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Progress on **Drinking Water, Sanitation and Hygiene**

2017

Update and SDG Baselines

World Health Organization

WHO UNICEF JMP

unicef

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Progress on drinking water, sanitation and hygiene 2017 update and SDG baseline

Table of contents 1

1. HIGHLIGHTS 2
Drinking water 3
Sanitation 4
Hygiene 5

2. INTRODUCTION 6
2.1 2030 vision for water, sanitation and hygiene 6
2.2 MDGs to SDGs 7
2.3 Report overview 9

3. BASIC SERVICES: TOWARDS UNIVERSAL ACCESS 10
3.1 Basic drinking water services 10
3.2 Basic sanitation services 14
3.3 Basic hygiene facilities 18

4. SAFELY MANAGED SERVICES: ACCOUNTING FOR SERVICE LEVELS 22
4.1 Safely managed drinking water services 22
4.2 Safely managed sanitation services 27

5. ELIMINATING INEQUALITIES: LEAVE NO ONE BEHIND 34
5.1 No services: The bottom of the ladder 34
5.2 Reducing the gap in basic services 38
5.3 Reducing the gap in services levels 43

6. INSTITUTIONAL WASH: NEW FRONTIERS 44

7. ANNEXES 48
Annex 1: JMP Methods 50
Annex 2: Regional groupings 56
Annex 3: National drinking water estimates 58
Annex 4: National sanitation estimates 76
Annex 5: National hygiene estimates 94
Annex 6: Inequalities in basic services 96
Annex 7: Regional and global estimates 104
Annex 7.1: Regional and global estimates, water 104
Annex 7.2: Regional and global estimates, sanitation 106
Annex 7.3: Regional estimates, hygiene 108

1. Highlights

The WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) has produced regular estimates of national, regional and global progress on drinking water, sanitation and hygiene (WASH) since 1990. The JMP service 'ladders' enable benchmarking and comparison of progress across countries at different stages of development. This 2017 report introduces updated water and sanitation ladders which build on established indicators and establish new rungs with additional criteria relating to service levels. A third ladder has also been introduced for hygiene. The JMP will continue to monitor all rungs on each ladder, with a particular focus on those that relate to the Sustainable Development Goal (SDG) global targets and indicators.

Global goals, targets and indicators for drinking water, sanitation and hygiene

WASH SECTOR GOAL	SDG GLOBAL TARGET		SDG GLOBAL INDICATOR	
Ending open defecation	6.2	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and **end open defecation**, paying special attention to the needs of women and girls and those in vulnerable situations	6.2.1	Population practising **open defecation**
Achieving universal access to basic services	1.4	By 2030, ensure all men and women, in particular the poor and vulnerable, have equal rights to economic resources, as well as **access to basic services**...	1.4.1	Population living in households with access to basic services (including **basic drinking water, sanitation and hygiene**)
Progress towards safely managed services	6.1	By 2030, achieve universal and equitable access to **safe and affordable drinking water** for all	6.1.1	Population using **safely managed drinking water services**
	6.2	By 2030, achieve access to **adequate and equitable sanitation and hygiene** for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations	6.2.1	Population using **safely managed sanitation services**
			6.2.1	Population with a basic **handwashing facility** with soap and water available on premises

Table 1

Updated JMP ladders for drinking water and sanitation and a new ladder for hygiene

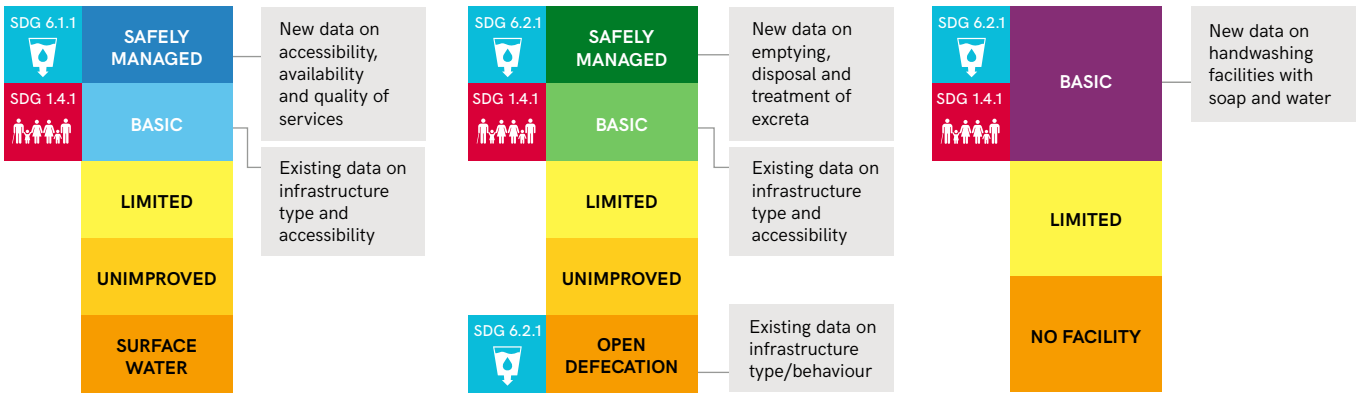


Fig. 1 Updated JMP service ladders

Drinking Water

Key messages

In 2015,

1. 71 per cent of the global population (5.2 billion people) used a **safely managed** drinking water service; that is, one located on premises, available when needed and free from contamination.
2. Estimates for **safely managed** drinking water were available for 96 countries (representing 35 per cent of the global population), and for four out of eight SDG regions[1].
3. One out of three people using **safely managed** drinking water services (1.9 billion) lived in rural areas.
4. Eight out of ten people (5.8 billion) used improved sources with **water available when needed**.
5. Three quarters of the global population (5.4 billion) used improved sources **located on premises**.
6. Three out of four people (5.4 billion) used improved sources **free from contamination**.
7. 89 per cent of the global population (6.5 billion people) used at least a **basic** service; that is, an improved source within 30 minutes' round trip to collect water.
8. 844 million people still lacked even a **basic** drinking water service.
9. 263 million people spent over 30 minutes per round trip to collect water from an improved source (constituting a **limited** drinking water service).
10. 159 million people still collected drinking water directly from **surface water** sources, 58% lived in sub-Saharan Africa.

7 out of 10 people used safely managed drinking water services in 2015

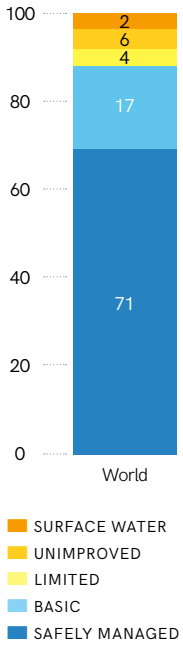


Fig.2 Global drinking water coverage, 2015

Estimates of safely managed drinking water services are available for four out of eight SDG regions

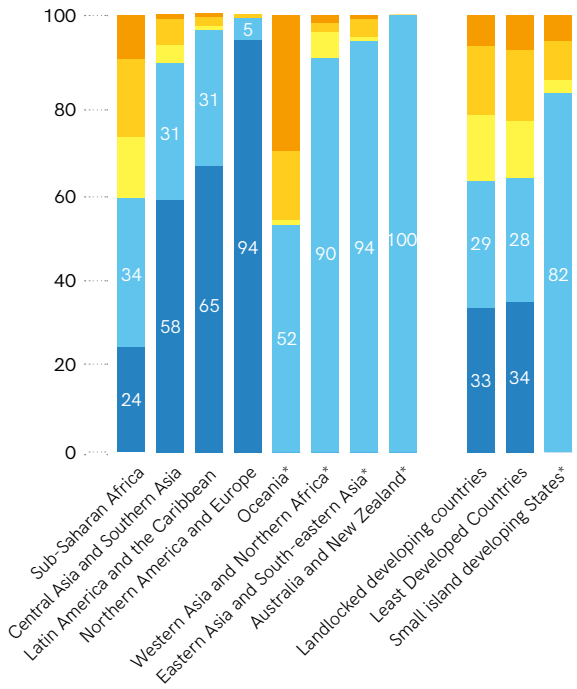


Fig. 3 Regional drinking water coverage, 2015[2]

* Insufficient data to estimate safely managed services.

By 2015, 181 countries had achieved over 75% coverage with at least basic services[3]

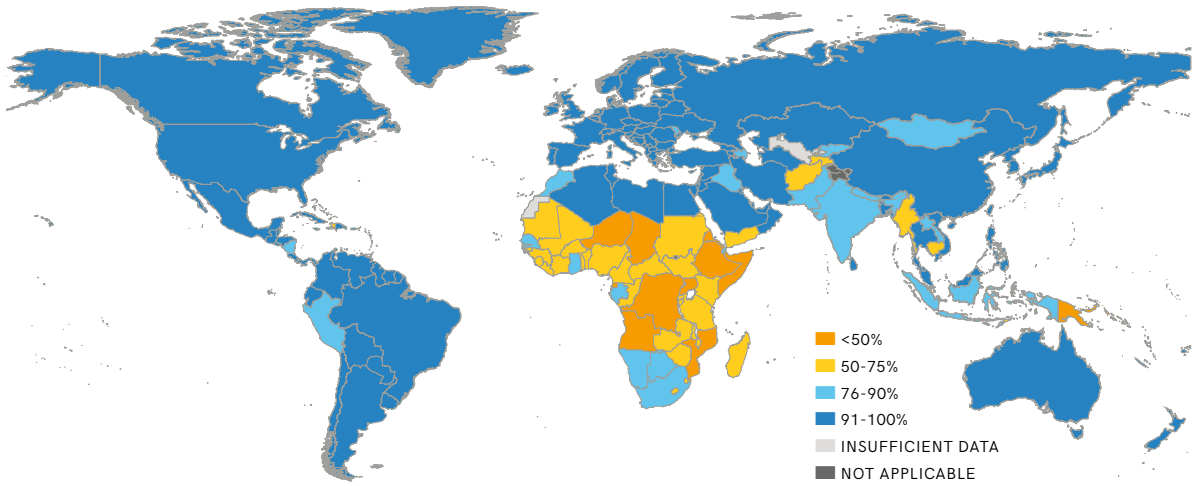


Fig. 4 Proportion of national population using at least basic drinking water services, 2015

[1] National estimates are made where data are available for at least 50% of the relevant population. Regional and global estimates are made where data are available for at least 30% of the relevant population.
[2] This report refers to the SDG region of "Oceania excluding Australia and New Zealand" as Oceania.
[3] The JMP tracks progress for 232 countries, areas and territories, including all United Nations Member States. Statistics in this report refer to countries, areas or territories.

Sanitation

Key messages

In 2015,

1. 39 per cent of the global population (2.9 billion people) used a **safely managed** sanitation service; that is, excreta safely disposed of in situ or treated off-site.
2. Estimates for **safely managed** sanitation were available for 84 countries (representing 48 per cent of the global population), and for five out of eight SDG regions[4].
3. Two out of five people using **safely managed** sanitation services (1.2 billion) lived in rural areas.
4. 27 per cent of the global population (1.9 billion people) used private sanitation facilities connected to sewers from which **wastewater was treated**.
5. 13 per cent of the global population (0.9 billion people) used toilets or latrines where excreta were **disposed of in situ**.
6. Available data were insufficient to make a global estimate of the proportion of population using septic tanks and latrines from which excreta are **emptied and treated off-site**.
7. 68 per cent of the global population (5.0 billion people) used at least a **basic** sanitation service.
8. 2.3 billion people still lacked even a **basic** sanitation service.
9. 600 million people used a **limited** sanitation service; that is, improved facilities shared with other households.
10. 892 million people worldwide still practised **open defecation**.

Two out of five people used safely managed sanitation services in 2015

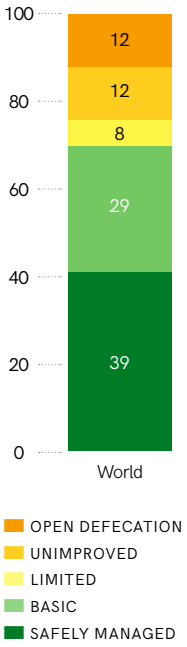


Fig.5 Global sanitation coverage, 2015

Estimates of safely managed sanitation services are available for five out of eight SDG regions

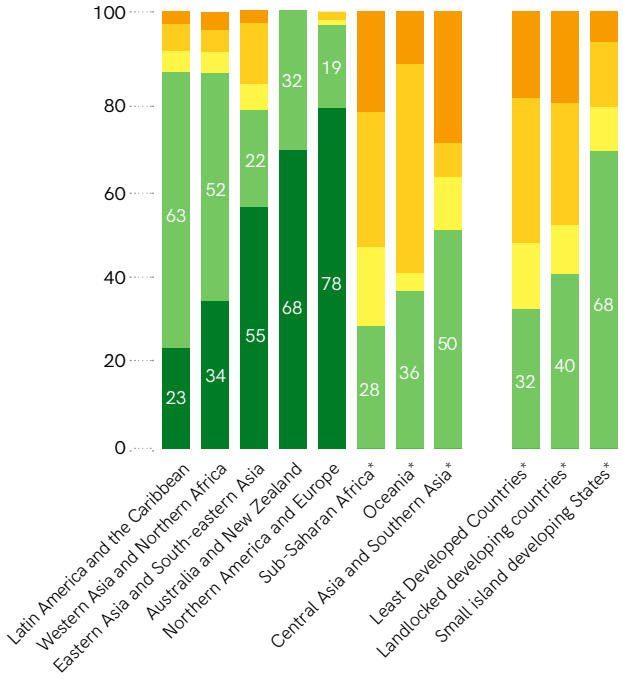


Fig. 6 Regional sanitation coverage, 2015

* Insufficient data to estimate safely managed services.

By 2015, 154 countries had achieved over 75% coverage with basic sanitation services

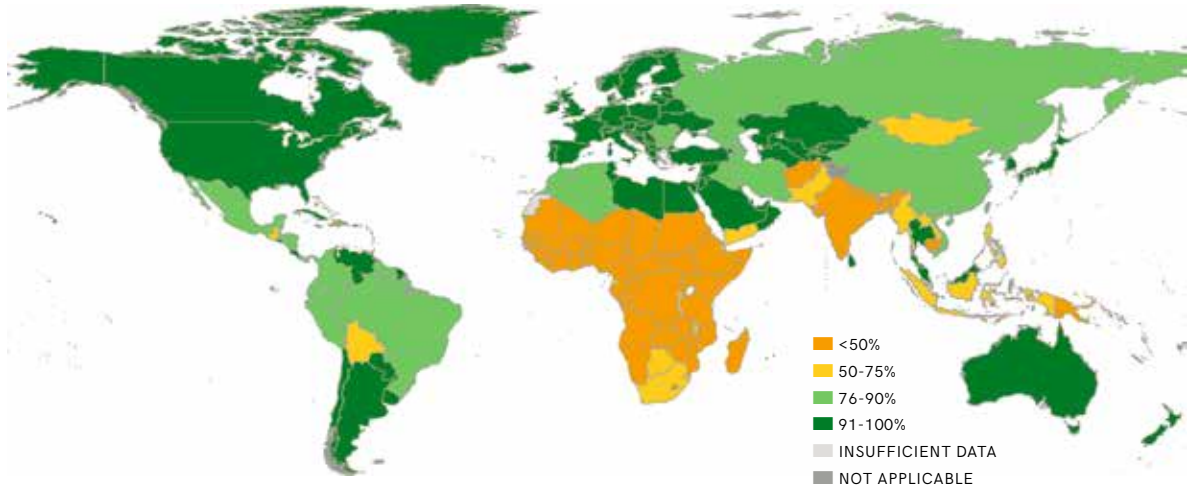


Fig. 7 Proportion of national population using at least basic sanitation services, 2015

[4] National estimates are made where data are available for at least 50% of the relevant population. Regional and global estimates are made where data are available for at least 30% of the relevant population.

Hygiene

Key messages

In 2015,

1. 70 countries had comparable data available on handwashing with soap and water, representing 30 per cent of the global population.
2. Coverage of basic handwashing facilities with soap and water varied from 15 per cent in sub-Saharan Africa to 76 per cent in Western Asia and Northern Africa, but data are currently insufficient to produce a global estimate, or estimates for other SDG regions.
3. In Least Developed Countries, 27 per cent of the population had basic handwashing facilities with soap and water, while 26 per cent had handwashing facilities lacking soap or water. The remaining 47 per cent had no facility.
4. In sub-Saharan Africa, three out of five people with basic handwashing facilities (89 million people) lived in urban areas.
5. Many high-income countries lacked sufficient data to estimate the population with basic handwashing facilities.

70 countries had comparable data available on handwashing in 2015

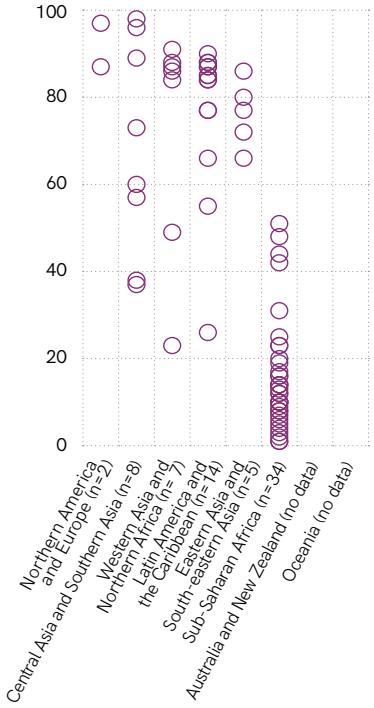


Fig.8 Proportion of population with basic handwashing facilities in 70 countries, 2015

A substantial acceleration is needed to end open defecation by 2030

Between 2000 and 2015, the number of people practising open defecation declined from 1229 million to 892 million, an average decrease of 22 million people per year. As shown in Figure 10, progress will need to accelerate in order to end open defecation by 2030.

All SDG regions saw a drop in the number of people practising open defecation, except for sub-Saharan Africa, where high population growth led to an increase in open defecation from 204 to 220 million, and in Oceania), where open defecation increased from 1 to 1.3 million.

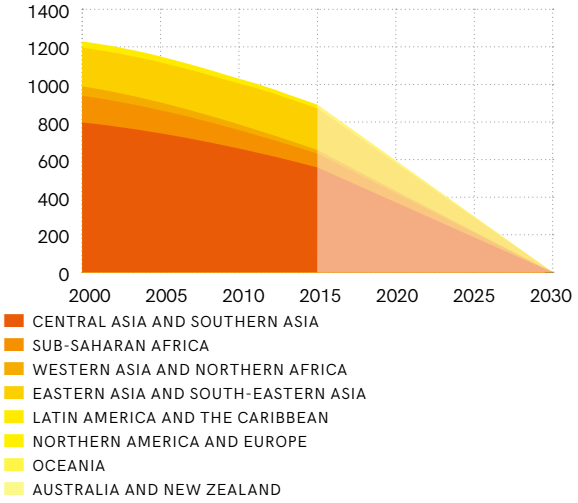


Fig. 10 Regional trends in national population practising open defecation, 2000–2015 (in millions)

In 2015, most countries in Africa had less than 50% coverage with basic handwashing facilities

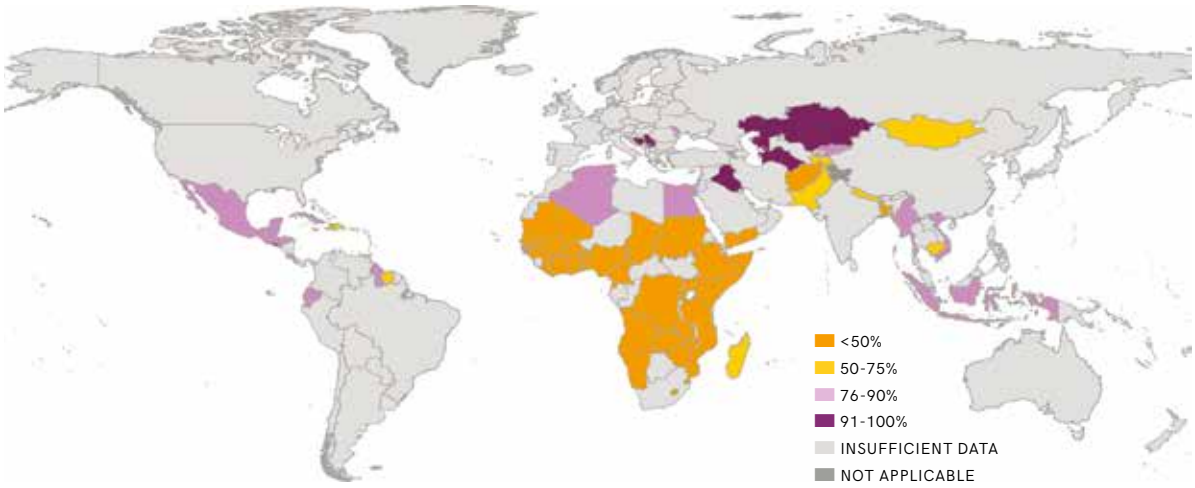


Fig. 9 Proportion of national population with handwashing facilities including soap and water at home, 2015

2. Introduction

The WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) has produced regular estimates of global progress on drinking water, sanitation and hygiene (WASH) since 1990. It has established an extensive global database and has been instrumental in developing global norms to benchmark progress. The JMP was responsible for monitoring the 2015 Millennium Development Goal (MDG) target 7c[5] and is now responsible for tracking progress towards the 2030 Sustainable Development Goal (SDG) targets related to drinking water, sanitation and hygiene (WASH). This 2017 update is the most comprehensive assessment to date and establishes the first global baseline estimates for SDG targets 6.1 and 6.2.

2.1 2030 vision for water, sanitation and hygiene

On 25 September 2015, Member States of the United Nations adopted the 2030 Agenda for Sustainable Development.[6] The 2030 Agenda comprises 17 Sustainable Development Goals and 169 targets addressing social, economic and environmental aspects of development, and seeks to end poverty, protect the planet and ensure prosperity for all. The SDGs are **aspirational global targets** that are intended to be universally relevant and applicable to all countries, "with each Government setting its own national targets guided by the global level of ambition, but taking into account national circumstances" (para. 55). Global indicators will be tracked by mandated agencies, using consistent international definitions and methods to compare data from national sources. National targets will be tracked by national authorities, and in some cases indicators, definitions and methods may differ from those used at the global levels.

SDG 1 calls on Member States to "End poverty in all its forms everywhere" and includes a target for universal access to basic services, with a particular focus on poor and vulnerable groups (1.4). Goal 6 is to "Ensure availability and sustainable management of water and sanitation for all" and includes targets addressing all aspects of the freshwater cycle (Box 1). The targets agreed upon by Member States focus on improving the standard of WASH services (6.1 and 6.2); increasing treatment, recycling and reuse of wastewater (6.3); improving efficiency and ensuring sustainable withdrawals (6.4); and protecting water-related ecosystems (6.6) as part of an integrated approach to water resources management (6.5). They also address the means of implementation for achieving these development outcomes (6a and 6b).

In March 2016, the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDG) published a list of global SDG indicators for monitoring the goals and targets of the 2030 Agenda.[7] The list included a subset of the indicators recommended by the JMP following international consultations with water and sanitation sector stakeholders. WHO and UNICEF serve as the is the custodian agencies responsible for global reporting on SDG targets 6.1 and 6.2, and contribute to the wider UN-Water integrated monitoring initiative for Goal 6.[8] The JMP also collaborates with custodian agencies responsible for monitoring other SDG goals and targets related to WASH, including SDG target 1.4 on universal access to basic services, SDG target 3.9 on the disease burden from inadequate WASH, and SDG target 4a on basic WASH in schools.

[5] United Nations Children's Fund and World Health Organization, *Progress on Sanitation and Drinking Water: 2015 update and MDG assessment*, UNICEF and WHO, New York, 2015.
[6] *Transforming Our World: The 2030 Agenda for Sustainable Development*, United Nations General Assembly Resolution, A/RES/70/1, 21 October 2015.
[7] United Nations Department of Economic and Social Affairs, Statistics Division, 'IAEG-SDGs', <https://unstats.un.org/sdgs/iaeg-sdgs>.
[8] UN-Water, *Monitor and Report*, <www.unwater.org/what-we-do/monitoring-and-report>.

Box 1

GOAL 6. Ensure availability and sustainable management of water and sanitation for all

6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all

6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies

6.b Support and strengthen the participation of local communities in improving water and sanitation management

2.2 MDGs to SDGs: Addressing unfinished business and raising the bar

SDG targets 6.1 and 6.2 relate to drinking water, sanitation and hygiene and are far more ambitious than the previous MDG target 7c, which aimed to halve the proportion of the population without access to water and sanitation by 2015. First, the SDG targets call for universal and equitable access for all, which implies eliminating inequalities in service levels. Second, they include hygiene, which was not addressed in the MDGs. Third, they specify that drinking water should be safe and affordable, and that sanitation should be adequate. Lastly, they include explicit references to ending open defecation and to the needs of women and girls and those in vulnerable situations. The JMP has developed a normative interpretation for each of the terms used in the targets, and the approach to global monitoring aims to reflect these as closely as possible.[9]

The JMP uses service **ladders** to benchmark and compare progress across countries, and these have been updated and expanded to facilitate enhanced monitoring. The new ladders build on the established improved/unimproved facility type classification, thereby providing continuity with MDG monitoring, and introduce additional criteria relating to the level of service provided to households. The JMP will continue to monitor all rungs on each ladder, with a particular focus on those that relate to the following Sustainable Development Goal (SDG) global targets:

[9] WHO/United Nations Children's Fund Joint Monitoring Programme for Water Supply and Sanitation, *WASH in the 2030 Agenda: New global indicators for drinking water, sanitation and hygiene*, UNICEF and WHO, 2016, https://washdata.org/report/jmp-2017-wash-2030-agenda.

- Ending **open defecation** (SDG 6.2)
- Achieving universal access to **basic services** (SDG 1.4)
- Progress towards **safely managed services** (SDG targets 6.1 and 6.2).

