	-	96	-	4	-	97	-	3	-	97	-	3	-	10	10	
	2006	106	31	97	-	-	3	-	-	-	-	-	-	-	-	-	-	96	-	4	-	97	-	3	-	97	-	3	-	10	10	
Guadeloupe	1990	391	98	98	98	0	2	-	-	-	-	-	-	-	-	-	-	98	-	0	2	-	-	-	-	-	-	-	-	-	-	-
	2006	442	100	98	98	0	2	-	-	-	-	-	-	-	-	-	-	98	-	0	2	-	-	-	-	-	-	-	-	-	-	-















Country, area or territory	Year	Population		Drinking water coverage (%)												Sanitation coverage (%)														
		Total (thousands)	Urban (%)	Urban				Rural				Total				Urban				Rural				Total						
				Improved	Piped into dwelling, yard or plot	Other improved	Unimproved	Improved	Piped into dwelling, yard or plot	Other improved	Unimproved	Improved	Piped into dwelling, yard or plot	Other improved	Unimproved	Improved	Shared	Unimproved	Open defecation	Improved	Shared	Unimproved	Open defecation	Improved	Shared	Unimproved	Open defecation			
Niger	1990	7,822	15	59	21	38	41	38	1	37	62	41	4	37	59	25	16	17	41	26	1	1	3	95	3	3	10	84	7	
	2006	13,737	17	91	37	54	9	32	-	68	42	-	-	-	58	25	27	29	25	19	3	1	4	92	7	6	7	80		
Nigeria	1990	94,454	35	80	33	47	20	34	4	30	66	50	14	36	50	18	33	27	31	9	22	12	30	36	26	17	30	27		
	2006	144,720	49	65	7	58	35	30	2	28	70	47	4	43	53	18	35	28	27	10	25	14	32	29	30	21	29	20		
Niue	1990	2	31	100	100	0	0	100	-	0	0	100	-	-	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	
	2006	2	37	100	100	0	0	100	-	0	0	100	-	-	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	
Northern Mariana Islands	1990	44	89	98	93	5	2	100	-	0	0	98	-	-	2	58	85	-	15	-	78	-	22	-	84	-	16	-	63	
	2006	82	95	98	-	-	2	97	-	3	98	-	-	-	2	58	94	-	6	-	96	-	4	-	94	-	6	-	63	
Norway	1990	4,241	72	100	100	0	0	100	100	0	0	100	100	0	0	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2006	4,669	77	100	100	0	0	100	100	0	0	100	100	0	0	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oman	1990	1,843	65	85	35	50	15	73	8	65	27	81	26	55	19	-	97	-	1	2	61	-	7	32	85	-	3	12	-	
	2006	2,546	71	-	-	-	-	-	-	-	-	-	-	-	-	-	97	-	1	2	-	-	-	-	-	-	-	-	-	-
Pakistan	1990	112,991	31	96	52	44	4	81	8	73	19	86	21	65	14	35	76	4	12	8	14	2	10	74	33	3	10	54	40	
	2006	160,943	35	95	48	47	5	87	19	68	13	90	29	61	10	35	90	4	0	6	40	5	10	45	58	5	6	31	40	
Palau	1990	15	31	73	-	-	27	98	-	-	2	90	-	-	10	22	76	-	24	-	54	-	46	-	61	-	39	-	28	
	2006	20	34	79	-	-	21	94	-	-	6	89	-	-	11	22	96	-	4	-	52	-	48	-	67	-	33	-	28	
Panama	1990	2,411	54	100	97	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2006	3,288	72	96	93	3	4	81	79	2	19	92	89	3	8	-	78	12	10	0	63	6	31	0	74	10	16	0	-	-
Papua New Guinea	1990	4,131	13	88	61	27	12	32	4	28	68	39	11	28	61	16	67	10	19	4	41	1	38	20	44	2	36	18	18	
	2006	6,202	13	88	61	27	12	32	4	28	68	40	12	28	60	16	67	10	19	4	41	1	38	20	45	2	35	18	18	
Paraguay	1990	4,248	49	78	60	18	22	28	0	28	72	52	29	23	48	47	88	4	6	2	34	0	57	9	60	2	32	6	32	
	2006	6,016	59	94	84	10	6	52	29	23	48	77	62	15	23	47	89	4	7	0	42	1	57	0	70	3	27	0	32	
Peru	1990	21,762	69	88	74	14	12	46	16	30	54	75	56	19	25	28	73	5	5	17	15	0	10	75	55	3	7	35	31	
	2006	27,589	73	92	90	2	8	63	44	19	37	84	77	7	16	28	85	6	9	0	36	1	28	35	72	5	13	10	31	
Philippines	1990	61,226	49	92	37	55	8	75	8	67	25	83	22	61	17	40	71	12	9	8	46	6	24	24	58	9	17	16	43	
	2006	86,264	63	96	69	27	4	88	24	64	12	93	53	40	7	40	81	13	1	5	72	10	4	14	78	12	2	8	43	
Poland	1990	38,111	61	100	97	3	0	-	73	-	-	-	88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2006	38,140	62	100	99	1	0	-	96	-	-	-	98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Portugal	1990	9,983	48	98	95	3	2	94	80	14	6	96	87	9	4	9	97	-	1	2	88	-	0	12	92	-	1	7	12	
	2006	10,579	58	99	99	0	1	100	99	1	0	99	99	0	1	9	99	-	1	0	98	-	0	2	99	-	0	1	12	
Puerto Rico	1990	3,528	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2006	3,969	98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Qatar	1990	467	92	100	100	0	0	100	-	-	0	100	-	-	0	62	100	-	0	0	100	-	0	0	100	-	0	0	0	62
	2006	821	96	100	100	0	0	100	-	-	0	100	-	-	0	62	100	-	0	0	100	-	0	0	100	-	0	0	0	62
Republic of Korea	1990	42,869	74	97	96	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2006	48,050	81	97	96	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Romania	1990	23,207	54	93	85	8	7	55	7	48	45	76	49	27	24	7	88	3	9	-	52	1	47	-	72	2	26	-	2	
	2006	21,532	54	99	86	13	1	76	8	68	24	88	50	38	12	7	88	3	9	-	54	1	45	-	72	2	26	-	2	