Improved drinking water sources are those which by nature of their design and construction have the potential to deliver safe water. During the SDG period, the population using improved sources will be subdivided into three groups according to the level of service provided. In order to meet the criteria for a **safely managed** drinking water service (SDG 6.1), people must use an improved source meeting three criteria (Figure 1, and Section 4.1):

- it should be accessible on premises,
- water should be available when needed, and
- the water supplied should be free from contamination.

If the improved source does not meet any one of these criteria, but a round trip to collect water takes 30 minutes or less, it will be classified as a **basic** drinking water service (SDG 1.4). If water collection from an improved source exceeds 30 minutes, it will be categorized as a **limited** service.

Improved sanitation facilities are those designed to hygienically separate excreta from human contact. There are three main ways to meet the criteria for having a **safely managed** sanitation service (SDG 6.2). People should use improved sanitation facilities that are not shared with other households, and the excreta produced should either be (Figure 12, and Section 4.2):

- treated and disposed of in situ,
- stored temporarily and then emptied, transported and treated off-site, or
- transported through a sewer with wastewater and then treated off-site.

If the excreta from improved sanitation facilities are not safely managed, then people using those facilities will be classed

SERVICE LEVEL	DEFINITION
SAFELY MANAGED	Drinking water from an improved water source that is located on premises, available when needed and free from faecal and priority chemical contamination
BASIC	Drinking water from an improved source, provided collection time is not more than 30 minutes for a round trip, including queuing
LIMITED	Drinking water from an improved source for which collection time exceeds 30 minutes for a round trip, including queuing
UNIMPROVED	Drinking water from an unprotected dug well or unprotected spring
SURFACE WATER	Drinking water directly from a river, dam, lake, pond, stream, canal or irrigation canal

Note: Improved sources include: piped water, boreholes or tubewells, protected dug wells, protected springs, and packaged or delivered water.

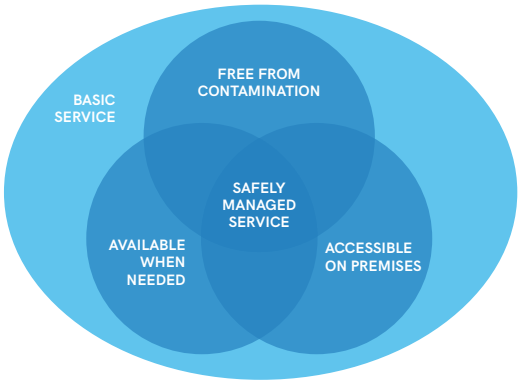


Fig. 11 The new JMP ladder for drinking water services

SERVICE LEVEL	DEFINITION
SAFELY MANAGED	Use of improved facilities that are not shared with other households and where excreta are safely disposed of in situ or transported and treated offsite
BASIC	Use of improved facilities that are not shared with other households
LIMITED	Use of improved facilities shared between two or more households
UNIMPROVED	Use of pit latrines without a slab or platform, hanging latrines or bucket latrines
OPEN DEFECATION	Disposal of human faeces in fields, forests, bushes, open bodies of water, beaches or other open spaces, or with solid waste

Note: improved facilities include flush/pour flush to piped sewer systems, septic tanks or pit latrines; ventilated improved pit latrines, composting toilets or pit latrines with slabs.

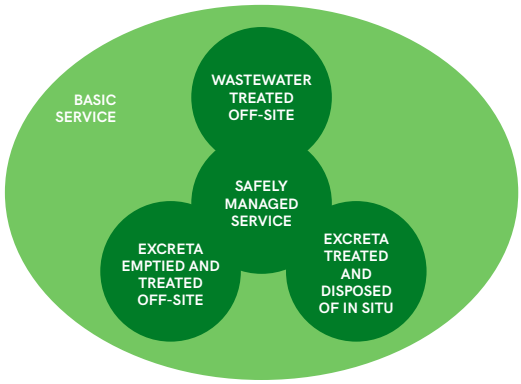


Fig. 12 The new JMP ladder for sanitation services

SERVICE LEVEL	DEFINITION
BASIC	Availability of a handwashing facility on premises with soap and water
LIMITED	Availability of a handwashing facility on premises without soap and water
NO FACILITY	No handwashing facility on premises

Note: Handwashing facilities may be fixed or mobile and include a sink with tap water, buckets with taps, tippy-taps, and jugs or basins designated for handwashing. Soap includes bar soap, liquid soap, powder detergent, and soapy water but does not include ash, soil, sand or other handwashing agents.

Fig. 13 The new JMP ladder for hygiene

as having a **basic** sanitation service (SDG 1.4). People using improved facilities that are shared with other households will be classified as having a **limited** service. The JMP will also continue to monitor the population practising **open defecation**, which is an explicit focus of SDG target 6.2.

The presence of a handwashing facility with soap and water on premises has been identified as the priority indicator for global monitoring of hygiene under the SDGs. Households that have a handwashing facility with soap and water available on premises will meet the criteria for a **basic** hygiene facility (SDG 1.4 and 6.2). Households that have a facility but lack water or soap will be classified as having a **limited** facility, and distinguished from households that have no facility at all (Figure 4).

2.3 Report overview

The elements of the new service ladders are discussed in more detail in subsequent sections.

Section 3 examines coverage of basic drinking water and sanitation services and handwashing facilities with soap and water, and assesses the prospects for achieving SDG target 1.4 of universal access to basic services by 2030. It shows that while billions have gained access to basic water and sanitation services since 2000, faster progress will be required in order to achieve universal access to basic drinking water, sanitation and handwashing facilities by 2030.

Section 4 examines the extent to which existing drinking water and sanitation facilities met the new SDG criteria for safely managed services in 2015. It shows that while the majority of the global population used services meeting the new SDG criteria for safely managed drinking water services, relatively few people used services meeting the new SDG criteria for safely managed sanitation services.

Section 5 examines inequalities in WASH services in light of the SDG call to reduce inequalities within and between countries and to "leave no one behind". It identifies populations that will need to be targeted in order to eliminate open defecation by 2030 and documents inequalities in basic services between rich and poor as well as subnational regions. It also highlights significant disparities in safe management of drinking water and sanitation services between rural and urban areas.

Section 6 considers the implications of monitoring SDG targets for universal access, which means looking beyond the household and addressing WASH in institutional settings and public spaces. It outlines proposed indicators for monitoring WASH in schools and in health care facilities and considers national sources of data that can potentially be used for SDG monitoring.

The report finds that while billions of people have gained access to basic services since 2000, faster progress will be required in order to end open defecation and achieve universal access to basic services by 2030. Achieving safely managed drinking water and sanitation services presents a major challenge in many parts of the world, and there is a need to address significant inequalities. There are major data gaps, and effective monitoring of inequalities in WASH services during the SDG era will require significant improvements in the availability and quality of data underpinning national, regional and global estimates of progress.

SDG 1.4.1

3. Basic services: towards universal access

Target 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.

Indicator 1.4.1 Proportion of the population living in households with access to basic services.

The 2030 Agenda is universal and applies to all countries including those at different stages of development. While SDG targets 6.1 and 6.2 aim to progressively raise the standard of drinking water and sanitation services for all (Section 4), the immediate priority in many developing countries will be to first ensure that everyone has access to at least a basic level of service. This 'unfinished business' from the MDG period remains a central focus of SDG 1 ("End poverty in all its forms everywhere"), which includes a target for universal access to basic services, with a particular focus on poor and vulnerable groups. For this reason, the JMP will continue to track the population using **basic** drinking water, sanitation and hygiene as well as lower levels of service, such as limited services, unimproved facilities, or no facilities at all.

SDG 1.4.1

3.1 Basic drinking water services

In 2015, 6.5 billion people used improved sources of drinking water that required no more than 30 minutes per trip to collect water, and are thus classified as having **at least basic** drinking water services. A further 263 million people (4 per

89% of the global population used at least a basic drinking water service in 2015

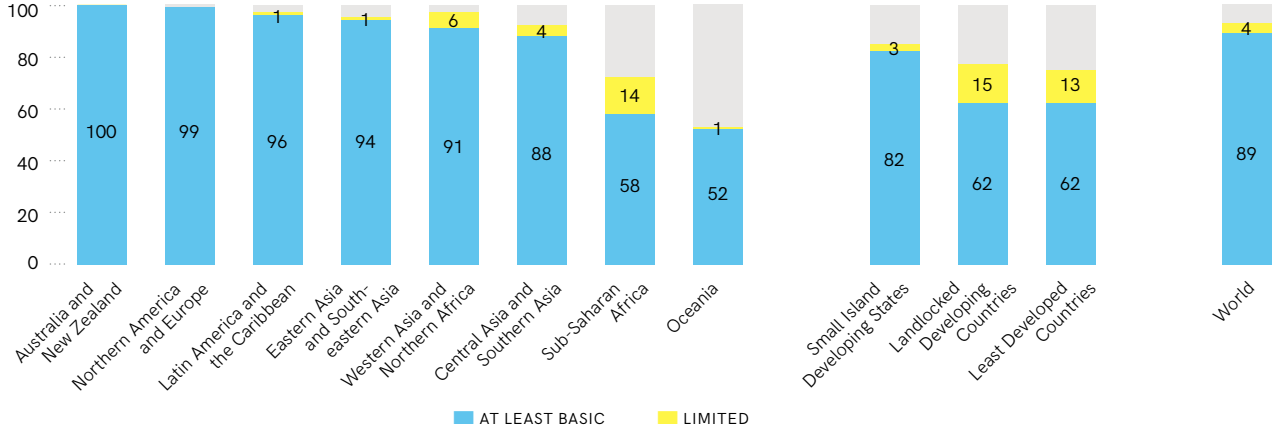


Fig. 14 Proportion of population with at least basic and limited drinking water services, 2015 (%)

One in five countries below 95% coverage is on track to achieve universal basic water services by 2030

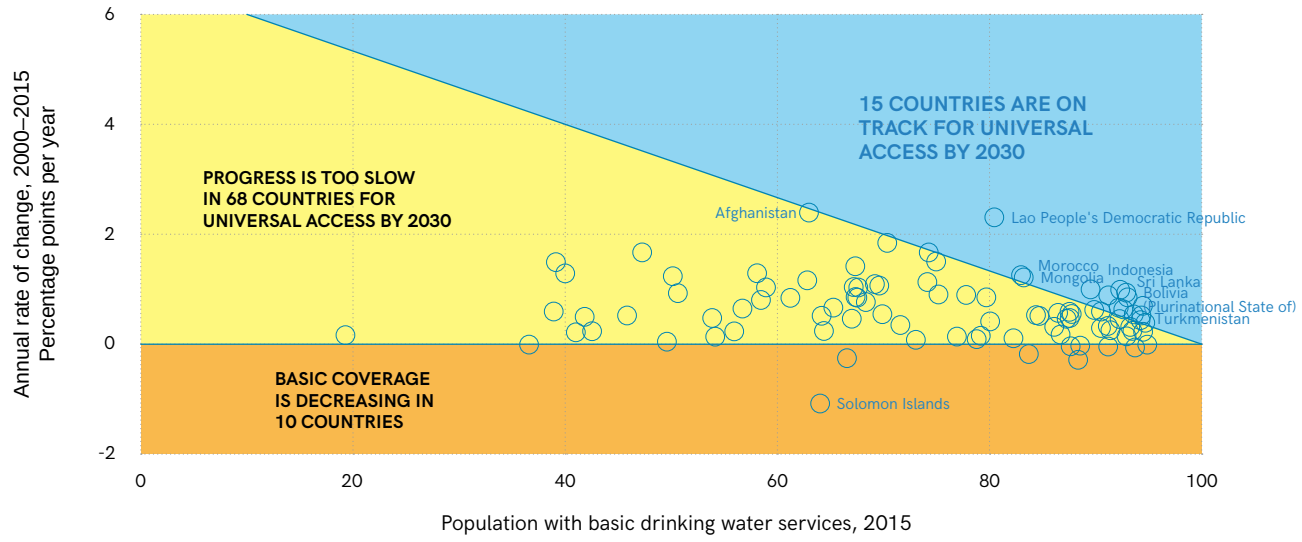


Fig. 15 Progress towards universal basic drinking water services (2000–2015) among countries where at least 5% of the population did not have basic services in 2015

cent of the population) used improved sources that required more than 30 minutes collection time, and are therefore classified as having **limited** drinking water services.

The proportion of the population with **at least basic** drinking water services has increased by an average of 0.49 percentage points per year between 2000 and 2015, but the increase was substantially faster in Eastern Asia and South-eastern Asia (0.97) and sub-Saharan Africa (0.88). Australia and New Zealand and North America and Europe are already very close to achieving **universal basic** drinking water services, while Latin America and the Caribbean, as well as Eastern Asia and South-eastern Asia, are on track to achieve universal access by 2030.[10]

The 844 million people who still lacked a **basic** drinking water service in 2015 either use improved sources with water collection times exceeding 30 minutes (**limited** services), use unprotected wells and springs (**unimproved** sources), or take water directly from **surface water** sources. Previous JMP analysis has shown that water collection from unimproved sources and surface water is more likely to take over 30 minutes, representing a double burden.[11] Women and girls are responsible for water collection in 8 out of 10 households with water off premises, so reducing the population with limited drinking water services will have a strong gender impact. Of the 10 countries where at least 20 per cent of the national population uses limited services, eight are in sub-Saharan Africa and two are in Oceania.

[10] Universal access not only implies extending access to the entire population, but also sustaining access in the face of social and economic change.
[11] United Nations Children's Fund and World Health Organization, *Safely Managed Drinking Water: Thematic report on drinking water*, UNICEF and WHO, New York, 2017, <https://washdata.org/report/jmp-2017-tr-smdw>.

Box 2

Types of improved water sources

The JMP uses a simple improved/unimproved facility type classification that has been refined over time. **Improved sources** are those that have the potential to deliver safe water by nature of their design and construction. These include piped supplies (such as households with tap water in their dwelling, yard or plot; or public standposts) and non-piped supplies (such as boreholes, protected wells and springs, rainwater and packaged or delivered water). Between 2000 and 2015, the population using piped supplies increased from 3.5 billion to 4.7 billion, while the population using non-piped supplies increased from 1.7 billion to 2.1 billion. Globally, two out of five people in rural areas and four out of five people in urban areas now use piped supplies.

Packaged water and delivered water can potentially be safely managed, but these were previously treated as unimproved due to lack of data on accessibility, availability and quality. For SDG monitoring, the JMP will treat them as improved and classify them as **limited**, **basic** or **safely managed**, based on the criteria outlined above.

Reclassifying packaged water (including bottled water and sachets of water) as improved has only a minor impact on global statistics, because the JMP previously counted bottled water as improved when the source of water used for other purposes was improved. This was nearly always the case, and in most cases people drinking bottled water also have access to piped water or at least other improved supplies (Figure 17).

Over 1 billion people gained access to piped supplies between 2000 and 2015

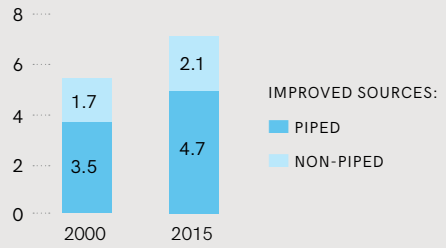


Fig. 16 Global population using piped and non-piped improved sources (billions)

The reclassification of delivered water also has only a minor impact on global statistics, but significantly impacts estimates in a number of countries where it is common for people to drink water delivered by tanker trucks (Figure 18). For SDG monitoring, the JMP will classify households using tanker trucks with collection times of 30 minutes or less as having at least basic services. Drinking water from tanker trucks will be classified as safely managed if it meets the criteria outlined in Section 4.

In 15 countries, at least one in five people drink bottled water, and use an improved source for other purposes[12]

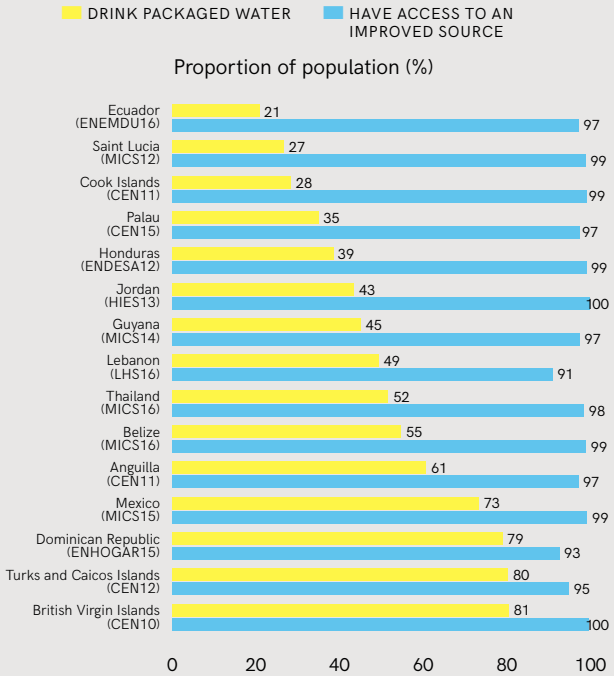


Fig. 17 Proportion of population drinking bottled or sachet water and having access to improved water supplies (2010-2016)

In 18 countries, at least 5% of the population relies on delivered water

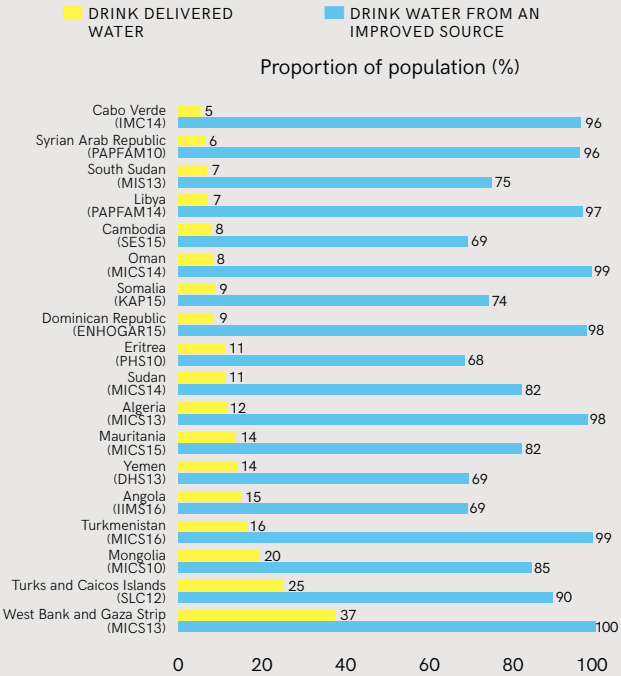


Fig. 18 Proportion of population relying on delivered water and all improved water sources (2010-2016)

[12] See country files for full names of data sources. Note that statistics from a single data source may differ from JMP estimates for the same year, as JMP estimates are generated from multiple data sources.

3.2 Basic sanitation services

SDG 1.4.1

In 2015, 5 billion people used an improved sanitation facility that was not shared with other households, and thus are classified as having at least **basic** sanitation services. In addition, 600 million people (8 per cent of the population) used improved but shared facilities that are classified as **limited** sanitation services.

Globally, use of basic sanitation services has increased more rapidly than use of basic drinking water services, at an average of 0.63 percentage points per year between 2000 and 2015. However, coverage is generally lower for basic sanitation than for basic water, and no SDG region is on track to achieve universal basic sanitation by 2030, with the exception of Australia and New Zealand, where coverage is already nearly universal. Figure 20 shows that 9 out of 10 countries where more than 5 per cent of the population lacked basic sanitation in 2015 are progressing too slowly to achieve **universal basic sanitation** by 2030, and suggests that in one out of seven countries, use of basic sanitation is actually decreasing. Progress needs to accelerate in these countries to achieve SDG target 1.4, universal access to basic services by 2030.

68% of the global population used at least basic sanitation services in 2015

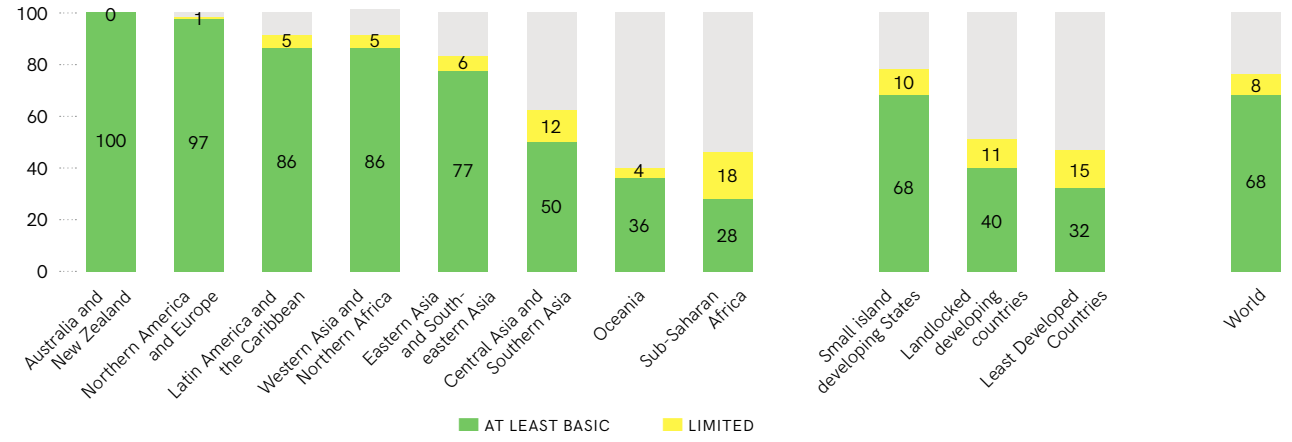


Fig. 19 Proportion of population with at least basic or limited sanitation services, 2015 (%)

Just 1 in 10 countries below 95% coverage are on track to achieve universal basic sanitation by 2030

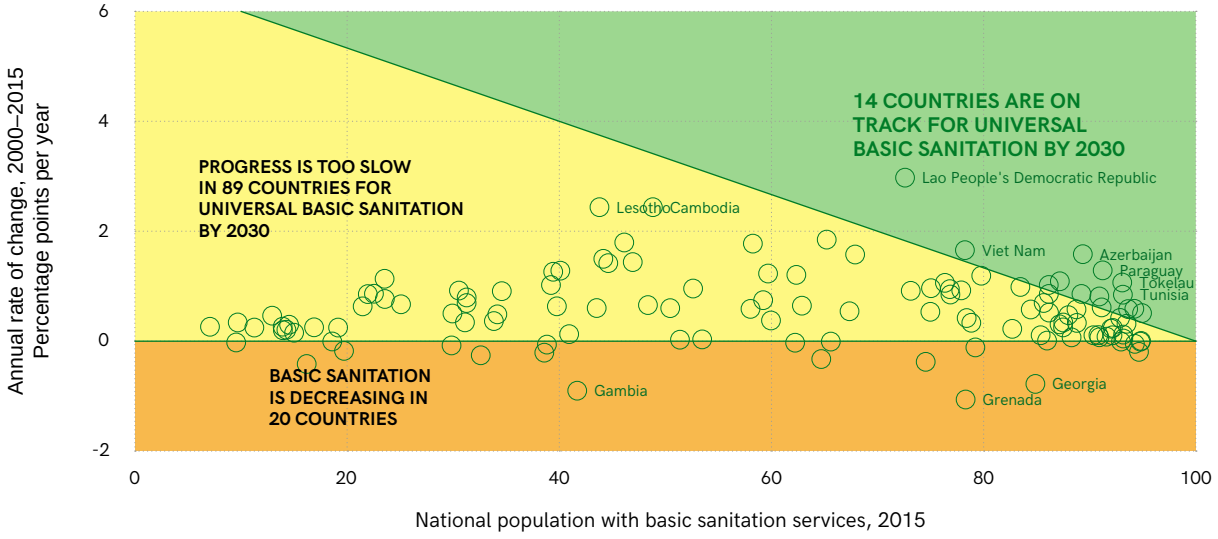


Fig. 20 Progress towards universal basic sanitation services (2000–2015) among countries where at least 5 per cent of the population did not have basic services in 2015

The majority of the 2.3 billion people who still lacked a **basic sanitation** service either practise **open defecation** (892 million) or use **unimproved** facilities such as pit latrines without a slab or platform, hanging latrines or bucket latrines (856 million). The remaining 600 million use improved sanitation facilities that are shared with other households. These **limited** sanitation services reflect both cultural practices and socioeconomic constraints in densely populated areas. While universal use of private toilets accessible on premises remains the ultimate goal, high-quality shared sanitation facilities may be the best option in the short term in some low-income urban settings. Sixteen of the 24 countries in which at least one person in five has limited sanitation services are found in sub-Saharan Africa (Figure 21). In these countries, the proportion sharing facilities is larger in urban areas.

In 24 countries, at least one in five people used limited sanitation services in 2015

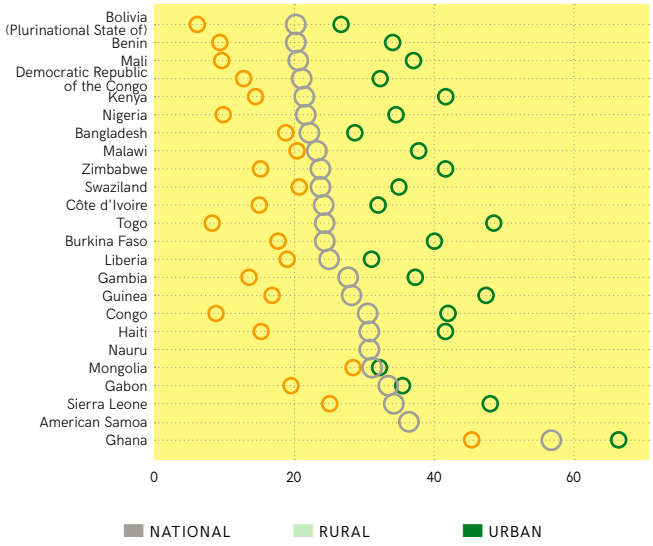


Fig. 21 Proportion of population using limited (shared) sanitation services, national, urban and rural, 2015. Note: American Samoa and Nauru do not have rural populations.