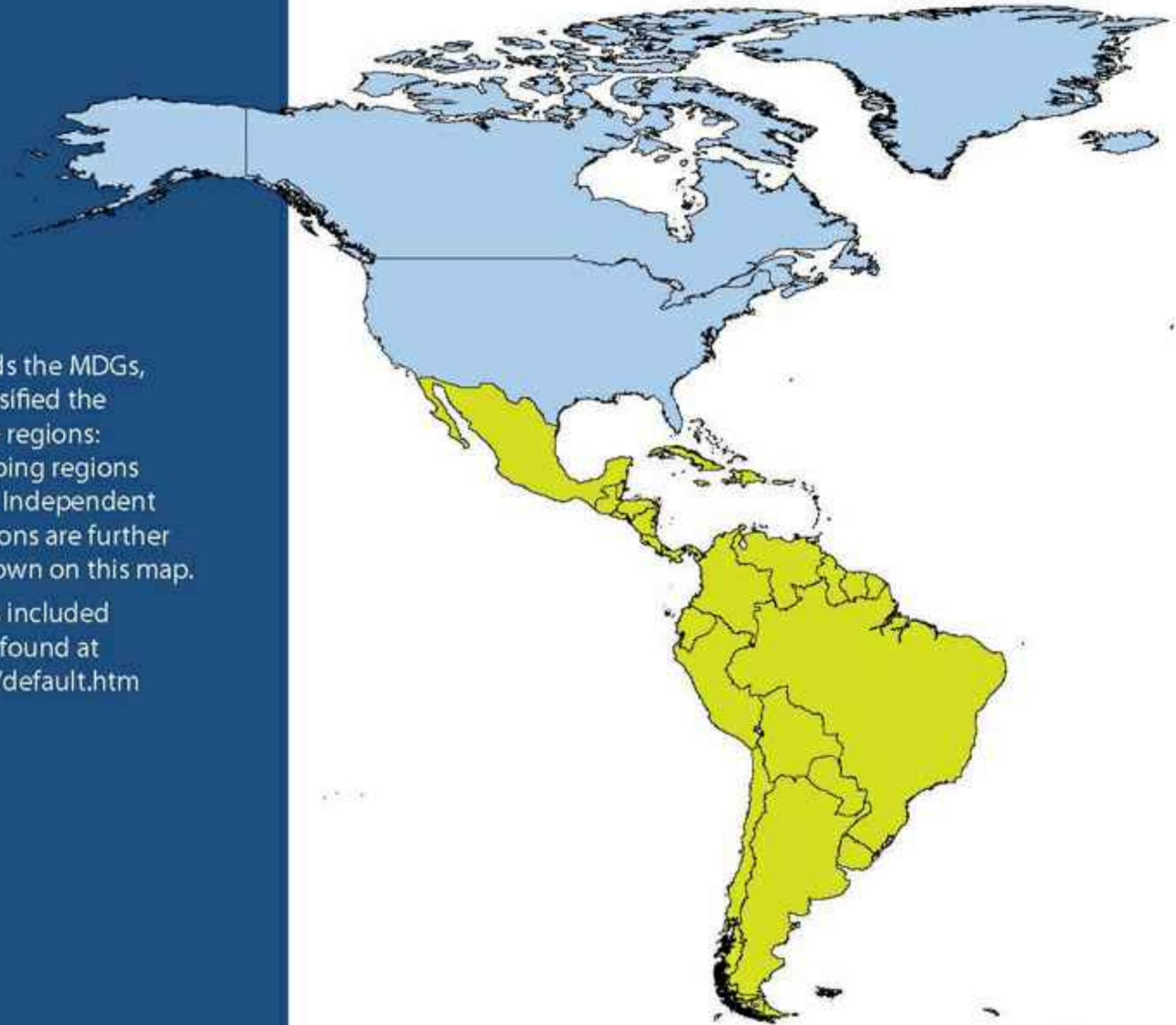




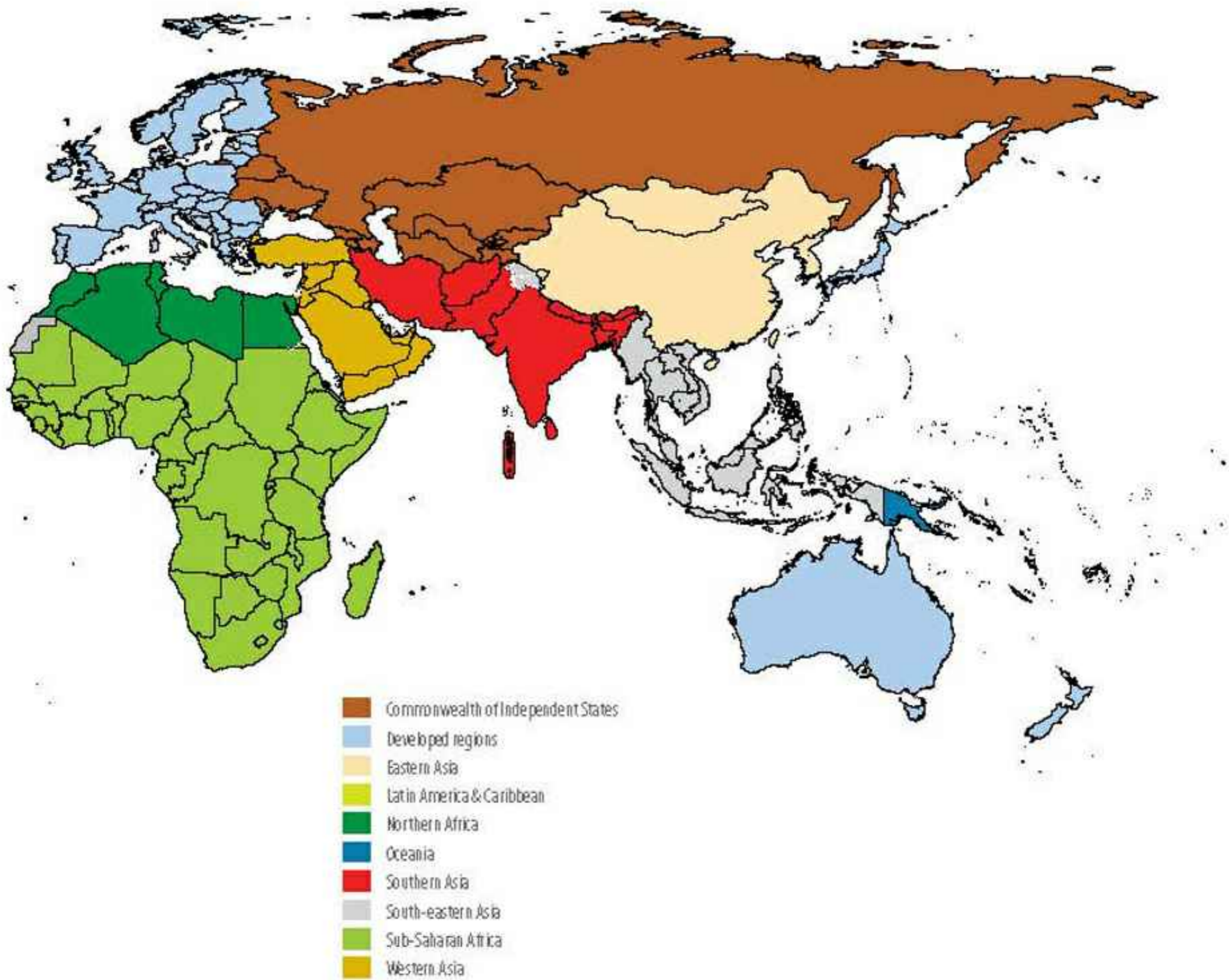
# Millennium Development Goals: regional groupings

In charting progress towards the MDGs, the United Nations has classified the world's countries into three regions: developed regions, developing regions and the Commonwealth of Independent States. The developing regions are further divided into subregions shown on this map.

A complete list of countries included in these subregions can be found at <http://unstats.un.org/unsd/default.htm>







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## The world is not on track to meet the MDG sanitation target

Two and a half billion people, 38 per cent of the world's population, remain without improved sanitation facilities, mostly in sub-Saharan Africa and Southern Asia.

While 1.2 billion people still practise open defecation, the riskiest sanitation practice of all, it is decreasing.

At current rates, the MDG sanitation target will be missed by over 700 million people.

Seven out of ten people without improved sanitation live in rural areas.

## The world is on track to meet the MDG drinking water target

The number of people without an improved drinking water source is now below one billion.

More than half of the world's households now have piped water connections in or near their homes.

Progress is slowest in sub-Saharan Africa, home to a third of the global population using unimproved drinking water sources.

Eight out of ten people without improved sources of drinking water live in rural areas.



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