Box 3

Types of improved sanitation

Improved sanitation facilities are those designed to hygienically separate excreta from human contact. These include wet sanitation technologies (flush and pour flush toilets connecting to sewers, septic tanks or pit latrines) and dry sanitation technologies (ventilated improved pit latrines; pit latrines with slabs; or composting toilets). Improved facilities shared with other households have previously been reported separately and did not count towards the MDG target.

The JMP now divides improved sanitation facilities into three categories: **limited**, **basic** and **safely managed** services. The population using improved facilities that are shared with other households will now be called **limited** rather than **shared**. Improved facilities that are not shared count as either **basic** or **safely managed** services, depending on how excreta are managed.

Improved sanitation facilities can be connected to either sewer networks or to on-site storage and treatment facilities such as septic tanks or latrine pits. With the SDG focus on safe management of excreta, it is useful to distinguish between sewered and non-sewered sanitation facilities, as they require different forms of excreta management.

Globally, improved sanitation facilities (including shared facilities) are evenly split between sewer connections and on-site systems, with 2.8 billion people (38 per cent) using sewer connections and another 2.8 billion using septic tanks, latrines or other improved on-site systems (Figure 22).

Sewer connections dominate in urban areas, where they are used by two thirds of the population (63 per cent), compared to only 9 per cent of the rural population. Conversely, onsite improved sanitation facilities are used by nearly half (48 per cent) of the rural population, and only a quarter (29 per cent) of the urban population. Septic tanks are used by one in six people globally, with very similar proportions in urban (17 per cent) and rural (18 per cent) areas. They account for 56 per cent of on-site improved sanitation facilities in urban settings, and 38 per cent in rural areas.

While septic tanks have certain defining design features (including watertight walls and floor, multiple chambers separated by baffles, and an outlet pipe leading to a soak pit or leachfield), many on-site systems lack these features, and should actually be classified as simple vaults or cesspools. However, the terms "septic tanks" and "latrines" are widely used in household surveys and administrative records and the JMP will report on these separately, recognizing that the term "septic tanks" covers many kinds of on-site storage systems. For the purposes of calculating safely managed sanitation services (Section 4.2) all improved on-site sanitation systems are treated equally.

Although in many countries urban areas are mainly served by sewer connections, on-site sanitation is the principal form of improved sanitation in urban as well as rural areas of Central Asia and Southern Asia, Oceania and sub-Saharan Africa (Figure 23).

9 out of 10 people using sewer connections lived in urban areas in 2015

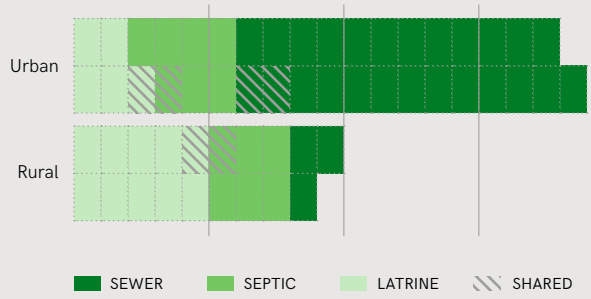


Fig. 22 Population using different types of improved sanitation facilities, urban and rural, 2015 (each block represents 100 million people)

In four SDG regions, coverage of on-site facilities exceeded sewer connections in 2015

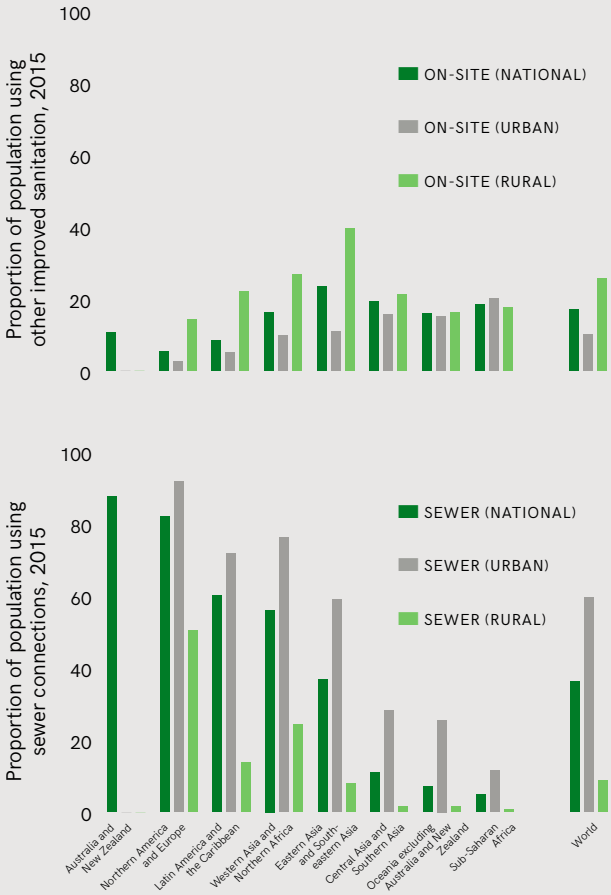


Fig. 23 Proportion of national population using sewer connections and on-site improved sanitation facilities in 2015, by region (%)

3.3 Basic hygiene facilities

SDG 1.4.1

Hygiene has long-established links with public health, but was not included in any MDG targets or indicators. The explicit reference to hygiene in the text of SDG target 6.2 represents increasing recognition of the importance of hygiene and its close links with sanitation. Hygiene is multi-faceted and can comprise many behaviours, including handwashing, menstrual hygiene and food hygiene. International consultations among WASH sector professionals identified handwashing with soap and water as a top priority in all settings, and also as a suitable indicator for national and global monitoring.

The new global SDG indicator for handwashing is the **proportion of population with handwashing facilities with soap and water at home**. Handwashing facilities can consist of a sink with tap water, but can also include other devices that contain, transport or regulate the flow of water. Buckets with taps, tippy-taps and portable basins are all examples of handwashing facilities. Bar soap, liquid soap, powder detergent and soapy water all count as **soap** for monitoring purposes.

People living in households that have a handwashing facility with soap and water available on premises are classified as having **basic** facilities. Households that have a handwashing facility but lack water and/or soap are classified as having **limited** facilities. In some cultures, ash, soil, sand or other materials are used as handwashing agents, but these are less effective than soap and are therefore counted as limited handwashing facilities.

Household surveys increasingly include a section on hygiene practices where the surveyor visits the handwashing facility and observes if water and soap are present. Observation of handwashing materials by surveyors represents a more reliable proxy for handwashing behaviour than asking individuals whether they wash their hands. The small number of cases where households refuse to give enumerators permission to observe their facilities are not used in calculating JMP estimates.

Following the standardization of hygiene questions in international surveys, data on handwashing facilities are available for a growing number of low- and middle-income countries. This type of information is not available from most high-income countries, where access to basic handwashing facilities is assumed to be nearly universal. In this 2017 report, handwashing data are available for 70 countries, nearly half of which are in sub-Saharan Africa. No data on handwashing facilities are available for Oceania.

Since the availability of handwashing facilities is considered a **basic** level of service, regional and global estimates can only be made when data are available for at least half of the population. Estimates could be made for two SDG regions, as well as for Small Island Developing States (SIDS), Least-Developed Countries (LDCs) and Landlocked Developing Countries (LLDCs). Availability of handwashing facilities is higher in urban than in rural areas in each of these regions.[13]

[13] In Western Asia and Northern Africa, data coverage in urban areas was only 42 per cent, so no regional estimate is made.

Coverage of basic handwashing facilities varies widely in 70 countries with data

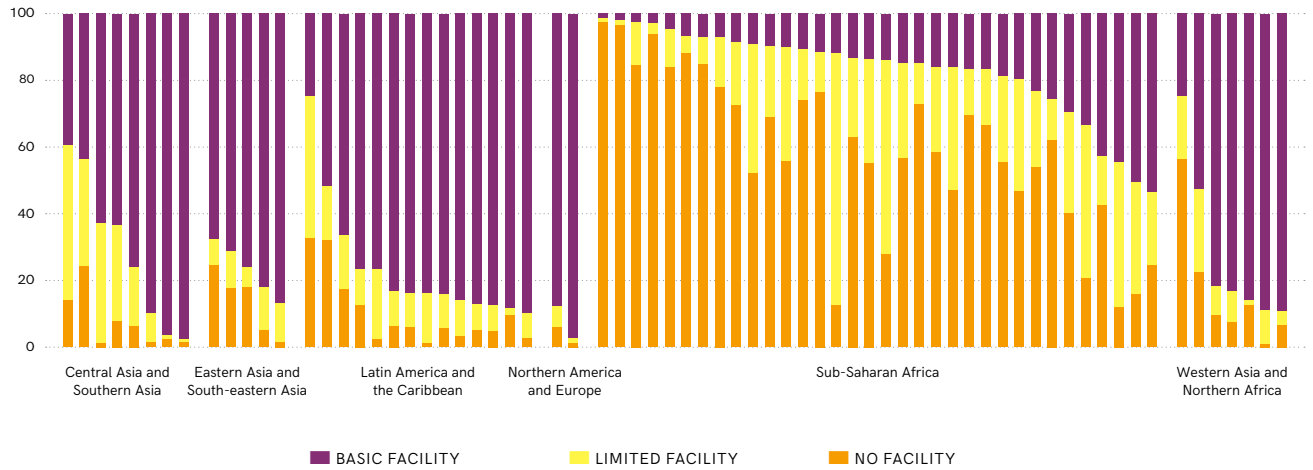


Fig. 24 Proportion of population using basic and limited handwashing facilities in 2015, by country and SDG region (%)

In 34 out of 38 African countries with data, less than 50% of the population used basic handwashing facilities in 2015

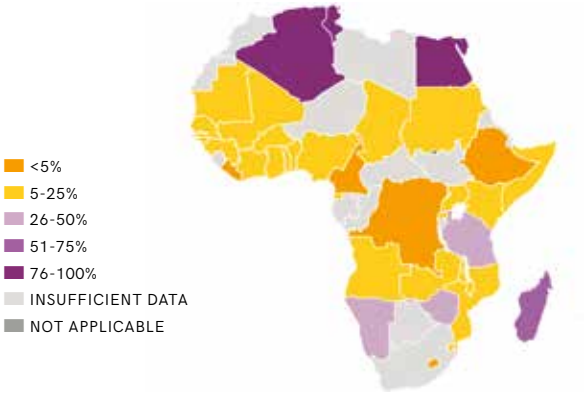


Fig. 25 National population with basic handwashing facilities including soap and water at home in Africa, 2015 (%).

Coverage of basic handwashing facilities was higher in urban areas in all regions with data available in 2015

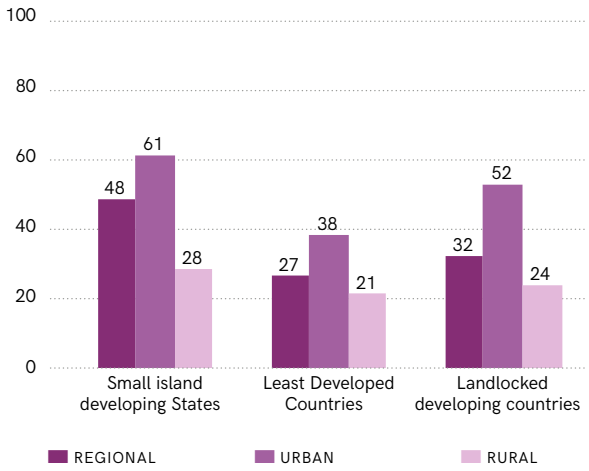


Fig. 26 National population with basic handwashing facilities including soap and water at home, by region, 2015 (%)

To overcome the data gap for high-income countries for future reporting on SDGs 1 and 6, the JMP will develop a suitable proxy for the availability of handwashing facilities in the home, drawing on data that are more likely to be available for high-income countries, such as the availability of piped water supplies, hot water, showers or bathrooms on premises.

Affordability of drinking water, sanitation and hygiene

The human rights to water and sanitation place obligations on States to ensure that services are affordable.[14] This concern is reflected in SDG target 6.1, which calls for universal and equitable access to safe and **affordable** drinking water for all. Affordability implies that payment for services should not present a barrier to access or prevent people from meeting other basic human needs. While affordability is an important consideration for all households, regardless of service level, there is no commonly agreed-upon way to measure it. The JMP is therefore collaborating with the World Bank, academics and others to develop and test indicators that will enable more systematic and consistent monitoring of affordability in the future.

A promising proxy measure of affordability, which has been used in several countries, is the proportion of the household budget spent on water, sanitation and hygiene. A similar approach has been used to assess the affordability of other basic services, ranging from energy to transport.[15] This report presents a preliminary analysis of **household expenditure on water, sanitation and hygiene (WASH) as a proportion of total expenditure.** Actual levels of expenditure vary depending on socioeconomic characteristics and the costs of WASH and other essential services, but Governments and international agencies have often set an affordability threshold of between 2 and 6 per cent of total expenditure.[16]

[14] United Nations General Assembly, *Human Rights Obligations Related to Access to Safe Drinking Water and Sanitation*, Note by the Secretary-General, A/65/254, 65th session, 6 August 2010, para. 31.
[15] Smets, Henri, *Quantifying the Affordability Standard: A comparative approach*, in *The Human Right to Water: Theory, practice and prospects*, edited by Malcolm Langford and Anna Russell, Cambridge University Press, 2017.
[16] Hutton, Guy, *Monitoring "Affordability" of Water and Sanitation Services after 2015: Review of global indicator options*, Revised draft, United Nations Office of the High Commissioner for Human Rights, 2012, <https://washdata.org/report/hutton-2012-monitoring-affordability-water-and-sanitation-services>.

SERVICE	RECURRENT COSTS	CAPITAL COSTS	NON-FINANCIAL COSTS
Water	• Water tariff or user fee • Bottled or vendor water • Maintenance fees	• Piped network connection • Water supply construction	• Collection time for water
Sanitation	• Wastewater tariff • Public toilet user fees • Maintenance costs	• Toilet construction • Sewer network connection	• Travel time to community facility or open defecation
Hygiene	• Purchase of soap • Menstrual hygiene materials • Maintenance costs	• Handwashing station • Bins for menstrual materials	• Collection of water for handwashing and anal cleansing

Table 2 Examples of different types of costs associated with WASH services

It is possible to benchmark household expenditure against different affordability thresholds using data from household surveys, especially income and expenditure surveys. But collecting expenditure data presents a number of challenges, and household surveys typically do not capture all of the costs associated with accessing and using WASH services (Table 2). Income and expenditure surveys tend to capture water (and wastewater) charges from piped networks with regular billing systems, but often miss irregular payments, periodic capital expenditures and non-financial costs. Some costs may also be hidden in other expenditure categories (for example, bottled water in soft drinks, personal hygiene products under general hygiene items).

The JMP has collaborated with the World Bank Data Group to prepare initial estimates of household expenditure on water supply (data on sanitation and hygiene were not consistently available) for 52 countries for which harmonized

In three SDG regions, over 10% of the population spends more than 2% of annual household expenditure on WASH

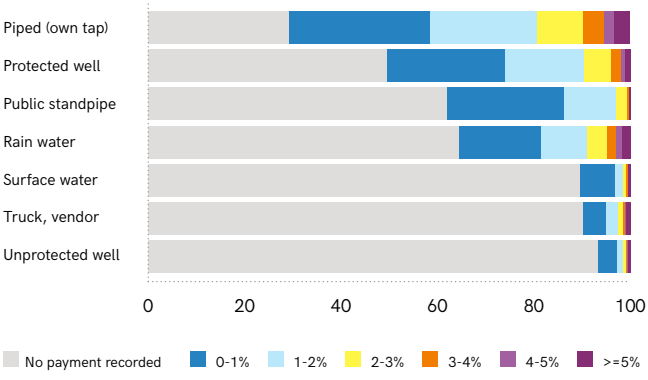


Fig. 27 Proportion of total household expenditure on WASH services, by region (52 countries)

Households are more likely to pay for piped water than other sources

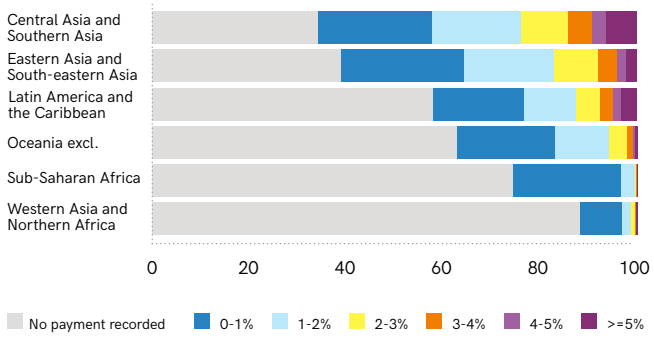


Fig. 28 WASH expenditure as a percentage of household expenditure, by main source of drinking water (52 countries)

datasets are available for surveys conducted between 2008 and 2014. These data cover 42 per cent of the global population (3.1 billion people) and at least 30 per cent of the population in six SDG regions.

Figure 27 shows results by SDG region. For four regions, the majority of households recorded no payments, while the majority in two other regions recorded water expenditures of less than 2 per cent of household expenditure. In all regions, less than 10 per cent of households recorded water expenditures of more than 3 per cent of overall household expenditure. The region with the largest proportion of households spending over 5 per cent of annual expenditure on water was Latin America and the Caribbean. Available data indicate clear differences between countries and between rural and urban areas.

A key advantage of using household survey data is that results can be disaggregated by household characteristics, such as wealth or the type of water and sanitation services used. Figure 28 summarizes data from the 52 countries studied, and shows that households using piped water are most likely to pay for drinking water services, followed by those using truck or vendor-supplied water and public standpipes. Figure 29 shows that in European countries with data, poor households are much more likely to spend a significant proportion of their annual budget on WASH services than non-poor households. In Poland, one in five households in the bottom quintile spends more than 3 per cent of annual expenditure on WASH services.

This initial assessment of household expenditures has shown that some populations are spending a significant part of their household budgets on WASH services. While there is no internationally agreed-upon benchmark for affordability, the observation that households are spending more than 3 per cent of their total expenditure on WASH services should give cause for concern, especially considering that many of these households are in the poorest quintile.

The results presented here focus on what households pay for WASH. They do not show how much governments or community organizations are contributing to the costs of WASH services. Nor do they reflect the extent to which households are not accessing services due to financial barriers. Further work is required to examine the relationship between household expenditure and subsidies, in order to assess whether subsidies are being effectively targeted at the households that are least able to afford to access WASH services without them.

The International Household Survey Network has recently completed a detailed review of information captured in income and expenditure surveys for 100 countries.[17] The study highlighted a lack of consistency in the questions used, which makes it difficult to produce comparable estimates of total and WASH-related expenditures. Whereas the majority of surveys record information on the types of services used by households, most only record expenditure on water, and relatively few capture expenditure on sanitation (Figure 30). Almost all surveys include some information on personal care products, some of which may be relevant to personal hygiene (for instance, soap or sanitary pads). Very few surveys capture information on tariffs or subsidies, which are significant determinants of affordability. In order to better monitor the affordability of WASH services, survey questions need to be harmonized to better capture WASH expenditures, and information on tariffs and subsidies received by households needs to be systematically collected to supplement the information from household surveys.

[17] International Household Survey Network, 'Measuring non-food expenditures', <www.ihsn.org/projects/non-food-assessment>.

In Europe, poor households are more likely to spend over 3% of total expenditure on WASH

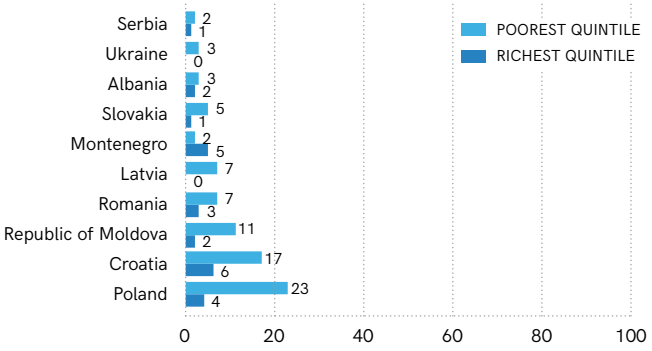


Fig. 29 Per cent of households spending more than 3% of total expenditure on WASH services, for poorest and richest quintiles in selected European countries

Most income and expenditure surveys record spending on water, but not on sanitation

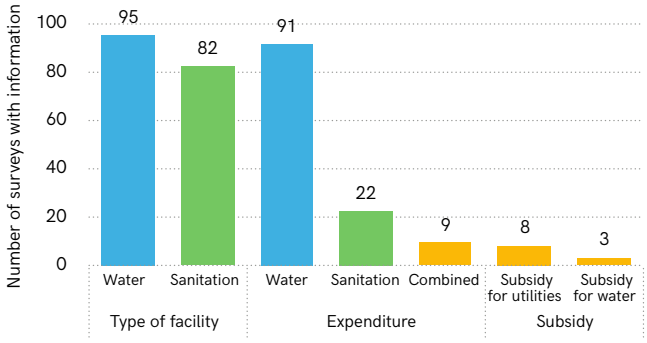
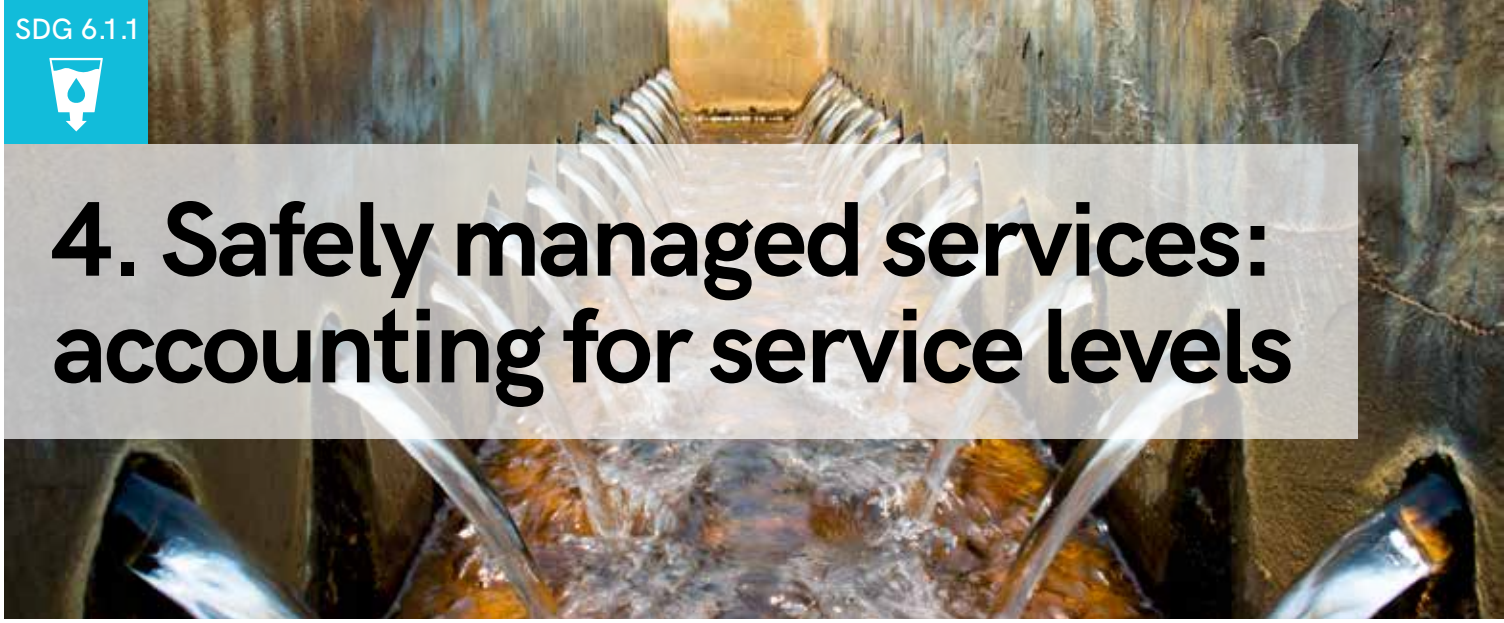


Fig. 30 Data available from 100 income and expenditure surveys



4. Safely managed services: accounting for service levels

4.1 Safely managed drinking water services

SDG 6.1.1

Target 6.1 By 2030, to achieve universal and equitable access to safe and affordable drinking water for all.

Indicator 6.1.1 Proportion of the population using safely managed drinking water services.

Safely managed drinking water services represent an ambitious new global service norm that forms part of the new JMP ladder for enhanced global monitoring of household drinking water services (Section 2). The JMP estimates that 5.2 billion people used safely managed drinking water services in 2015. For this first global baseline report, national estimates were available for 96 countries. The coverage in these countries ranged from 6 per cent to 100 per cent of the national population.

The JMP only produces national estimates when data are available for at least 50 per cent of the relevant population. The threshold for regional and global estimates is 30 per cent population coverage[18]. Regional estimates are currently available for four out of eight SDG regions (Figure 32).[19] Six regions had estimates for urban areas, and just one region had estimates for rural areas in 2015. In regions where national-level estimates could be made, coverage of safely managed services varied from 24 per cent in sub-Saharan Africa to 94

5.2 billion people used safely managed drinking water services in 2015

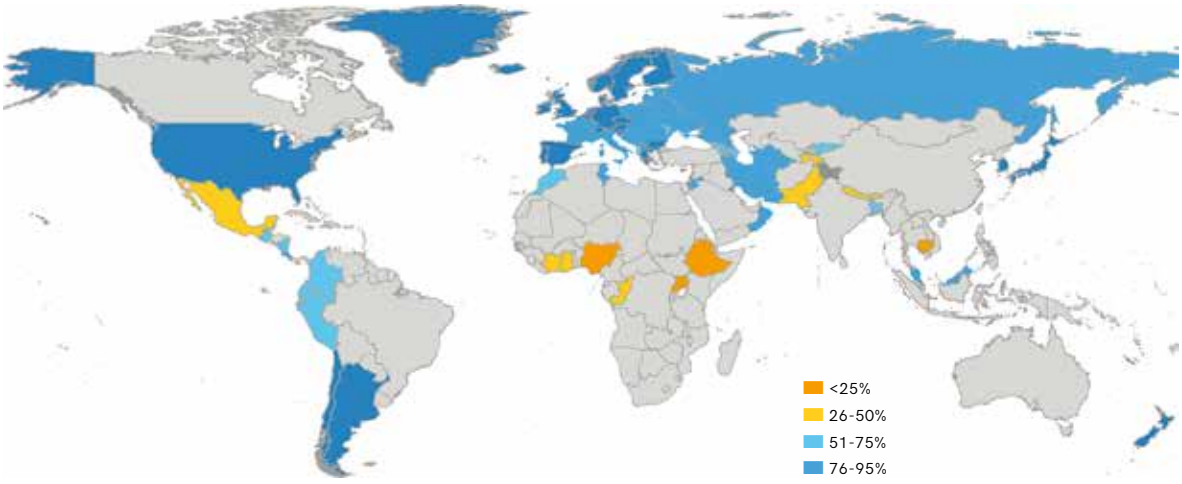


Fig. 31 Proportion of population using safely managed drinking water services, 2015

[18] For a description of the methods used to calculate country, region, and global estimates, see Annex 1.
[19] For more details on the new SDG regions, see Annex 2.

Four out of eight SDG regions had estimates for safely managed drinking water in 2015

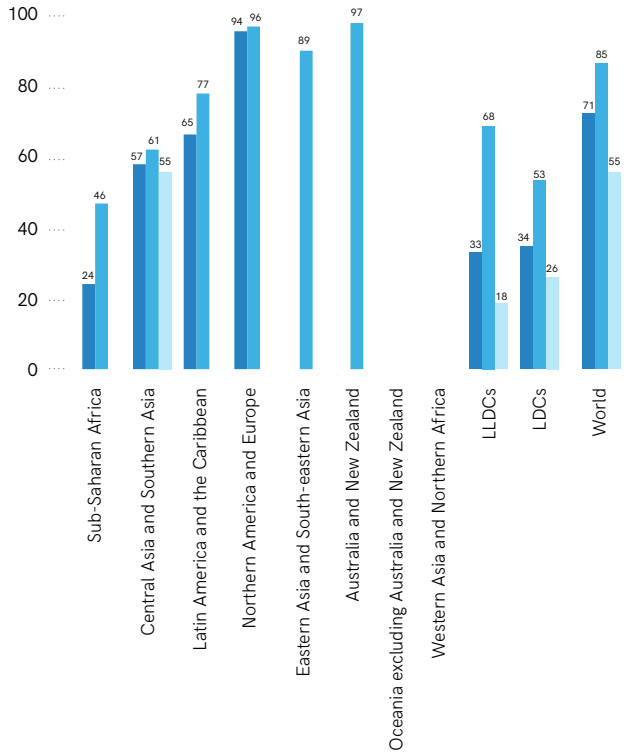


Fig. 32 Proportion of population using safely managed drinking water services, by region, 2015 (%)

per cent in Northern America and Europe, and was generally higher in urban areas, where two out of three people with safely managed drinking water services reside. One third (34 per cent) of the population in Least Developed Countries used safely managed services in 2015.

Figure 33 illustrates the global implications of taking into account the new SDG criteria for safely managed drinking water services. In 2015, 92 per cent of the global population used improved drinking water sources (the indicator used for monitoring drinking water during the MDG period). While 89 per cent met the SDG criteria for a **basic** drinking water service — no more than 30 minutes per round trip to collect water from an improved source – far fewer met the new SDG criteria for **safely managed** services. Globally, it is estimated that 74 per cent of these sources were accessible on premises, 79 per cent supplied water when needed, and 73 per cent were free from contamination.

On this basis, the JMP estimates that 71 per cent of the global population used **safely managed** drinking water

71% of the global population used safely managed drinking water services in 2015

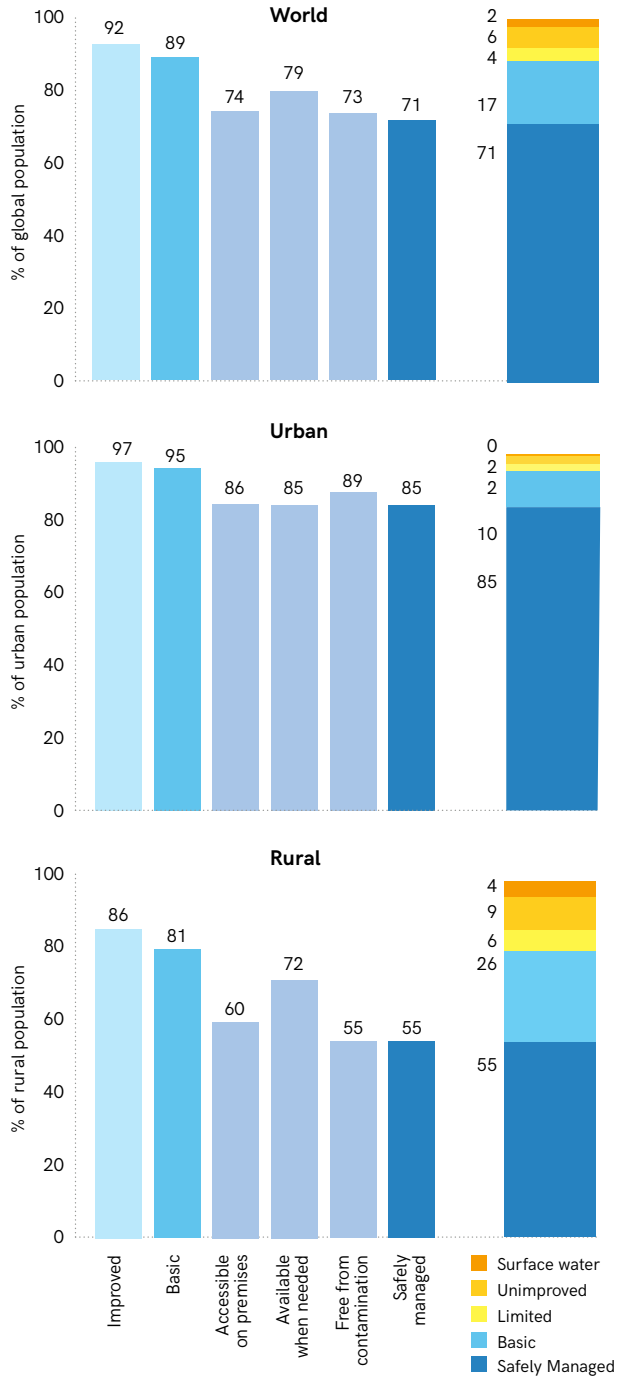


Fig. 33 Population using drinking water sources meeting SDG criteria for safely managed services, global, rural and urban, 2015

services in 2015.[20] The 15 per cent using improved sources located off premises but within a 30 minute round trip are

[20] Estimates are based on the minimum value of the three criteria for safely managed drinking water services. The global estimate (71 per cent) is the weighted average of the population using safely managed services in rural (55 per cent) and urban (85 per cent) areas.

classified as having **basic** services, and the four per cent using improved sources for which collection time exceeds 30 minutes are classified as having **limited** services. An additional six per cent of the global population used **unimproved** sources, and two per cent used **surface water** in 2015.

Global estimates are based on the population-weighted average of estimates for rural and urban populations. It is estimated that 55 per cent of the rural population and 85 per cent of the urban population use safely managed services. Figure 33 shows that the greatest disparities in service levels relate to accessibility and quality, which are 25 and 34 percentage points higher, respectively, in urban areas. Urban areas account for three out of five people with improved sources accessible on premises, three out of five people with water available when needed, and two out of three people with water free from contamination.

Of the 2.1 billion people lacking **safely managed** drinking water services in 2015, 127 million used **basic** services, 263 million used **limited** services, 423 million used **unimproved** sources and 159 million used **surface water**. Figure 34 shows the global population using each level of service in rural and urban areas.

Safely managed drinking water is defined as **use of an improved drinking water source that is located on premises, available when needed and free from faecal and priority chemical contamination**. Household surveys and censuses remain the primary source of information on the different types of facilities that households use, but information on service levels is available from both household surveys and administrative sources, including regulators (see Annex 1). The JMP first estimates the population using piped and non-piped supplies and then integrates information on the accessibility, availability and quality of drinking water from piped and non-piped supplies.

In order to meet the standard for safely managed drinking water, a household must use an improved source type that meets three criteria.[21] First, the facility should be accessible on premises (located within the dwelling, yard or plot). Second, water should be available when needed (sufficient water in the last week or available for at least 12 hours per day). Third, water supplied should be free from

2.1 billion people lacked safely managed drinking water services in 2015

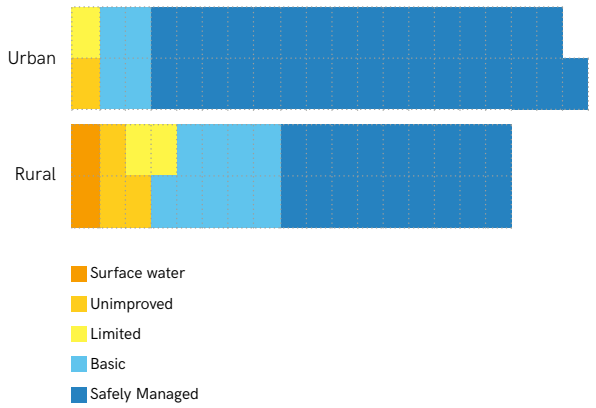


Fig. 34 Number of people using different levels of drinking water services in 2015, urban and rural (each unit represents 100 million people)

Safely managed drinking water takes account of the accessibility, availability and quality of services

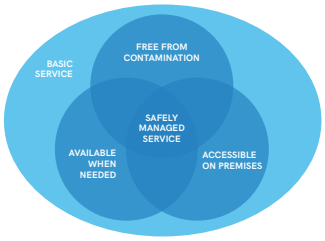


Fig. 35 Criteria for safely managed drinking water services

contamination (compliant with standards for faecal and priority chemical contamination). As the three elements are interrelated, the JMP calculates the population using safely managed drinking water services based on the minimum value for each domain (rural, urban, national).[22]

National data sources for each element are selected in consultation with national authorities, but many countries currently lack one or more elements for at least part of the population. The JMP will only make an estimate for safely managed drinking water where data are available on water quality and at least one other element for at least half of the relevant population. Where estimates for

[21] The criteria for safely managed services draw on the normative criteria of the human right to safe drinking water (see the JMP thematic report on safely managed drinking water: <https://washdata.org/report/jmp-2017-tr-smdw>).

[22] While this approach may overestimate the population with services meeting all three criteria, few countries currently have data disaggregated to lower administrative levels.

safely managed services are not yet available, the JMP only reports the population using at least a **basic** level of service (see Section 3).

Coverage of **safely managed** drinking water varied widely among the 96 countries with estimates available in 2015. The proportion using improved sources on premises ranged from 6 per cent to 100 per cent, the proportion with water available when needed ranged from 51 per cent to 100 per cent, and the proportion with water free from contamination ranged from 13 per cent to 100 per cent. Figure 36 shows the relative importance of each element in determining national estimates of safely managed drinking water for each country.

Accessibility, availability and quality vary widely in the 96 countries with national estimates for safely managed drinking water services

Elements of safely managed drinking water
For countries with estimates at national level

Fig. 36 Accessibility, availability and quality of drinking water for countries with a safely managed estimate at national level

Box 4

Service level monitoring

Accessibility, availability and quality are three of the normative criteria of the human right to safe drinking water, and are used by the JMP for global monitoring of drinking water.

Accessible on premises

Information on the population with household connections, the location of non-piped sources and the time taken to collect water from sources located off premises is routinely collected in many national household surveys and censuses. These data show that improved sources are more likely to be located on premises than unimproved sources.

Globally, access to improved supplies on premises has been growing at 0.78 percentage points per year. Progress has been much faster in two SDG regions (Central Asia and South Asia, and Eastern and South-eastern Asia), but in Oceania access to supplies on premises is declining. Figure 37 shows that estimates of the population using improved sources located on premises are available for 99 per cent of the global population and all SDG regions.

Available when needed

National statistical offices, regulators and utilities all collect information on availability, but use a range of different measures. For the purpose of global monitoring, the JMP focuses on the amount of time when water is available, rather than directly measuring the quantity of water delivered. Where possible, the JMP uses household survey and census responses to questions on the availability of drinking water when needed during the last week or month. The JMP also uses data on the number of hours of service per day, drawn from household surveys, regulators and utilities, and uses 12 hours per day as the global minimum benchmark for 'available when needed'.

Available data show that 5.8 billion people use improved sources with water available when needed. Estimates of the population using improved sources that supply water when needed are available for 41 per cent of the global population and at least 30 per cent of the population in all SDG regions, except for Oceania and sub-Saharan Africa.

Free from contamination

Direct testing of drinking water quality provides an important measure of 'safety', and most countries have national standards aligned with the WHO guidelines for drinking water quality. Faecal contamination, arsenic and fluoride have been identified as the highest priority parameters for global monitoring. Microbial contamination is a universal concern, whereas the risk of contamination with arsenic and fluoride is greater in some parts of the world than others. The recommended measure of faecal contamination is the presence of indicator bacteria such as *E. coli* or thermotolerant coliforms in a 100 mL sample of water tested at the point of delivery/collection. This may differ from the quality of water at the point of consumption but very few countries currently collect data on the latter.

Available data show that 5.3 billion people use water supplies that tests have shown to be compliant with standards for microbial and chemical contamination. Estimates for water quality are only available for 34 per cent of the global population and for three of the eight SDG regions. These data suggest that levels of compliance are low in many developing countries.

The challenges associated with monitoring service levels are discussed in more detail in the JMP *Thematic Report on Safely Managed Drinking Water Services*,[23] and the JMP estimation method is described further in Annex 1.

[23] United Nations Children's Fund and World Health Organization, *Safely Managed Drinking Water: Thematic report on drinking water*, UNICEF and WHO, New York, 2017, <https://washdata.org/report/jmp-2017-tr-smdw>.

Data on elements of safely managed drinking water are more readily available in urban than in rural areas

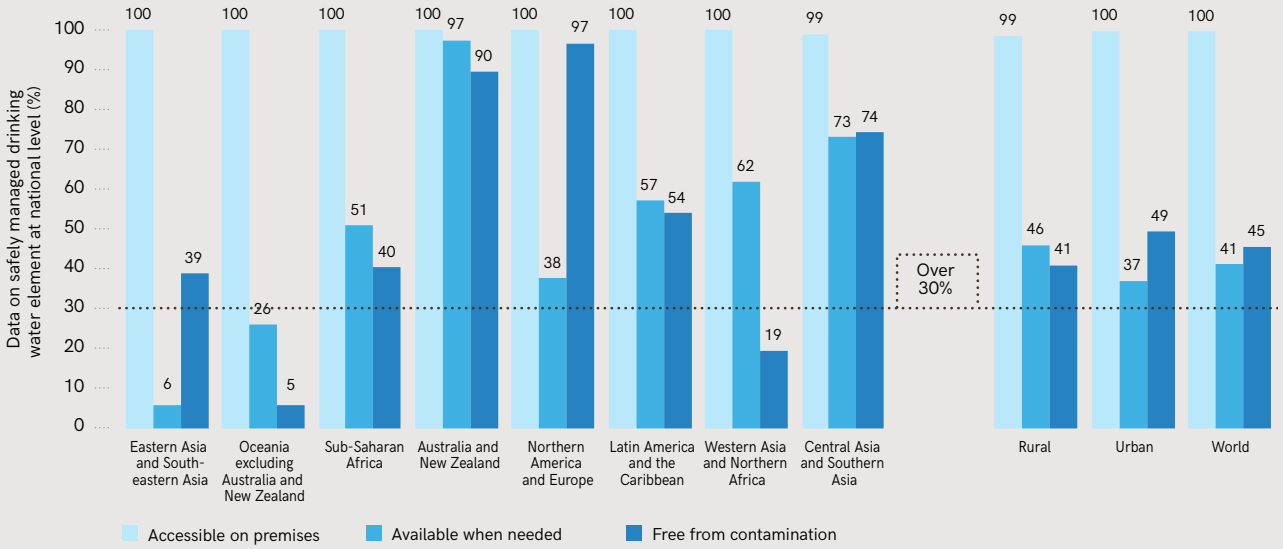


Fig. 37 Proportion of global and regional population for which data are available on accessibility, availability and quality of drinking water, 2015 (%)

4.2 Safely managed sanitation services

SDG 6.1.1

Target 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

Indicator 6.2.1 Percentage of population using safely managed sanitation services, including a handwashing facility with soap and water.

The JMP indicator for **basic** sanitation services (population using improved sanitation facilities, which are not shared) refers to the types of facilities used by households but does not take account of excreta management. Recognizing that management of excreta along the entire sanitation chain is essential to protect communities and children from pathogen exposure, international consultations during the development of the 2030 Agenda recommended that downstream management of excreta — in both sewered and non-sewered systems – should be reflected in indicators for national and global monitoring.

Safely managed sanitation services represent an ambitious new global service norm, which forms part of the new JMP ladder for enhanced global monitoring of sanitation services (Section 2) and is defined as the **population using an improved sanitation facility that is not shared with other households, and where excreta are disposed of in situ or transported and treated off-site**. For this first global SDG report, national estimates of safely managed sanitation services were made for 84 countries and ranged from 9 per cent to 100 per cent (Figure 38).

The JMP makes country estimates for safely managed sanitation when information on excreta management is available for at least 50 per cent of the population using the dominant type of improved sanitation facility (sewer connections or on-site sanitation systems). Regional and global estimates are made when such data are available for at least 30 per cent of the relevant population[24].

[24] For a description of the methods used to calculate country, region, and global estimates, see Annex 1.

2.9 billion people used safely managed sanitation services in 2015

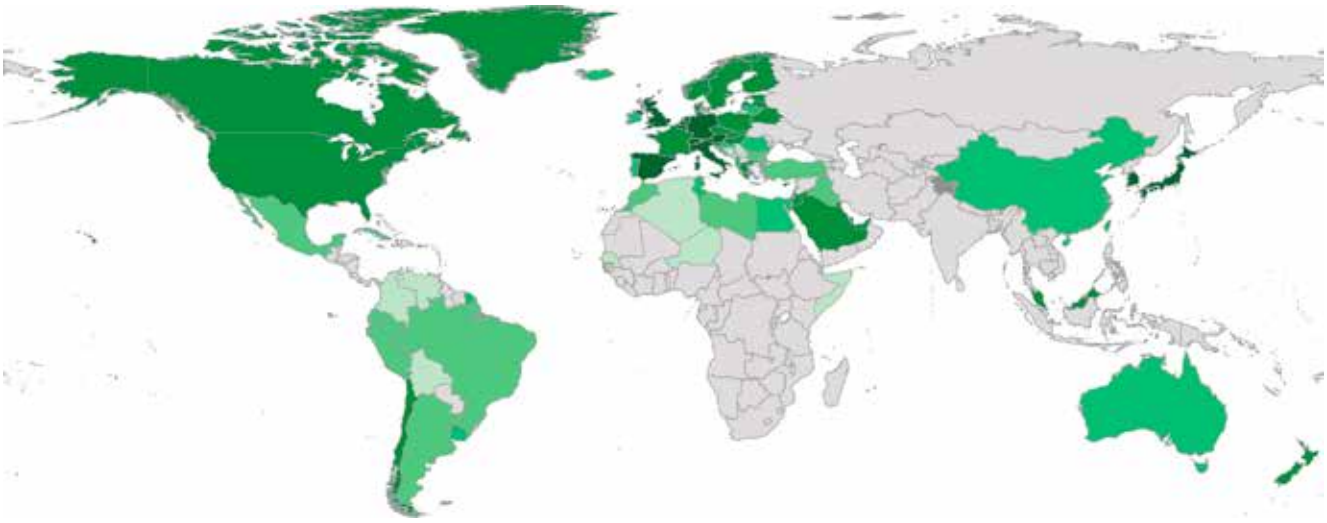


Fig. 38 Proportion of national population using safely managed sanitation services, 2015

Five out of eight SDG regions had estimates of safely managed sanitation in 2015

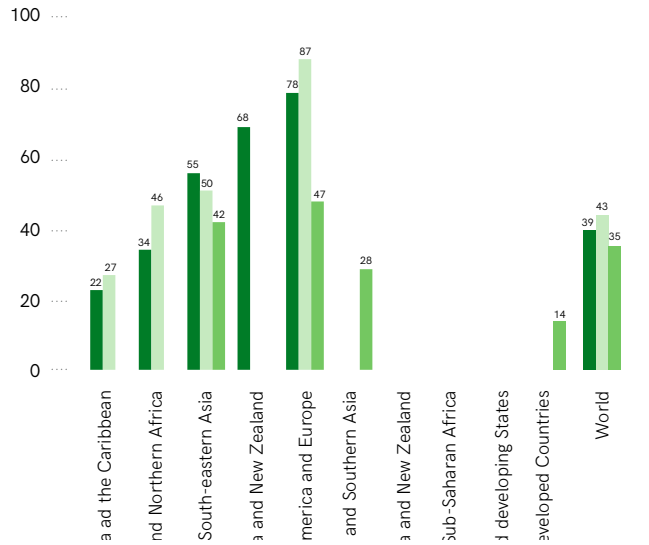


Fig. 39 Proportion of population with safely managed sanitation services in 2015, by region

In 2015, national-level estimates were available for five of the eight SDG regions, for four regions in urban areas, and for three regions in rural areas (Figure 39). Coverage of safely managed services was consistently higher in urban areas and only reached 15 per cent of the population in rural areas of Least Developed Countries.

Figure 40 illustrates the global implications of taking into account the new SDG criteria for safely managed sanitation services. Globally, 76 per cent of the population used improved sanitation facilities in 2015, of which 68 per cent were not shared and count as **at least basic** sanitation services. Thirty-six per cent of the population had at least basic services provided by means of sewer connections, while 32 per cent used septic tanks, latrines or other improved on-site sanitation facilities that were not shared with other households.

Where data on excreta management are available, some of these basic services can meet the criteria for **safely managed** sanitation services. Twenty-six per cent of the population used toilets connected through sewers to a facility which provided wastewater treatment, and were thus classified as having safely managed sanitation services. Another 13 per cent used improved on-site facilities where wastes are disposed of in situ. This counts as a form of

Two out of five people used safely managed sanitation services in 2015

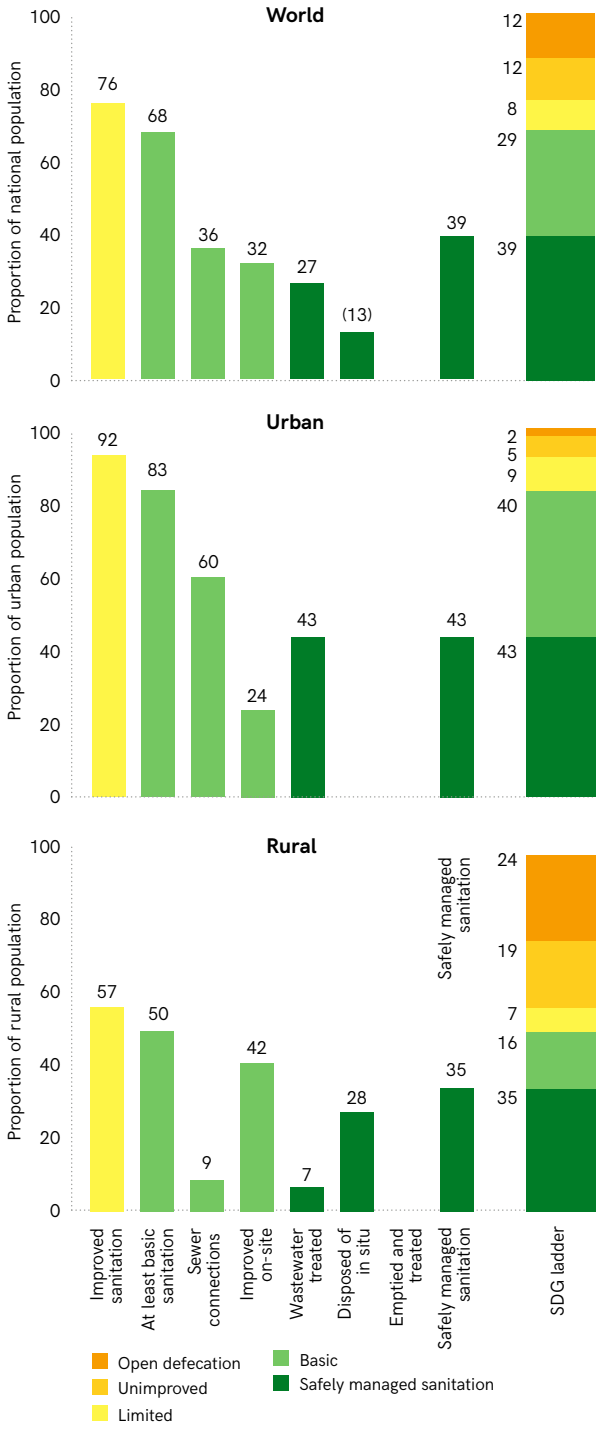


Fig. 40 Sanitation services in global, urban and rural populations, 2015

treatment and is also classified as **safely managed**. Where data on excreta management are not available, the entire population using improved facilities that are not shared is classified as having **at least basic** services.

Figure 41 shows the population using each type of sanitation service in urban and rural areas. Three out of five people with safely managed sanitation lived in urban areas (1.7 billion), while two out of five were in rural areas (1.2 billion). The 4.5 billion people without safely managed sanitation services in 2015 included 2.1 billion with **basic** services, 600 million with **limited** services, 856 million using **unimproved** sanitation and 892 million still practising **open defecation**.

There are three main ways in which households can meet the criteria for a **safely managed** sanitation service. Households using toilets where the excreta are flushed out of the household, transported through sewers and treated at a treatment plant, count as **wastewater treated off-site**. For households using toilets or latrines connected to septic tanks or pits, the criteria are met when excreta are either **emptied and treated off-site**, or remain stored and are considered **treated and disposed of in situ**.

This report presents for the first time disaggregated estimates of the populations using sewer connections and on-site sanitation systems (see Section 3), since they lead to different kinds of excreta management. Figure 43 shows that, globally, the population using sewer connections and on-site sanitation are evenly split, at 38 per cent each. In four of the SDG regions, on-site systems are more common.

5.3 billion lacked safely managed sanitation services in 2015

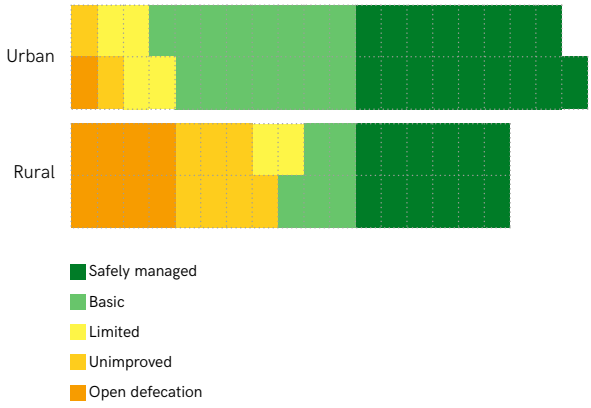


Fig. 41 Numbers of people using different levels of sanitation services in 2015, urban and rural (each block represents 100 million people)

Safely managed sanitation includes excreta management from sewered and on-site sanitation systems

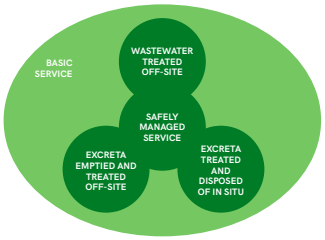


Fig. 42 Criteria for safely managed sanitation services

If data on wastewater treatment are available, and sewer connections are more prevalent than on-site sanitation systems, the JMP can make an estimate of **safely managed** sanitation services. If on-site sanitation is more prevalent, however, data on wastewater treatment are not sufficient to produce an estimate of safely managed sanitation and some information on treatment of excreta from on-site systems is required. The collection of reliable statistics on treatment and disposal of excreta is a prerequisite for safe management, so if countries do not have any data it is not possible to estimate the proportion of on-site facilities which are safely managed.

Sewer systems

Two out of five people globally (38 per cent), two thirds of those in urban areas (63 per cent) and 1 in 10 in rural

Globally equal numbers of people use sewer connections and on-site sanitation, but large regional variations exist

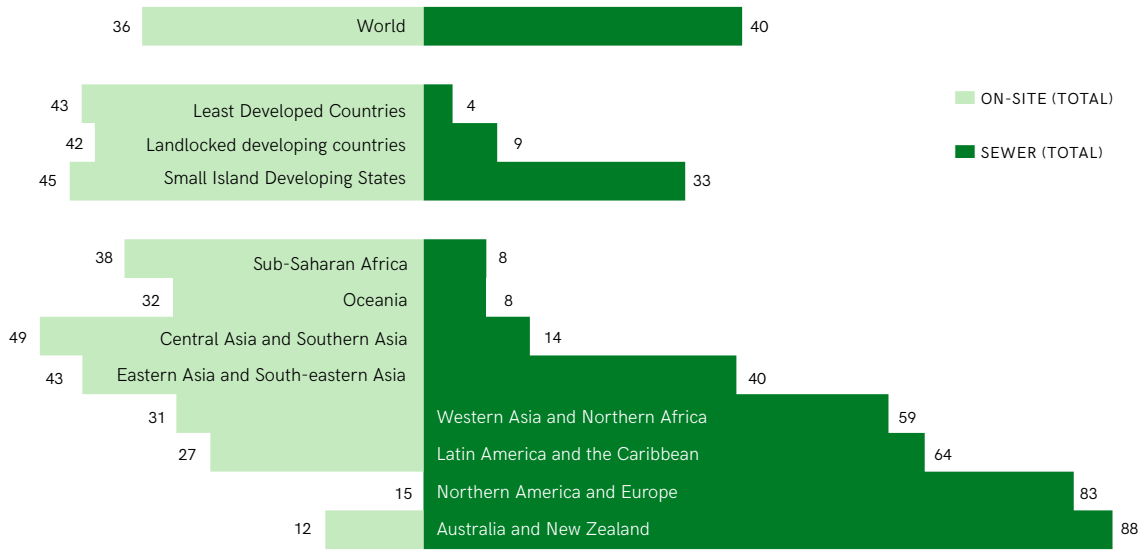


Fig. 43 On-site and sewered sanitation systems, by region, 2015

areas (9 per cent) report having sewer connections.[25] These households are classified as having **safely managed** sanitation services if the toilets are not shared, and if the wastes flushed out of the household reach a treatment plant and undergo at least a minimum level of treatment:

- primary treatment where the effluent is discharged through a long ocean outfall,[26]
- secondary treatment,[27] or
- tertiary or advanced treatment.[28]

Not all excreta flushed down toilets actually reach treatment plants. Toilet lines can connect to open drains or directly discharge to surface water instead of reaching sewers, or sewage can leak or overflow out of sewers and pumping stations before reaching treatment plants. Where data are available on failures in containment and transport, for example 'flush to an open drain', these households are classified as not having safely managed services. In the absence of data, however, the JMP assumes that excreta from households that report having sewer connections actually reach a sewer line, and are transported as wastewater to a treatment plant.[29]

Data on **wastewater treatment** at the national level were available from 115 countries, representing 88 per cent of the global population with sewer connections. Information was collected from national authorities, including statistical offices and sanitation regulators, often published in reports such as annual statistical or environmental yearbooks. In some cases, data from regional or international databases were used.[30] In 76 of these countries, more people use sewer connections than on-site sanitation. National estimates of safely managed sanitation could be made for these countries, plus an additional eight where data on excreta management in on-site systems were available.

Globally, three quarters of sewer-borne wastewater (73 per cent) is estimated to undergo at least secondary

[25] Including shared facilities.
[26] Primary treatment is a mechanical, physical or chemical process involving settlement of suspended solids or any other process in which the biochemical oxygen demand (BOD) of the incoming water is reduced by at least 20 per cent before discharge, and the total suspended solids of the incoming water are reduced by at least 50 per cent.
[27] Secondary treatment is a process that follows primary treatment of water and generally involves biological or other treatment with a secondary settlement or other process that results in a BOD removal of at least 70 per cent and a chemical oxygen demand (COD) removal of at least 75 per cent.
[28] Tertiary treatment is a process that follows secondary treatment and removes nitrogen, phosphorous or any other pollutant, such as microbiological pollution or colour, that affects the quality or a specific use of water.

[29] For more details, see the forthcoming *Thematic Report on Safely Managed Sanitation*.
[30] See, for example, the European Union (http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=env_ww_con&lang=en), the Organisation for Economic Co-operation and Development (https://data.oecd.org/water/waste-water-treatment.htm), MDG+ (http://www.acwua.org/mdg+/library), or the International Benchmarking Network for Water and Sanitation Utilities (IBNET) (https://www.ib-net.org/).

treatment. By applying this ratio to the population with sewer connections (2.8 billion), and adjusting for sharing (given that 5 per cent of people using toilets with sewer connections share them), 1.9 billion people with sewer connections are classified as having safely managed sanitation services.

A total of 750 million people, over 90 per cent of whom live in urban areas, have sewer connections that do not receive the minimum level of treatment specified above. Many more are connected to wastewater treatment plants that do not provide effective treatment or comply with effluent requirements.

Three quarters of wastewater undergoes at least secondary treatment

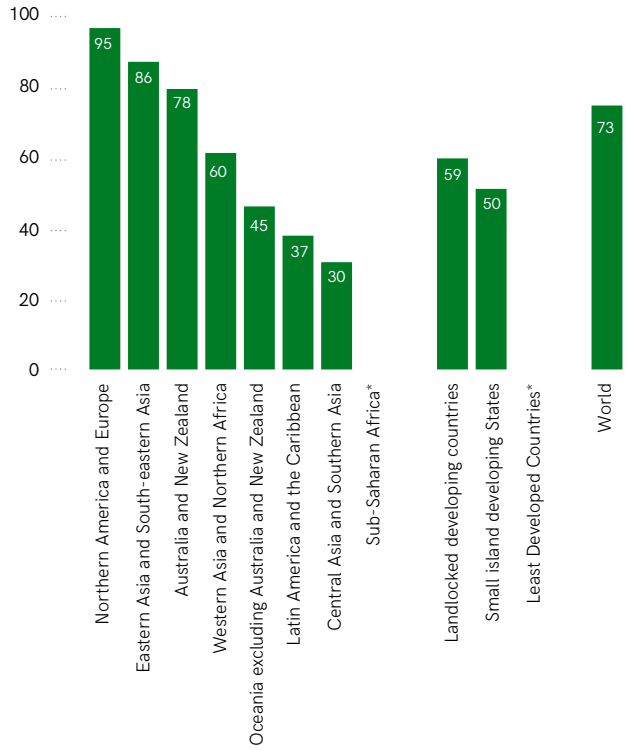


Fig. 44 Proportion of wastewater treated, by region, 2015

Box 5

Targets 6.2 and 6.3

SDG target 6.3 aims, inter alia, to halve the proportion of untreated wastewater and to substantially increase recycling and safe reuse globally. SDG global indicators 6.3.1 ("Proportion of wastewater safely treated" and 6.2.1a ("Proportion of population using safely managed sanitation services") have many common elements, but also some key differences. Most notably, target 6.2 considers only excreta generated by households, while target 6.3 additionally considers wastewater from economic activities (such as industrial wastes).

While both indicators rely on data from household surveys and censuses to quantify the population using different types of sanitation facilities (sewer, septic, latrine or other), for target 6.2, excreta are considered to be safely managed if they receive at least some basic level of treatment, while target 6.3 could consider actual efficiency of treatment, including compliance with environmental and public health effluent standards relevant for disposal or reuse, where data are available.

In countries with data most rural on-site sanitation facilities have never been emptied and count as safely managed

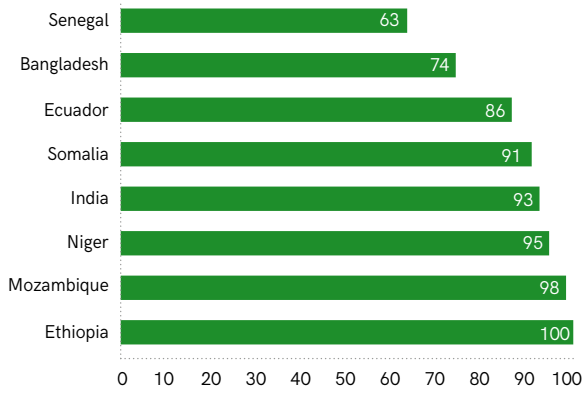


Fig. 44 Proportion of on-site sanitation facilities never emptied, rural areas, 2015

On-site sanitation

A third of the global population (38 per cent), a quarter of the urban population (29 per cent), and half of the rural population (48 per cent) report using improved sanitation systems such as septic tanks or improved latrines,[31] where excreta are stored on-site in pits or tanks. Households using such on-site systems can be considered to have safely managed sanitation services if the facilities are not shared, and if excreta are either disposed of in situ or emptied, transported and treated off-site.

In a number of countries, household surveys have asked people if their latrines or septic tanks have ever been emptied, and in most cases the respondents report that they have not (Figure 44). When storage facilities have not been emptied, the excreta are considered to be treated and disposed of in situ, and therefore safely managed. Excreta that are emptied from storage facilities and buried on premises are also considered safely managed. Such burial after emptying accounted for the majority of safely managed sanitation in rural areas of Bangladesh and Niger. There are cases where storage facilities are made to leak intentionally, to avoid the need for emptying. In principle, these should not be counted as safely managed, but data are rarely available on effective containment in latrines and septic tanks. Excreta that are emptied and transported off-site can be classified as safely managed if there is information on the proportion of excreta that reach treatment plants, and the type of treatment that they receive.

Some on-site sanitation facilities are specifically designed to facilitate safe management of excreta (such as twin-vault alternating pit latrines). In China, such systems are called 'harmless sanitary latrines' and account for two thirds of on-site facilities in rural areas.

Box 6

On-site sanitation in Japan

In Japan, the Ministry of the Environment maintains detailed registers of different types of on-site sanitation facilities, which are called decentralized wastewater treatment systems. According to the 2014 Survey on the Disposal of General Waste database, 73 per cent of the population have sewer connections, 21 per cent use an advanced type of septic tank called *jokhasou*, while the remaining six per cent use other on-site systems. Of the excreta from *jokhasou* and other on-site systems, 99.5 per cent are removed and treated with 'night soil treatment technologies', which include chemical treatment, aerobic and anaerobic digestion, and denitrification treatment. All of these technologies are considered equivalent to secondary or higher treatment, and are counted as safely managed.

[31] Including shared facilities.

Septic tanks are designed to separate solids from liquids, and the solids that are retained need to be regularly removed, or desludged. Trucks can then deliver the excreta to a treatment plant, sometimes via a transfer station.

Latrines may also be emptied, and excreta removed off-site for treatment. While desludging and emptying of on-site pits and tanks is common, data on excreta management from on-site systems are scarce at present.

Box 7

Data coverage and limitations

The JMP relies primarily on data from household surveys and censuses to calculate the population with basic services (see Section 3). But since survey respondents have only limited information on how excreta are managed once they leave the household, information on excreta management has been collected from national authorities, including ministries, regulators and statistical offices.

The JMP has collected data on management of wastewater in sewer systems from 115 countries, comprising 88 per cent of the global population connected to sewers. These data are applied to the population with sewer connections in both urban and rural areas. These data, however, may reflect installed treatment technology rather than actual performance, overestimating safe management. Furthermore, the JMP recognizes that not all excreta from households with sewer connections actually connect with a sewer line and reach a wastewater treatment plant. The estimate that 26 per cent of the global population uses sewer connections that lead to excreta treatment and qualify as safely managed sanitation services, is therefore an upper limit.

In countries where no information on excreta management is available, households using improved sanitation are classified as having either basic or limited services. Some of those classified as having basic services may be re-classified as having safely managed services when information on excreta management becomes available. The limited data coverage for on-site sanitation likely leads to underestimation of excreta management in rural areas. On the other hand, the assumption that all on-site storage systems are fully contained may lead to an overestimation in some settings.

Incomplete data on excreta management in on-site systems is the most challenging data gap for monitoring Target 6.2. The JMP and its partners are developing and testing new data collection tools to help fill these gaps, including new questions for household surveys on emptying of pit latrines and septic tanks, and questionnaires for local authorities and service providers such as treatment plant operators or desludging trucks. Important gaps also exist for sewered systems, such as the amount of excreta that is lost in transport, and the amount of excreta that bypasses treatment plants or is discharged without receiving at least secondary treatment.

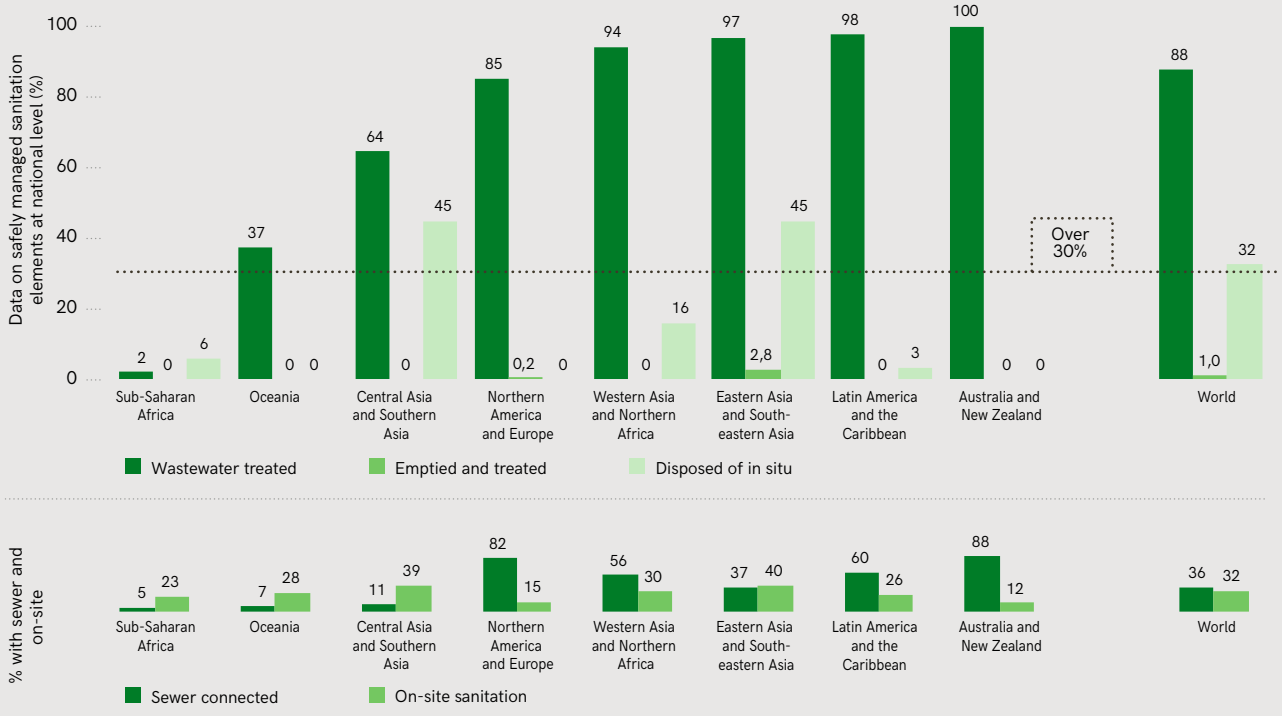
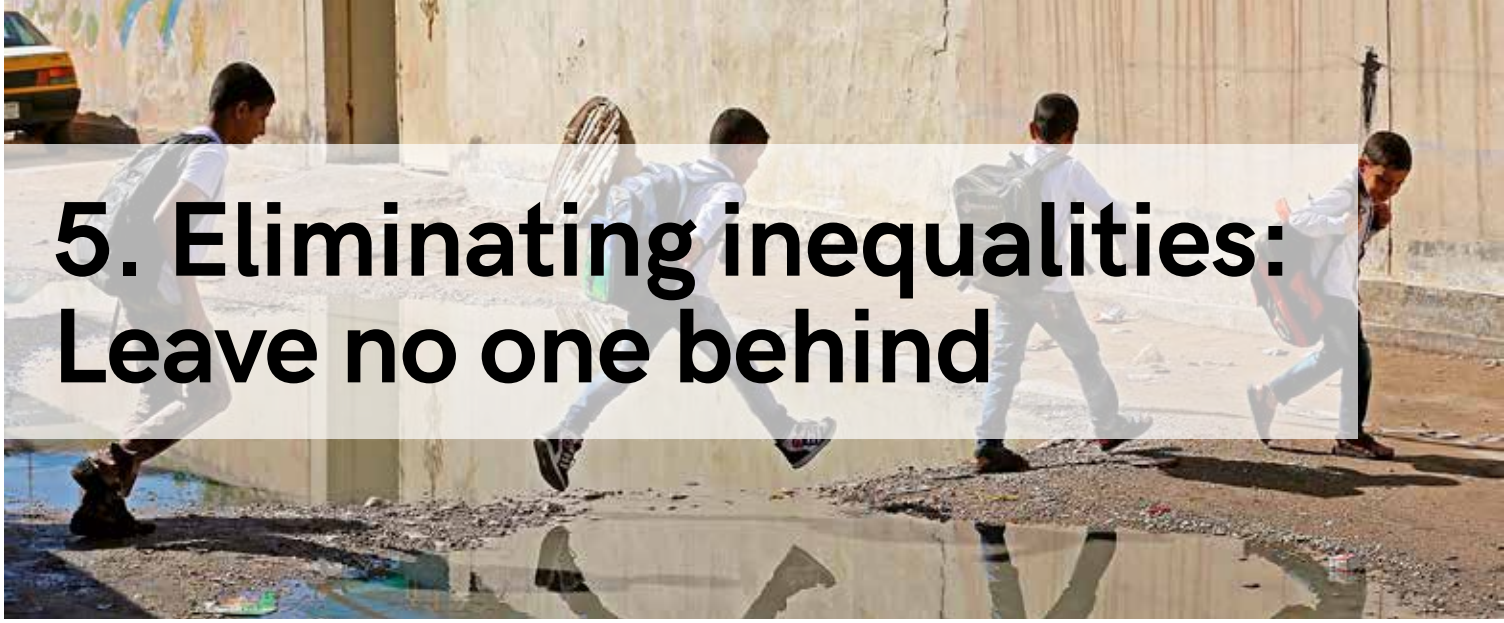


Fig. 46 Proportion of global and regional population for which data are available on safe disposal of excreta in situ, emptying and treatment of excreta from on-site sanitation, and wastewater treatment, 2015 (%)



5. Eliminating inequalities: Leave no one behind

The JMP has been drawing attention to inequalities in drinking water, sanitation and hygiene since 1990. The MDG target to halve the proportion of the population without access focused attention on aggregate coverage, but JMP updates have also highlighted inequalities between rural and urban areas, between rich and poor, and between other groups and the general population.

The SDGs have a much stronger focus on inequalities, with Goal 10 dedicated to "reducing inequalities between and within countries". The 2030 Agenda further commits Member States to "leave no one behind" and states that SDG indicators should be disaggregated, where relevant, by income, sex, age, race, ethnicity, migratory status, disability and geographic location.[32]

During 2016, the JMP global database was restructured and expanded to incorporate new information required for SDG monitoring. While very few countries have disaggregated information on the populations using safely managed water and sanitation services, the database on basic services has been further expanded to include new estimates by wealth quintile and by subnational region for over 80 countries.

Figure 47 shows that there are not only significant inequalities in basic WASH services and open defecation between SDG regions and between countries within each region, but also within individual countries between urban and rural areas, subnational regions and wealth quintiles.

[32] United Nations, *Transforming Our World: The 2030 Agenda for Sustainable Development*, United Nations General Assembly Resolution, A/RES/70/1, 21 October 2015.

Disaggregating population data at these different levels is an essential first step towards ensuring that no one is left behind.

For example, Angola has relatively high coverage of basic drinking water compared to other countries in sub-Saharan Africa, but there is an 40 percentage point gap between urban and rural areas and a 65 percentage point gap between the richest and poorest quintiles. In the best-performing subnational region in Panama, 95 per cent of the population uses basic sanitation, compared to just one per cent in the worst-performing subnational region. In Tunisia, coverage of basic handwashing facilities exceeds 80 per cent in all except the poorest wealth quintile, which lags behind at 54 per cent. While Bangladesh is close to eliminating open defecation, the problem is now concentrated among the bottom wealth quintiles and two subnational regions.

5.1 No services: The bottom of the ladder

The elimination of open defecation has been identified as a top priority and is closely associated with wider efforts to end extreme poverty by 2030. The world has made steady progress: The proportion of the global population practising open defecation decreased from 20 per cent to 12 per cent between 2000 and 2015. But much remains to be done, especially in rural areas, where open defecation has been declining at a rate of just 0.7 percentage points per year. This rate would need to more than double in order to eliminate open defecation in rural areas by 2030.

In 2015, at the start of the SDG period, 892 million people

New disaggregations reveal significant subnational inequalities

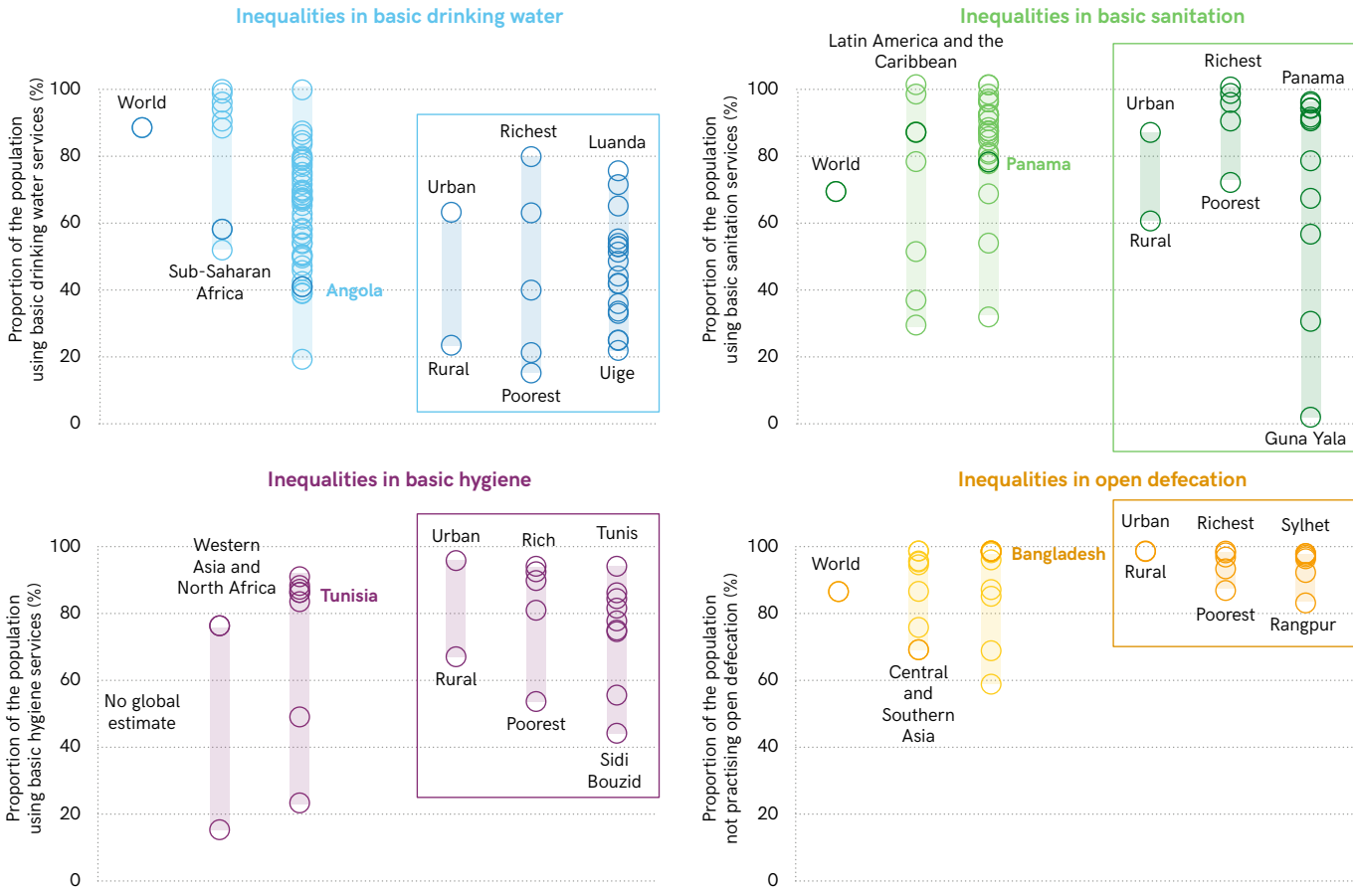


Fig. 47 Population using basic services and practising open defecation, disaggregated by SDG region, country, urban-rural, subnational regions and wealth quintiles for selected countries

Note: Figure 47 shows 2015 estimates for the world, regions and countries, and recent surveys for subnational estimates: Angola MIS 2011 (wealth quintiles) and IIMS 2015-2016 (subnational); Panama MICS 2013; Tunisia MICS 2011-2012; Bangladesh MICS 2012-2013.

still practised open defecation. Nine out of 10 (812 million) lived in rural areas, and the vast majority lived in just two regions. Nearly two thirds (558 million) lived in Central Asia and Southern Asia, with another quarter (220 million) in sub-Saharan Africa. Figure 48 shows changes in the proportion and number of people practising open defecation between 2000 and 2015. While Central Asia and Southern Asia have decreased open defecation rates from 53 per cent to 30 per cent, and sub-Saharan Africa has achieved a decrease from 32 per cent to 23 per cent, rates in Oceania have only dropped from 13 to 12 per cent. Only two regions recorded an increase in the number of open defecators, which rose from 204 million to 220 million in sub-Saharan Africa and from 1 million to 1.3 million in Oceania.

Faster progress is required to end open defecation by 2030, especially in rural areas

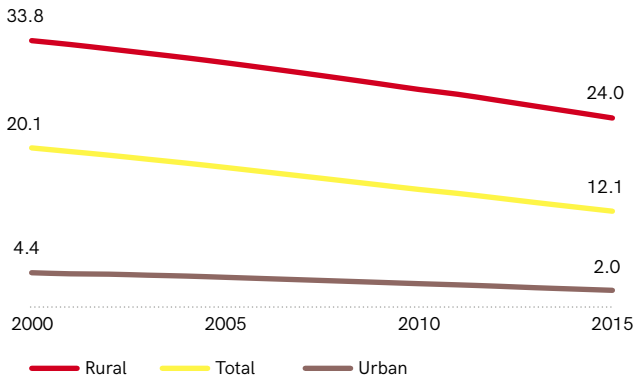


Fig. 48 Global population practising open defecation, rural and urban, 2000–2015 (%)

Since 2000, the rate of open defecation has decreased in all regions except Oceania

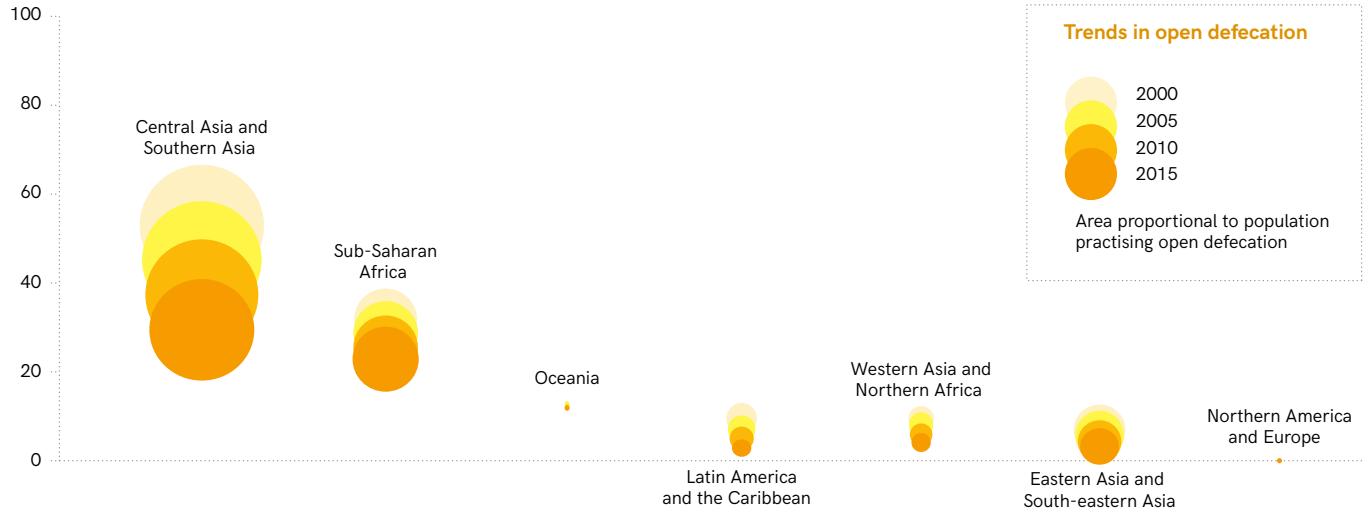


Fig. 49 Proportion and number of people practising open defecation in 2015, by region

Box 8

The Swatch Bharat Mission to end open defecation in India

In October 2014, the Prime Minister of India launched an ambitious national sanitation programme that aims to eliminate open defecation by 2019. The Swachh Bharat Mission (SBM) has unprecedented political support and has mobilized nearly $25 billion from Government, the private sector and civil society. The rural programme promotes pour flush twin-pit toilets, which are designed to contain wastes in situ until they are safe to handle. The programme targets behaviour change and community approaches to sanitation are being adopted throughout the country.

The SBM has developed a national database with detailed information on latrine coverage down to the household level and a multi-stage verification process.[33] As of June 2017, according to the SBM, over 205,000 villages, 149 districts and five States had reported themselves to be open-defecation free (ODF). The Government estimated that since the start of the Mission, in October 2014, coverage of latrines in rural India has increased from 42% to 65%, and the number of rural Indians defecating in the open had come down from 550 to 330 million people by June 2017.

The SBM programme recognizes the need to go beyond reporting infrastructure **coverage**, and is conducting population-based surveys to determine household **use** of sanitation facilities, which is the internationally agreed-upon indicator used by JMP to compare progress across countries. The National Annual Rural Sanitation Survey (NARSS) will generate up-to-date data on progress towards elimination of open defecation and trigger rewards for areas that have achieved targets.

[33] See India Ministry of Drinking Water and Sanitation, 'Swachh Bharat Mission-Gramin', http://sbm.gov.in/sbm.

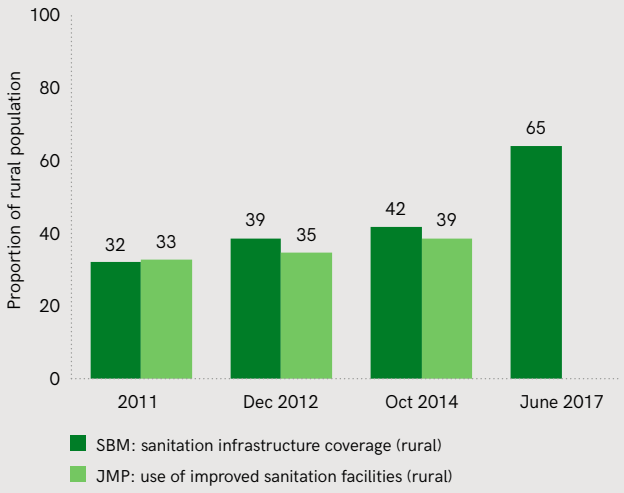


Fig. 50 Changes in infrastructure coverage and use of improved sanitation in rural India, 2011-2017 (%)

The JMP estimates in this report draw upon data from household surveys and censuses conducted during the period 2000–2015 and include only one survey since the inception of the Swachh Bharat Mission. JMP estimates for 2017 will be published in 2019, and it may take time for any rapid changes in the use of sanitation facilities to be fully reflected by the longer-term trends monitored by the JMP.

Populations that have no drinking water service at all and collect water directly from surface water sources such as rivers, lakes and irrigation canals face serious risks to their health and well-being. The global population using surface water decreased from 4 per cent in 2000 to just 2 per cent in 2015. Of the 159 million using surface water in 2015, 147 million lived in rural areas, and over half live in sub-Saharan Africa, where 10 per cent of the population still drinks surface water. The proportion of the population drinking surface water is highest in Papua New Guinea, at 42 per cent.

5.2 Reducing the gap in basic services

The JMP has established a new database on inequalities in basic drinking water, sanitation and hygiene. Wealth quintile estimates, calculated using a customized wealth index that excludes water and sanitation variables, are now available in a standardized format for national, urban and rural populations.

Inequalities are found in all countries, but the spread in basic service coverage between the different quintiles provides a useful measure of the extent to which access to services is equitable. Figure 52 reveals significant differences in coverage of basic water, basic sanitation and basic hygiene across wealth quintiles. Overall, the gaps between quintiles are larger for sanitation than for drinking water or hygiene. Absolute gaps tend to be smaller at very low levels of coverage and then increase through lower and mid-range coverage, before converging again at higher levels of coverage.

There are nevertheless marked differences between the patterns observed. In countries with low coverage nationally, the absolute gap between rich and poor tends to be smaller, but relative inequalities may be very large. For example, in Liberia, sanitation coverage is 9 per cent among the richest quintile but just 1 per cent among the poorest quintile. In Burundi, Nepal and Costa Rica, absolute inequalities are

Over 10 per cent of the population still relies on untreated surface water in 22 countries

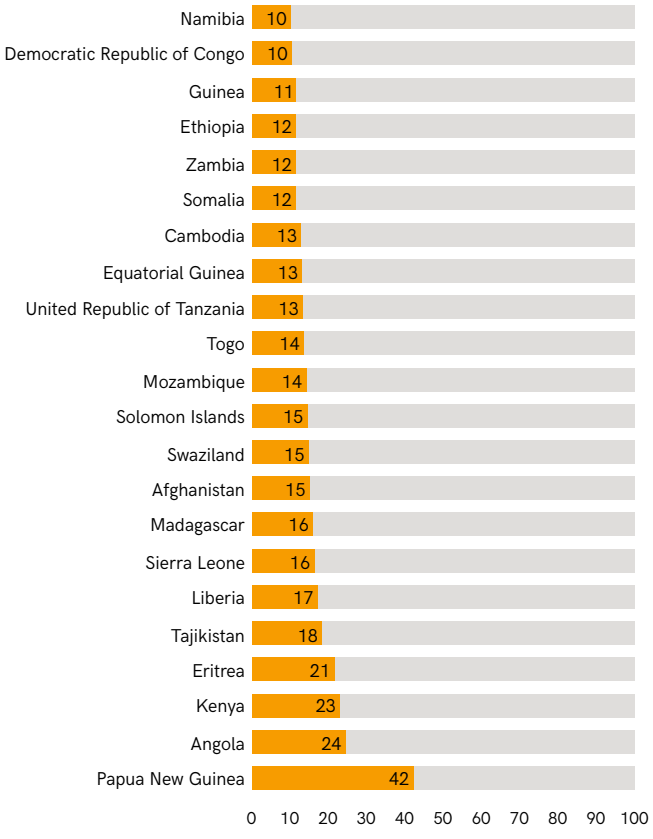


Fig. 51 Proportion of national population drinking surface water, 2015

Rich-poor gaps are generally larger for sanitation than for drinking water or hygiene

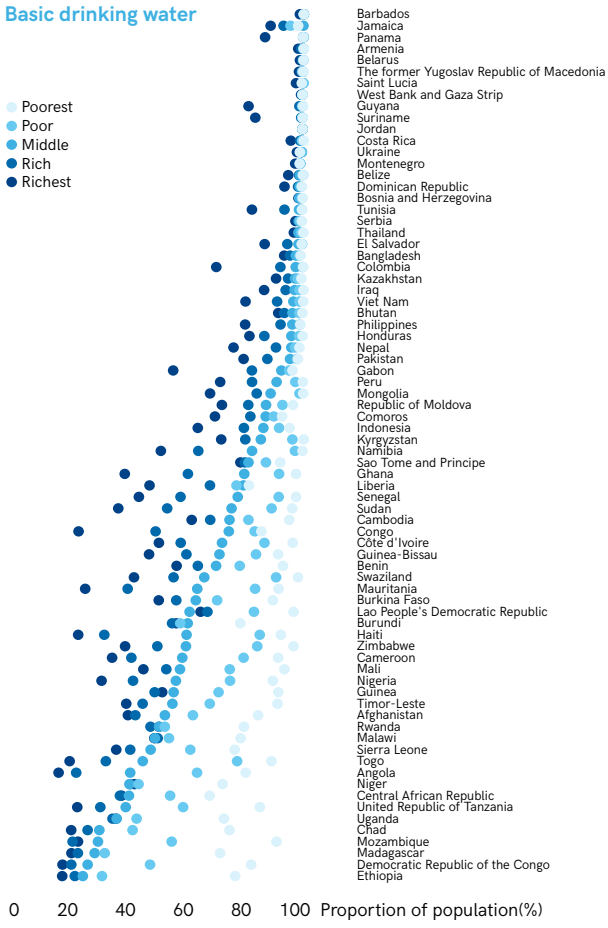
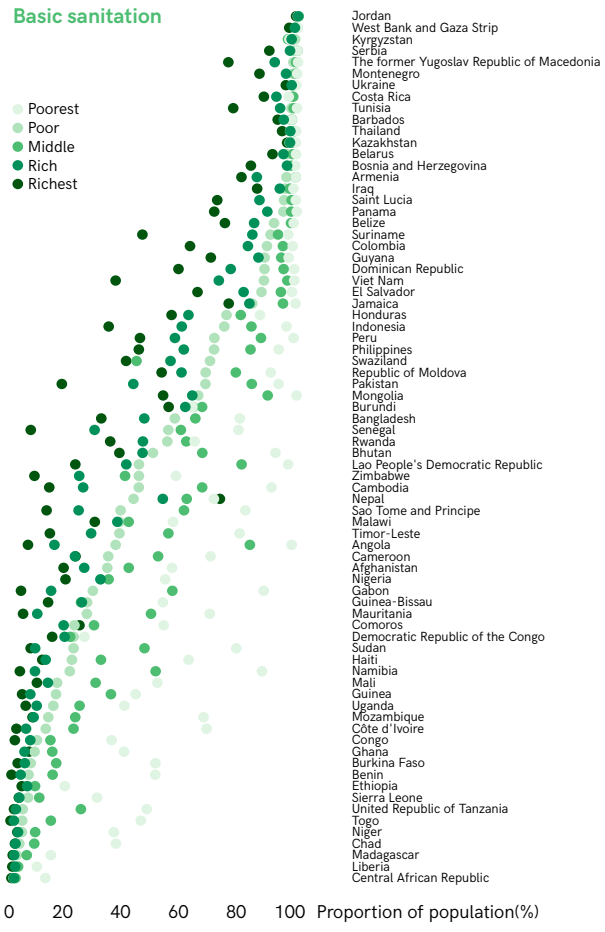
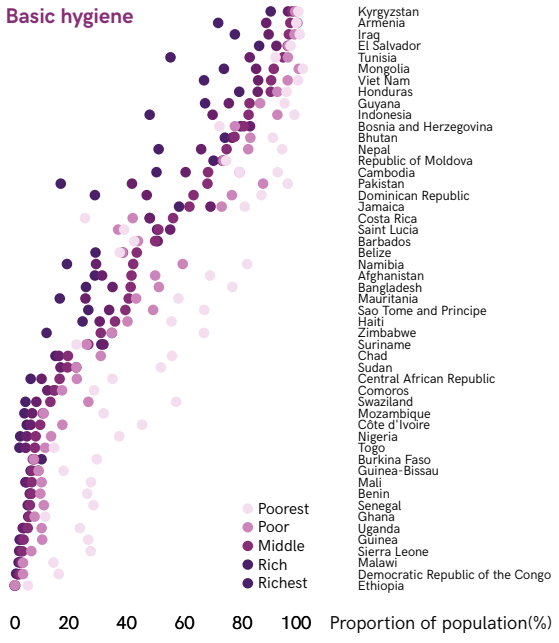


Fig. 52 Use of basic drinking water, sanitation and hygiene by national wealth quintiles, 2010–2014

small, with the quintiles closely grouped with similarly low or high coverage. Absolute inequalities are greatest in countries with the largest spread between the richest and the poorest, such as Angola for sanitation, Haiti for water, and Pakistan for hygiene. For water, Gabon and Viet Nam have a big gap between the second and the poorest quintile, while for sanitation, Côte d'Ivoire and Mozambique have a large gap between the fourth and richest quintile. Understanding these different patterns of inequality is an important first step in devising appropriate strategies to reduce them.

The JMP inequalities database also includes new estimates of coverage by subnational region derived from household surveys and censuses. The majority of national surveys stratify the population by at least one or two administrative levels. While the number and size of administrative units at each level varies across countries, the difference in coverage between them nevertheless provides a useful comparative measure of inequality.





National averages mask significant inequalities between subnational regions

Fig. 53 Proportion of population in subnational regions with basic drinking water, sanitation and hygiene, 2010–2014

Figure 53 highlights absolute and relative inequalities in basic service coverage between subnational regions. It shows that many countries have one or two regions with very low or very high coverage, but the distribution of regions in between varies widely. Those that are closely grouped at similarly high coverage or low coverage, as illustrated by hygiene in Kyrgyzstan, sanitation in Afghanistan, and water in the former Yugoslav Republic of Macedonia, are more equal than those that are widely spread, such as sanitation in Suriname or water in the Lao People's Democratic Republic. The extent to which coverage in subnational regions deviates from the national average is a potentially useful measure of inequality.

Basic drinking water

Proportion of the population with basic drinking water services, by subregion (%)

Box 9

Fragile states have farther to go to reach universal access to basic drinking water and sanitation services

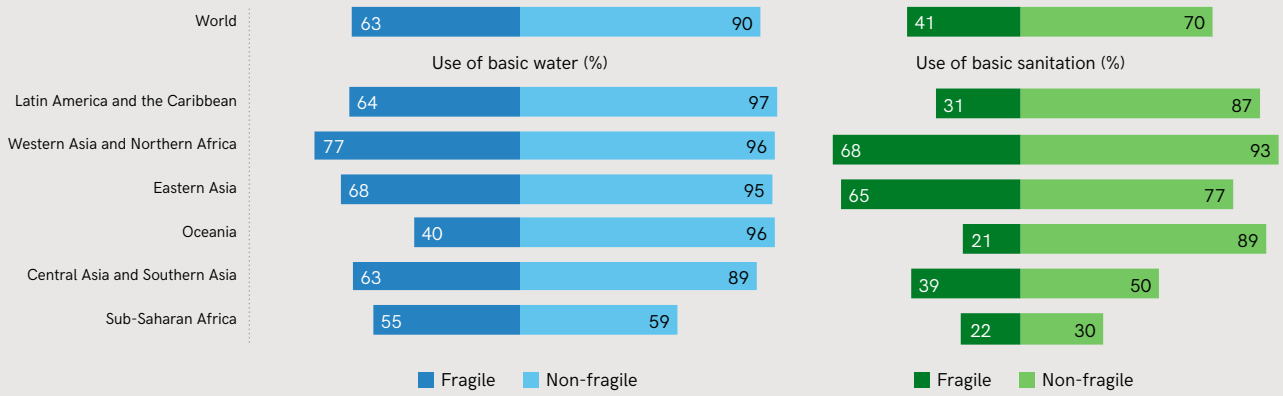


Fig. 54 Proportion of population using basic drinking water and sanitation services in fragile and non-fragile states in 2015, by SDG region

Conflict, violence and instability can derail progress towards universal access. The World Bank's Fragile, Conflict and Violence Group maintains a harmonized list of countries identified as **fragile** based on Country Policy and Institutional Assessments scores and ongoing peacekeeping or peacebuilding missions.

[34] World Bank Harmonised List of Fragile Situations <http://www.worldbank.org/en/topic/fragilityconflictviolence/brief/harmonized-list-of-fragile-situations>

Based on the World Bank's harmonized classification[34], the JMP estimates that in 2015, 466 million people lived in fragile situations. In 2015, 284 million did not use basic sanitation, and 177 million lacked basic drinking water. Globally, people living in fragile situations are twice as likely to lack basic sanitation and four times as likely to lack basic drinking water as populations in non-fragile situations, and marked disparities are observed in all SDG regions (Figure 54).

5.3 Reducing the gap in services levels

Tracking inequalities in safely managed services is more challenging, as there is currently less information available on service levels, and it is rarely disaggregated by population subgroups. Currently, 28 countries have rural and urban estimates for safely managed sanitation, and only 19 countries have rural and urban estimates for safely managed drinking water. Figure 55 shows the percentage point gap in coverage of safely managed services for countries with estimates for both rural and urban areas.

It shows that urban coverage of safely managed drinking water and sanitation is greater than rural coverage in almost all countries with data. The coverage gaps for safely managed drinking water are particularly striking, and exceed 30 percentage points in half of the countries with data. Further work is required to understand the relationship between inequalities in different elements of safely managed services, so that these can be more systematically monitored in the future.

Large gaps exist between urban and rural coverage of safely managed services

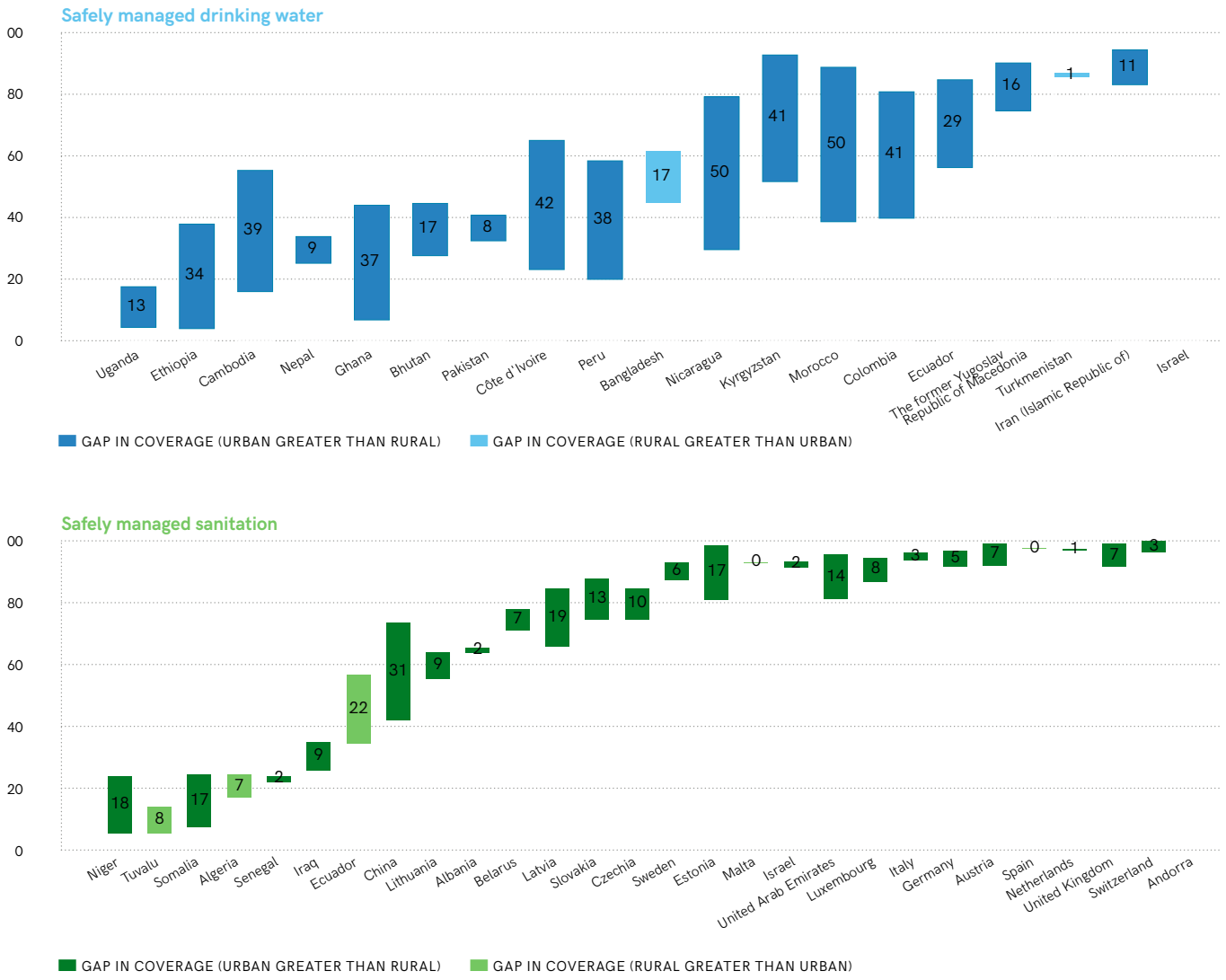


Fig. 55 Percentage point difference in the use of safely managed services between urban and rural areas, 2015

6. Institutional WASH: New frontiers

The SDG targets aim to achieve 'universal access' by 2030 (Section 1). 'Universal' implies all settings, not only households, but also schools, health care facilities, workplaces and other public spaces. The JMP is therefore expanding its global databases to include information on WASH in institutional settings. The first priority is to establish baseline estimates to inform global monitoring of SDG targets relating to WASH in schools (SDG 4a) and health care facilities, with plans to expand global monitoring to include other institutional settings in the future.

Initial landscaping reviews of WASH in schools and health care facilities from 2015 have identified datasets for at least 149 and 54 countries, respectively, and highlighted serious shortcomings in water and sanitation coverage, and availability of handwashing facilities with soap and water.[35,36] However the lack of harmonized definitions has made it difficult to compare progress across countries. Some of these datasets are not representative of the entire country, and cover only certain regions or types of schools or health care facilities. In 2016, the JMP convened expert group meetings to define harmonized criteria and indicators for monitoring WASH in each setting based on global norms and standards and existing national and international surveys.[37,38] The JMP is currently compiling national sources of data, with a view to publishing comprehensive harmonized global baseline estimates for WASH in schools and WASH in health care facilities in 2018.

[35] United Nations Children's Fund, *Advancing WASH in Schools Monitoring*, UNICEF, New York, 2015, <https://www.unicef.org/wash/schools/files/Advancing_WASH_in_Schools_Monitoring(1).pdf>.
[36] World Health Organization and United Nations Children's Fund, *Water, Sanitation and Hygiene in Health Care Facilities: Status in low- and middle-income countries and way forward*, WHO, Geneva, 2015,<www.who.int/water_sanitation_health/publications/wash-health-care-facilities/en>.
[37] World Health Organization and United Nations Children's Fund, *Core Questions and Indicators for Monitoring WASH in Schools in the Sustainable Development Goals*, WHO and UNICEF, Geneva and New York, 2016, <https://washdata.org/report/jmp-2016-core-questions-and-indicators-monitoring-wins>.
[38] World Health Organization and United Nations Children's Fund, 'Monitoring WASH in Health Care Facilities: Final core indicators and questions', WHO and UNICEF, 2016, <https://washdata.org/report/jmp-2016-core-questions-and-indicators-monitoring-winhcf>

WASH in schools

The new JMP service ladders for WASH in schools enable countries to track progress towards SDG target 4a, which aims for **basic** drinking water, sanitation and hygiene in all schools (Table 3). In countries where **basic** services are not ambitious, a country-defined **advanced** level may be appropriate based on the national context, priorities and resources. Criteria for an advanced level might include normative elements that are not captured by the basic indicator, such as the quality of drinking water, ratios of pupils per toilet, or availability of menstrual hygiene management materials in bathrooms.

SERVICE LEVEL	DRINKING WATER	SANITATION	HYGIENE
Advanced	*To be defined at national level*	*To be defined at national level*	*To be defined at national level*
Basic (SDG)	Drinking water from an improved source is available at the school	Improved facilities, which are single-sex and usable at the school	Handwashing facilities that have water and soap are available
Limited	There is an improved source (piped, protected well/spring, rainwater, packaged/delivered water), but water is not available at time of survey	There are improved facilities (flush/pour flush toilets, pit latrine with slab, composting toilet), but not single-sex or not usable at time of survey	Handwashing facilities with water, but no soap
No service	No water source or unimproved source (unprotected well/spring, surface water)	No toilets or latrines, or unimproved facilities (pit latrines without a slab or platform, hanging latrines, bucket latrines)	No handwashing facilities at the school or handwashing facilities with no water

Table 3 JMP service ladders for monitoring WASH in schools

Data from EMIS can be mapped to JMP service ladders

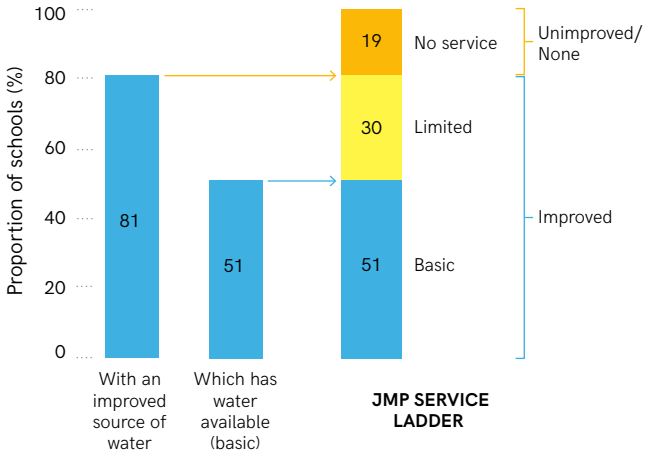


Fig. 56 Proportion of schools with different levels of water services, Papua New Guinea, 2015/2016

Preliminary EMIS data suggest that coverage is often lower in schools that serve young children

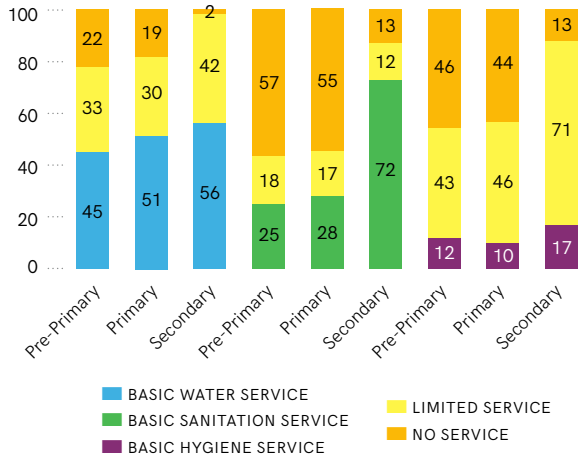


Fig. 57 Proportion of schools with different levels of WASH service, by school type. Papua New Guinea, 2015/2016

Regional scoping studies in East Asia and the Pacific[39] and Latin America and the Caribbean[40] have shown how national monitoring data can be mapped to the JMP service ladders, and highlighted the need to further standardize definitions and metrics to enable comparison across countries. Education Management Information System (EMIS) data from Papua New Guinea (Figure 56) show the implications of going beyond counting infrastructure (such as the presence of a water point) and taking account of service levels (such as the availability of water from that point).

The same data suggest that WASH service coverage may be lower in schools that serve younger children (Figure 57), but the classification of pre-primary schools is not yet standardized, which limits cross-country comparability. This highlights broader challenges of facility type classification, given that different national monitoring systems will include different types of educational facilities: public schools, private schools, boarding schools, community schools, monastic schools, Islamic schools and others.

Colombia's EMIS data from 2012 suggest that national averages may mask large disparities between subnational departments, especially when service levels are considered. Regional coverage may be quite different for water, sanitation and hygiene in schools (Figure 58). While some departments have similar levels of coverage for all three elements, others vary widely, underlining the need to measure them separately.

[39] World Health Organization and United Nations Children's Fund, *Scoping Study: Preparing for SDG reporting of WASH in schools in East Asia and the Pacific*, WHO and UNICEF, 2017, <https://washdata.org/report/jmp-2017-wash-hcf-eapro>.

[40] World Health Organization and United Nations Children's Fund, *Scoping Study: Are data available to monitor the SDGs for WASH in schools and health care facilities in the Latin America and Caribbean region?*, WHO and UNICEF, 2017, <https://www.wssinfo.org/fileadmin/user_upload/resources/SDG-WASH-institutions-LACRO-FINAL.pdf>.

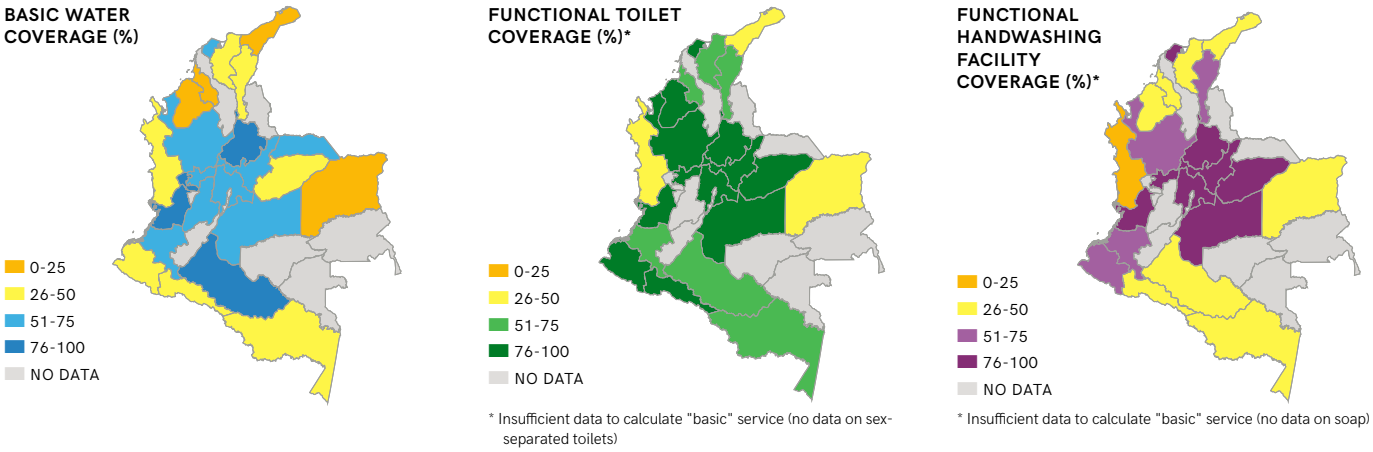


Fig. 58 Regional coverage of WASH in Colombian schools (including pre-primary, primary and secondary schools)

WASH in health care facilities

There are four JMP service ladders for WASH in health care facilities – water, sanitation, hand hygiene, and health care waste – that each focus on conditions in the outpatient setting (Table 4). The indicators are universally applicable, but reporting will disaggregate among different types of health care facilities. As with schools, in countries where **basic** services are already the norm, a country-defined **advanced** service level may be appropriate based on the national context, priorities and resources. Examples of requirements for an advanced level might include drinking water quality, excreta management systems, or compliance with mandated cleaning routines.

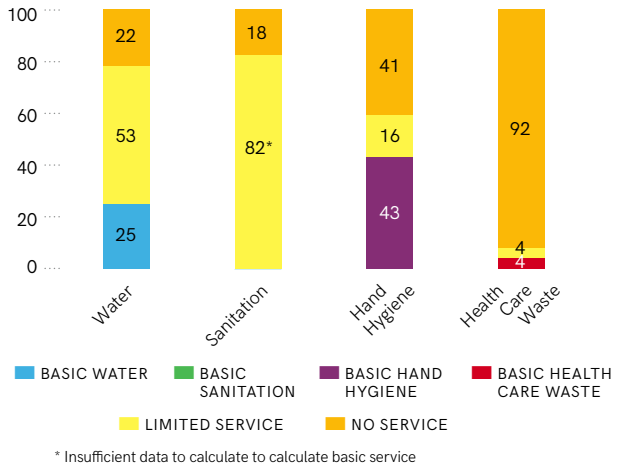
Figure 59 illustrates how health care facility data from the Haiti 2014 Service Provision Assessment can be mapped to the JMP service ladders. In this example, a lack of data on sex-separated toilets, separated toilets for staff and patients, accessibility to those with limited mobility, and facilities for menstrual hygiene management limit the ability to calculate whether there are basic sanitation services.

Subnational analysis of hand hygiene data indicates that WASH coverage is lower, on average, in rural areas and in small facilities (Figure 60). Cross-country comparability is limited, however, by the lack of standardized facility type definitions in national monitoring systems.

JMP service ladders for monitoring WASH in health care facilities

SERVICE LEVEL	WATER	SANITATION	HAND HYGIENE	HEALTH CARE WASTE
Advanced	*To be defined at national level*	*To be defined at national level*	*To be defined at national level*	*To be defined at national level*
Basic (SDG)	Water from an improved source is available on premises	Improved facilities are usable, separated for patients and staff, separated for women, provide menstrual hygiene facilities, and meet the needs of people with limited mobility	Hand hygiene materials, either a basin with water and soap or alcohol hand rub, are available at points of care and toilets	Waste is safely segregated into at least 3 bins in the consultation area, and sharps and infectious waste are safely treated and disposed of
Limited	Water from an improved source is available off premises; or an improved source is on-site, but no water is available	Improved sanitation facilities are present but are not usable or do not meet the needs of specific groups (staff, women, people with limited mobility)	Hand hygiene station at either points of care or toilets, but not both	Waste is segregated but not disposed of safely, or bins are in place but not used effectively
No service	Unprotected dug well or spring, surface water, or no water source	Pit latrines without a slab or platform, hanging latrines, or no toilets or latrines at the facility	Hand hygiene stations are absent, or present but with no soap or water	Waste is not segregated or safely treated and disposed of

Table 4



* Insufficient data to calculate to calculate basic service

Fig. 59 Proportion of health care facilities with different levels of WASH services in Haiti, SPA survey, 2014.

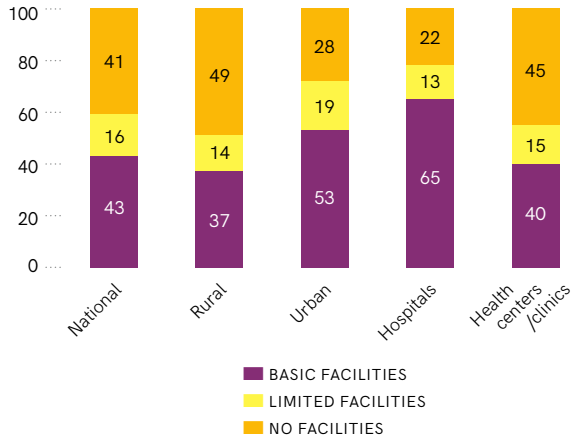


Fig. 60 Proportion of health care facilities with hand hygiene materials in Haiti, SPA survey, 2014.

Towards global baseline estimates for WASH in schools and health care facilities

While challenges exist, the inclusion of institutional WASH in JMP monitoring provides an opportunity to better understand the current WASH situation away from the home (Box 10). This will enable national governments to track progress towards meeting the associated SDGs and inform more effective resource allocation and programming. In preparation for forthcoming JMP reports on WASH in schools and health care facilities, efforts to roll out the standardized core and expanded questions and indicators will continue, in addition to the development of a new set of indicators for use in birth settings.

Box 10

Towards global baseline estimates for WASH in schools and health care facilities

The JMP is currently working on baseline estimates for WASH in schools and health care facilities, for publication in 2018. Data sources for SDG monitoring of WASH in these settings include national management information systems, such as EMIS or health management information systems , and facility-based surveys, such as the UNESCO Latin American Laboratory for Assessment of the Quality of Education,[41] the World Bank Service Delivery Indicators,[42] the United States Agency for International Development Service Provision Assessment,[43] and the WHO Service Availability and Readiness Assessment.[44]

[41] United Nations Educational, Scientific and Cultural Organization Office in Santiago, 'Education Assessment (LLECE)', <www.unesco.org/new/en/santiago/education/education-assessment-llece>.

[42] The World Bank, 'Service Delivery Indicators (SDI)', <http://datatopics.worldbank.org/sdi>.

[43] United States Agency for International Development, Demographic and Health Survey Program, 'SPA Overview', <http://dhsprogram.com/What-We-Do/Survey-Types/SPA.cfm>.

[44] World Health Organization, 'Service Availability and Readiness Assessment', <www.who.int/healthinfo/systems/sara_introduction/en>.

These surveys already cover some of the JMP core indicators, but require further alignment to establish comparable SDG baseline estimates (Figure 61).

Many countries already have an EMIS that provides an opportunity for routine monitoring of WASH in schools, but this type of self-reported data need to be validated against other data sources. A number of EMIS already include some of the SDG criteria for WASH in schools. In a review of 71 national EMIS questionnaires, 39 per cent included three or more of the seven SDG criteria for basic WASH in schools; 14 per cent included five or more (Figure 61). Availability of soap at handwashing stations was the least frequently monitored indicator.

In a scoping study of 10 countries, 15 national data sources for WASH in health care facilities were identified.[45] Content analysis of these surveys suggests that water source type and water availability are the most frequently captured criteria, while data on sex-separated toilets and facilities for menstrual hygiene management were not collected in any of the surveys identified.

[45] UNICEF and WHO, Scoping Study: Are data available to monitor the SDGs for WASH in schools and health care facilities in the Latin America and Caribbean region? 2017. <https://washdata.org/report/sdg-wash-institutions-lacro>.

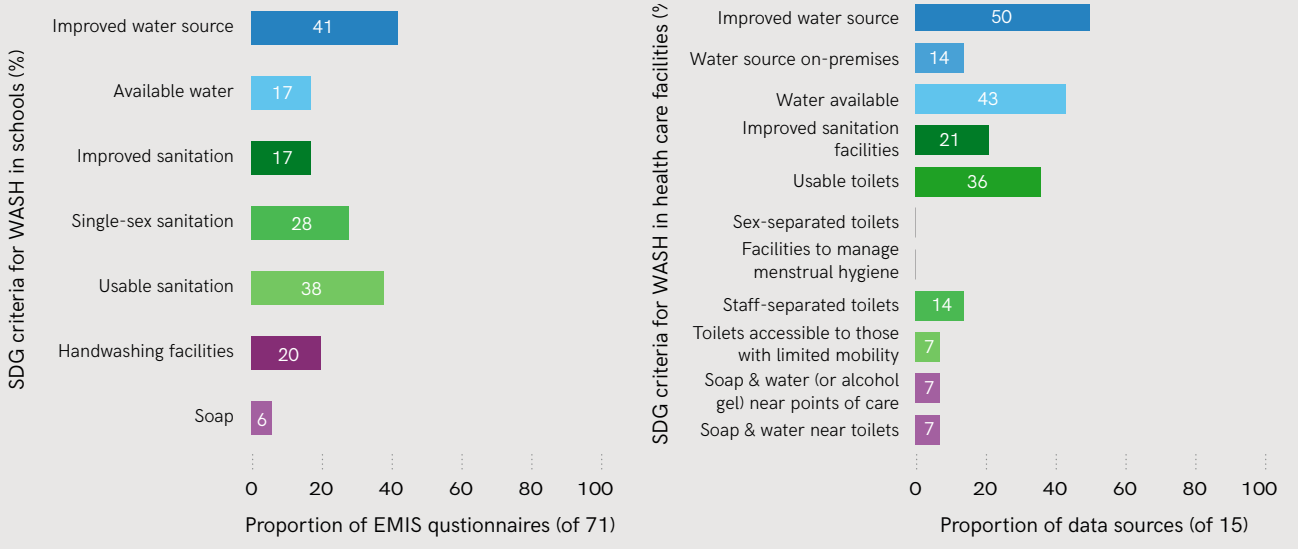


Fig. 61 The proportion of national EMIS questionnaires (of 71) that currently include each of the SDG criteria for WASH in schools (left); the proportion of data sources (of 15 identified in 10 case countries) that include each of the SDG criteria for WASH in health care facilities (right)

Annexes

ANNEX 1
JMP methods

Since it was established in 1990, the JMP has been instrumental in developing global norms to benchmark progress on drinking water, sanitation and hygiene, and has produced regular updates on country, regional, and global trends.

The JMP regularly convenes expert task forces to provide technical advice on specific issues and methodological challenges related to WASH monitoring, and has established a Strategic Advisory Group to provide independent advice on the continued development of the JMP as a trusted custodian of global WASH data[1].

Data collection and analysis

JMP estimations begin with the collection of national data sources that contain information about household water and sanitation services, and the availability of handwashing facilities in the home. The populations using different types of drinking water and sanitation infrastructure are classified as using **improved** and **unimproved** facilities, or **no facilities** at all (Table 1-1). Improved drinking water sources are those that have the potential to deliver safe water by nature of their design and construction, while improved sanitation facilities are those designed to hygienically separate excreta from human contact.

Data are also collected on the level of service households receive, which are used to subdivide the population using improved facilities into the **limited**, **basic**, and **safely managed** drinking water and sanitation services, as defined in Section 2.

Data collection on hygiene focuses on the availability of handwashing facilities, soap and water in the home, which are used to categorize populations as using **no facility, limited facility** and **basic facility**.

The JMP 2015 update drew upon 1,982 national data sources, covering the years 1990-2015. 1,982 sources were used to produce estimate; two thirds of these were household surveys, with censuses and administrative sources each contributing one sixth of data inputs. The JMP global database has been significantly expanded to incorporate the additional data required for SDG monitoring including information on safely managed service levels which comes mainly from administrative sources. The 2017 JMP database has more than doubled to include 4,710 data inputs, 3,408 of which were used to produce estimates. Nearly five times as many administrative data inputs were used for the 2017 update and household surveys now comprise only 42 per cent of the JMP global database.

Most of these data sources were collected directly from published reports of national authorities, including statistical offices, ministries, and regulators. Regional programmes such as the WHO/UNECE Protocol for Water and Health in

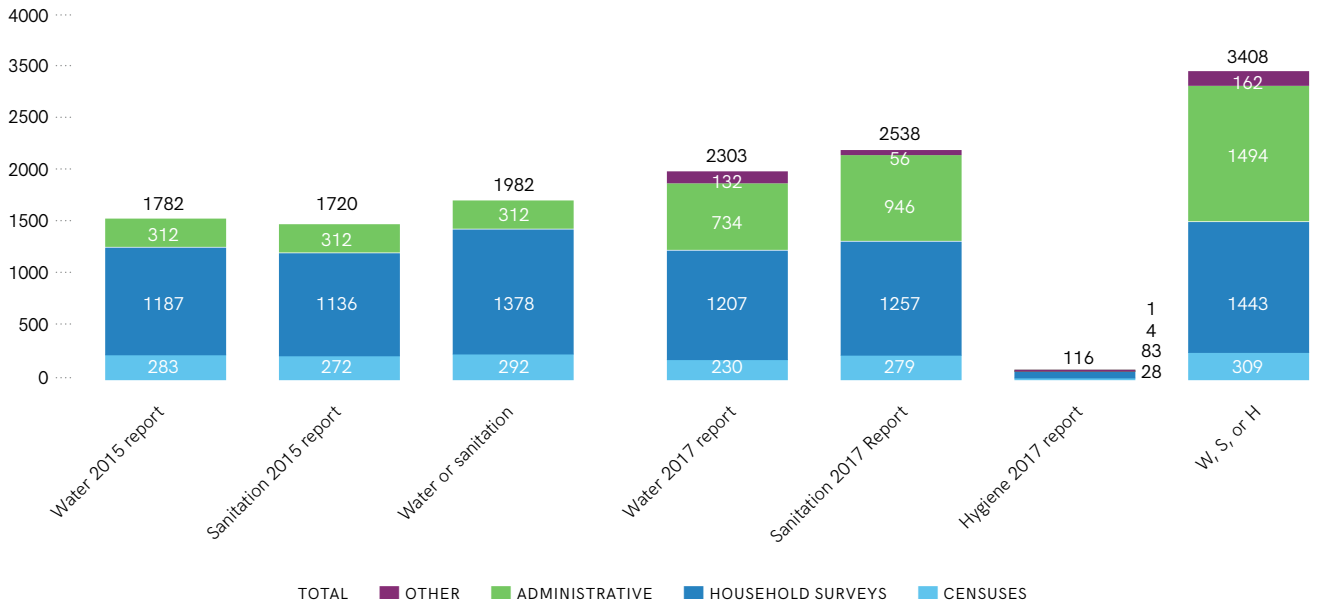
[1] For further details see the JMP website: www.washdata.org

JMP classification of improved and unimproved facility types

	DRINKING WATER[2]	SANITATION
Improved facilities	Piped supplies • Tap water in the dwelling, yard or plot • Public standposts Non-piped supplies • Boreholes/tubewells • Protected wells and springs • Rainwater • Packaged water, including bottled water and sachet water • Delivered water, including tanker trucks and small carts	Networked sanitation • Flush and pour flush toilets connected to sewers On-site sanitation • Flush and pour flush toilets or latrines connected to septic tanks or pits • Ventilated improved pit latrines • Pit latrines with slabs • Composting toilets, including twin pit latrines and container-based systems
Unimproved facilities	Non-piped supplies • Unprotected wells and springs	On-site sanitation • Pit latrines without slabs • Hanging latrines • Bucket latrines
No facilities	Surface water	Open defecation

Table 1-1

[2] The JMP recognizes that bottled water and tanker truck water can potentially deliver safe water, but has previously treated them as unimproved due to lack of data on accessibility, availability and quality. From now on, the JMP will treat them as improved and classify households as having 'limited', 'basic' or 'safely managed' services, based on the accessibility, availability and quality criteria.



the European Region, the Statistical Office of the European Union (EUROSTAT), the International Benchmarking Network (IB-NET), and the MDG+ initiative for Arabic countries were also important resources in compiling national data on drinking water quality and wastewater treatment.

The population data used in this report, including the proportion of the population living in urban and rural areas, are published by the United Nations Population Division. National populations were taken from the World Population Prospects 2015 revision, while the proportion of population living in rural areas was taken from the World Urbanization Prospects 2014 revision.

Country estimates

For each country, the JMP develops estimates for WASH indicators by fitting a regression line to the collected data inputs. Only data from 2000 onwards are used, in contrast to previous JMP updates which included data going back to 1990.

Simple linear regression is used to estimate the proportion of the population using the following drinking water sources:

- Improved drinking water sources
- Surface water

As well as the proportion of the population using the following sanitation facilities:

- Improved types of sanitation (including shared facilities)
- Open defecation

The remaining population uses unimproved drinking water sources and unimproved sanitation facilities, respectively. Separate linear regressions are also made for specific types of improved facilities: piped drinking water, sewer connections, and septic tanks. The remaining population using improved facilities is classed as using non-piped improved water sources, or latrines and other improved sanitation facilities.

The population that shares an improved sanitation facility is subtracted from the trend estimates of the population using improved sanitation facilities, to produce the estimate of the population having at least **basic sanitation** services. The sharing ratio is taken as the average of data from household surveys or censuses that collect information on

shared sanitation. Likewise, the average of all available data points is used to estimate the population using improved drinking water sources which require more than 30 minutes for collection. This is subtracted from the trend estimates of improved drinking water sources, to generate the estimate of the population having at least **basic drinking water** services[3].

Linear regression is used to estimate **basic handwashing** facilities, drawing on data on the population with handwashing facilities, soap and water observed at home.

Separate regressions are used for urban and rural areas, and the resulting population estimates are combined to generate national estimates for basic services. The **JMP country files** provide a complete record of the original sources for each data input and the linear regressions used to generate estimates[4].

While the data required to estimate access to basic drinking water, sanitation and handwashing facilities are readily available for most countries, the JMP has not been able to find sufficient data to estimate safely managed drinking water and sanitation services in all countries. The JMP will only make national estimates if data are available for at least 50% of the relevant population.

To calculate **safely managed drinking water** services the JMP uses linear regression to separately estimate the proportion of improved drinking water sources used which are:

- accessible on premises,
- available when needed, and
- free from faecal and priority chemical contamination

These values are multiplied by the proportion of the population using improved drinking water sources, to estimate the populations using improved water sources that are on premises, available when needed, and free from contamination. The JMP then uses the minimum of these three values to estimate coverage of safely managed drinking water services[5].

Many countries lack data on one or more elements of safely managed drinking water. The JMP will only make national estimates when data are available on drinking water quality and at least one of the other elements (accessibility and availability).

To calculate **safely managed sanitation** services the JMP uses linear regression to estimate the proportion of improved sanitation facilities from which excreta are:

- safely disposed in situ (contained and not emptied, or emptied and buried on site), or
- emptied from on-site storage facilities, transported to a treatment plant and treated, or
- removed from the home through sewer lines and treated at a treatment plant.

These values are multiplied by the proportion of the population using sewer connections or improved on-site sanitation facilities which are not shared, and added together to produce estimates of the total population using safely managed sanitation services.

Many countries lack information on either wastewater treatment or the management of on-site sanitation. The JMP will only produce a national estimate if information is available for the dominant type of sanitation system. If no information is available for the non-dominant type of sanitation system the JMP assumes that 50 per cent is safely managed[6].

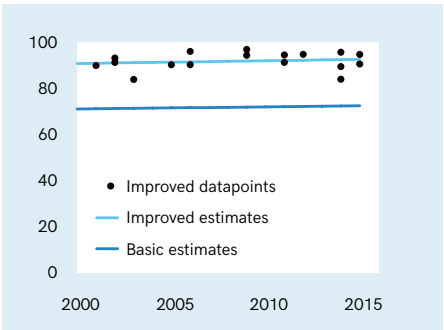
[3] Since **safely managed** drinking water and sanitation services meet the criteria for **basic services**, the statistics on the population with **basic services** often include the population with safely managed services. The JMP sometimes uses the term **at least basic services** to be clear that the statistic refers to populations with either basic or safely managed services.

[4] JMP country files can be downloaded from www.washdata.org

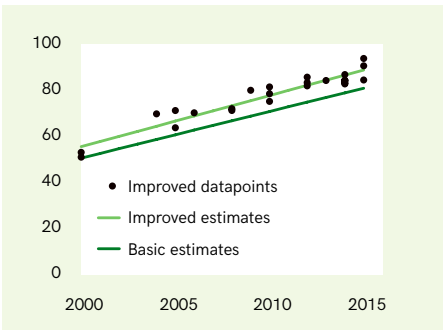
[5] See UNICEF and WHO (2017) Safely Managed Drinking Water – JMP thematic report on drinking water.

[6] See WHO and UNICEF (2017) Safely managed sanitation – JMP thematic report on sanitation (forthcoming).

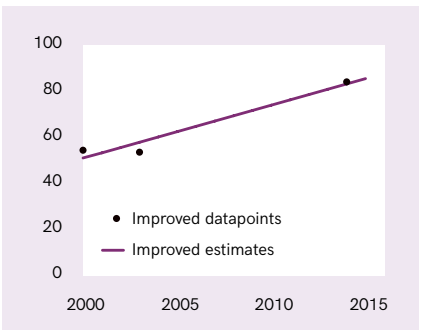
Basic water: urban



Basic sanitation: rural



Basic hygiene: rural



Regional and global estimates

Regional and global estimates for basic drinking water, sanitation and hygiene services are only made when data are available for at least 50% of the regional or global population. The JMP calculates population-weighted averages for rural and urban areas of each region[7] and assigns these to any countries without a national estimate for the reference year. The JMP does not use "imputed" statistics for country-level estimates.

Populations using basic, limited, unimproved and no service are then summed for each regional grouping (see Annex 2 for regional groupings used in this report), and population weighted rural and urban estimates are combined to calculate the regional and global populations with each level of service. An equivalent approach is taken for facility types (sewer, septic, latrine; piped, non-piped improved) with estimates weighted by the population using improved drinking water and sanitation facilities rather than the total population.

Regional and global estimates for individual elements of safely managed services are calculated by summing up country-level estimates (including "imputed" estimates for countries lacking data), if actual data are available for at least 30% of the relevant population.

The three elements of safely managed drinking water services are calculated as weighted averages amongst the urban, rural and national populations, provided that data are available for at least 30% of the regional population using improved drinking water. These ratios are then multiplied by the proportion of the population using improved drinking water in each region. Following the approach taken for countries, the proportion of the population using safely managed drinking water services is then calculated at regional and global levels by taking a minimum of the three elements for urban and rural areas. Where possible, a weighted average of the rural and urban populations is used to produce regional and global total estimates.

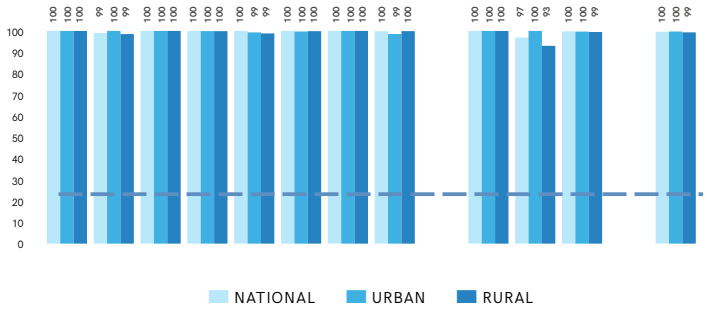
For safely managed sanitation services, regional estimates are calculated based on the populations using sewer connections or improved on-site sanitation systems (septic, latrines and other improved facilities). Estimates are only calculated where data are available for at least 30% of the population using the dominant form of sanitation (sewer connections or on-site sanitation). The population using sewer connections is used to weight estimates of the proportion of wastewater treated, while the population using onsite facilities is used to weight estimates of excreta disposed of in situ. Data are currently insufficient to allow regional or global estimates to be made for the proportion of people using on-site sanitation facilities with excreta emptied and treated off-site.

Finally, regional and global estimates of the population using safely managed sanitation services are then calculated by adding together the populations with wastewater treated and excreta disposed of in situ for rural and urban areas. Where data coverage is below 30% for the non-dominant form of sanitation, estimates are based only on the dominant form of sanitation. Regional and global totals are calculated by weighted averages from rural and urban areas where data permit.

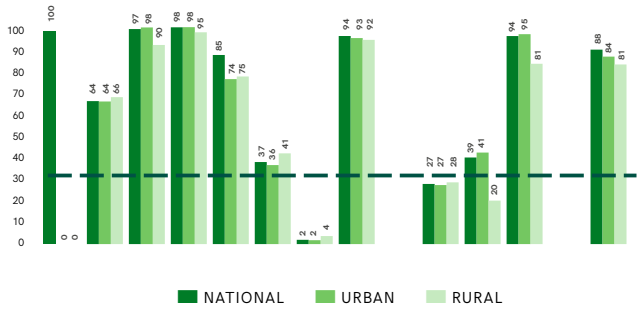
The methodology used to make country, regional and global estimates will be documented in more detail in a forthcoming methodological note.

[7] Using the M49 level 2 regions, see https://unstats.un.org/unsd/methodology/m49/

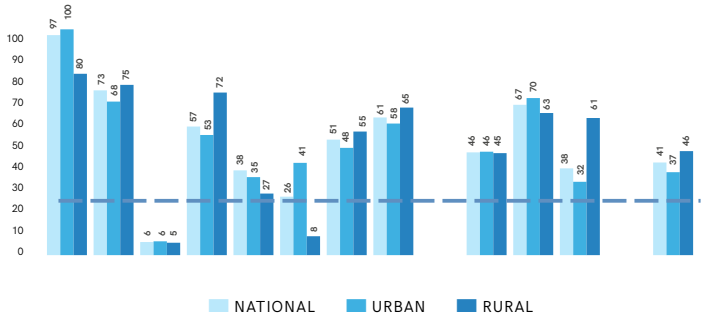
Population with data on accessible on premises (%)



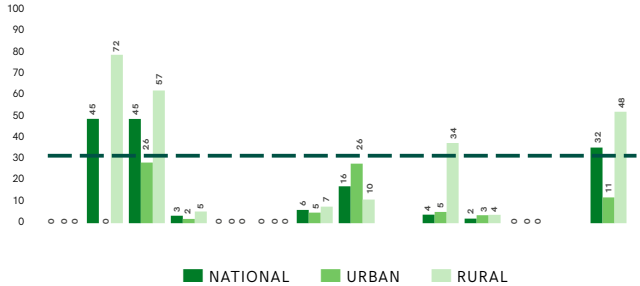
Population with data on wastewater treatment (%)



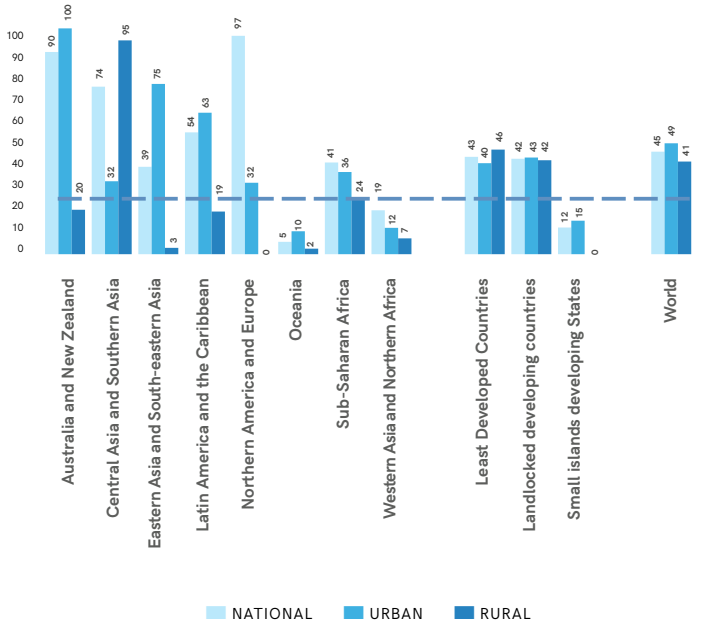
Population with data on available when needed (%)



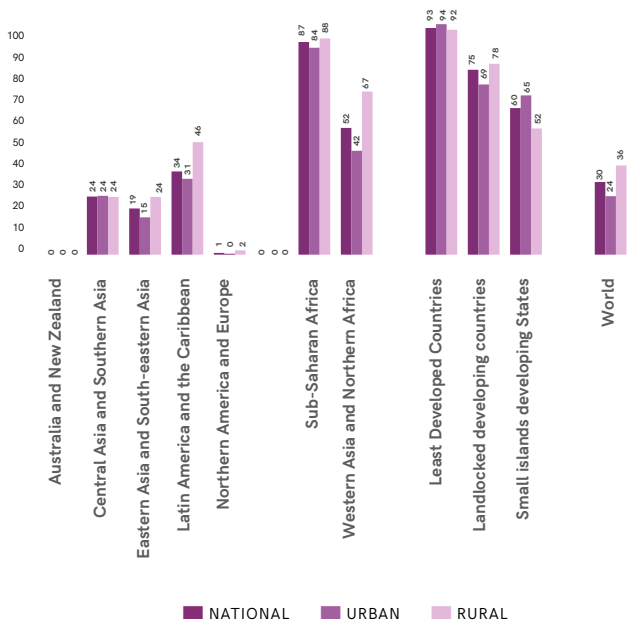
Population with data on disposed of in situ (%)

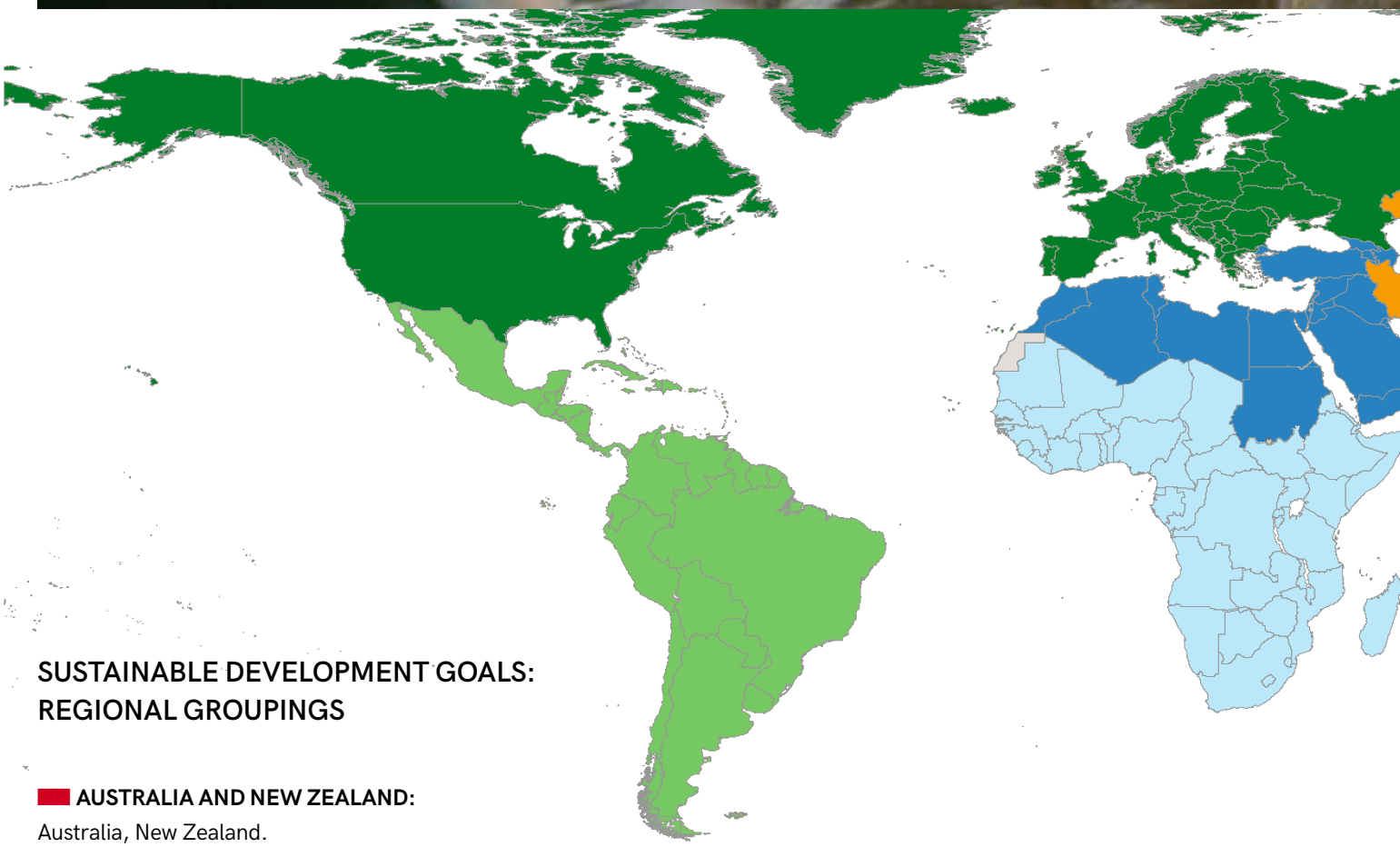


Population with data on free from contamination (%)



Population with data on handwashing (%)





SUSTAINABLE DEVELOPMENT GOALS: REGIONAL GROUPINGS

AUSTRALIA AND NEW ZEALAND:
Australia, New Zealand.

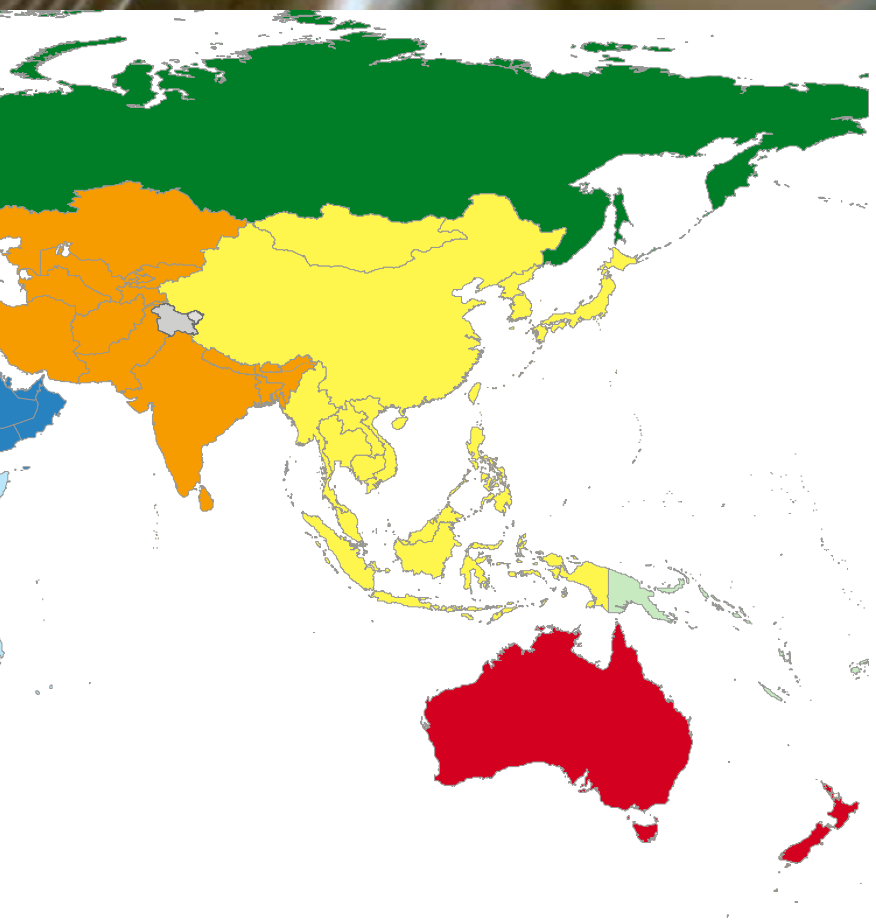
CENTRAL ASIA AND SOUTHERN ASIA: Afghanistan, Bangladesh, Bhutan, India, Iran (Islamic Republic of), Kazakhstan, Kyrgyzstan, Maldives, Nepal, Pakistan, Sri Lanka, Tajikistan, Turkmenistan, Uzbekistan.

EASTERN ASIA AND SOUTH-EASTERN ASIA: Brunei Darussalam, Cambodia, China, China (Hong Kong Special Administrative Region), China (Macao Special Administrative Region), Democratic People's Republic of Korea, Indonesia, Japan, Lao People's Democratic Republic, Malaysia, Myanmar, Mongolia, Philippines, Republic of Korea, Singapore, Thailand, Timor-Leste, Viet Nam.

LATIN AMERICA AND THE CARIBBEAN: Anguilla, Antigua and Barbuda, Argentina, Aruba, Bahamas, Barbados, Belize, Bolivia (Plurinational State of), Bonaire, Sint Eustatius and Saba, Brazil, British Virgin Islands, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Curaçao, Dominica, Dominican Republic, Ecuador, El Salvador, Falkland Islands (Malvinas), French Guiana, Guadeloupe, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sint Maarten (Dutch part), Suriname, Trinidad and Tobago, Turks and Caicos Islands, United States Virgin Islands, Uruguay, Venezuela (Bolivarian Republic of).

NORTHERN AMERICA AND EUROPE: Albania, Andorra, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bermuda, Bulgaria, Canada, Channel Islands, Croatia, Czech Republic, Denmark, Estonia, Faroe Islands, Finland, France, Germany, Gibraltar, Greece, Greenland, Holy See, Hungary, Ireland, Iceland, Isle of Man, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, San Marino, Saint Pierre and Miquelon, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America.

OCEANIA (EXCLUDING AUSTRALIA AND NEW ZEALAND): American Samoa, Cook Islands, Fiji, French Polynesia, Guam,



Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, New Caledonia, Niue, Northern Mariana Islands, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, Wallis and Futuna Islands.

SUB-SAHARAN AFRICA: Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mayotte, Mozambique, Namibia, Niger, Nigeria, Réunion, Rwanda, Saint Helena, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Swaziland, Togo, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

WESTERN ASIA AND NORTHERN AFRICA: Algeria, Armenia, Azerbaijan, Bahrain, Cyprus, Egypt, Georgia, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syrian Arab Republic, Tunisia, Turkey, United Arab Emirates, West Bank and Gaza Strip, Western Sahara, Yemen.

OTHER REGIONAL GROUPINGS

LANDLOCKED DEVELOPING COUNTRIES (LLDCS)

Afghanistan, Armenia, Azerbaijan, Bhutan, Bolivia (Plurinational State of), Botswana, Burkina Faso, Burundi, Central African Republic, Chad, Ethiopia, Kazakhstan, Kyrgyzstan, Lao People's Democratic Republic, Lesotho, Malawi, Mali, Mongolia, Nepal, Niger, Paraguay, Republic of Moldova, Rwanda, South Sudan, Swaziland, Tajikistan, The former Yugoslav Republic of Macedonia, Turkmenistan, Uganda, Uzbekistan, Zambia, Zimbabwe.

LEAST DEVELOPED COUNTRIES (LDCS)

Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao People's Democratic Republic, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, South Sudan, Sudan, Timor-Leste, Togo, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen, Zambia.

SMALL ISLAND DEVELOPING STATES (SIDS)

American Samoa, Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bonaire, Sint Eustatius and Saba, British Virgin Islands, Cabo Verde, Comoros, Cook Islands, Cuba, Curaçao, Dominica, Dominican Republic, Fiji, French Polynesia, Grenada, Guam, Guinea-Bissau, Guyana, Haiti, Jamaica, Kiribati, Maldives, Marshall Islands, Mauritius, Micronesia (Federated States of), Montserrat, Nauru, New Caledonia, Niue, Northern Mariana Islands, Palau, Papua New Guinea, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Seychelles, Singapore, Sint Maarten (Dutch part), Solomon Islands, Suriname, Timor-Leste, Tonga, Trinidad and Tobago, Tuvalu, United States Virgin Islands, Vanuatu.

UN WATER

UN-Water is the United Nations (UN) inter-agency coordination mechanism for freshwater related issues, including sanitation. It was formally established in 2003 building on a long history of collaboration in the UN family. UN-Water is comprised of UN entities with a focus on, or interest in, water related issues as Members and other non-UN international organizations as Partners.

The main purpose of UN-Water is to complement and add value to existing programmes and projects by facilitating synergies and joint efforts, so as to maximize system-wide coordinated action and coherence. By doing so, UN-Water seeks to increase the effectiveness of the support provided to Member States in their efforts towards achieving international agreements on water.

PERIODIC REPORTS:

World Water Development Report (WWDR) is the reference publication of the UN system on the status of the freshwater resource. The Report is the result of the strong collaboration among UN-Water Members and Partners and it represents the coherent and integrated response of the UN system to freshwater-related issues and emerging challenges. The report production coordinated by the World Water Assessment Programme and the theme is harmonized with the theme of World Water Day (22 March). From 2003 to 2012, the WWDR was released every three years and from 2014 the Report is released annually to provide the most up to date and factual information of how water-related challenges are addressed around the world.

- ✓ Strategic outlook
- ✓ State, uses and management of water resources
- ✓ Global
- ✓ Regional assessments
- ✓ Triennial (2003-2012)
- ✓ Annual (from 2014)
- ✓ Links to the theme of World Water Day (22 March)

UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) is produced by the World Health Organization (WHO) on behalf of UN-Water. It provides a global update on the policy frameworks, institutional arrangements, human resource base, and international and national finance streams in support of sanitation and drinking water. It is a substantive input into the activities of Sanitation and Water for All (SWA).

- ✓ Strategic outlook
- ✓ Water supply and sanitation
- ✓ Global
- ✓ Regional assessments
- ✓ Biennial (since 2008)

The progress report of the WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) is affiliated with UN-Water and presents the results of the global monitoring of progress towards access to safe drinking-water, and adequate sanitation and hygiene. Monitoring draws on the findings of household surveys and censuses usually supported by national statistics bureaus in accordance with international criteria and increasingly draws on national administrative and regulatory datasets.

- ✓ Status and trends
- ✓ Water supply and sanitation
- ✓ Global
- ✓ Regional and national assessments
- ✓ Biennial updates (1990-2012, 2017 onwards)
- ✓ Annual updates (2013-2017)

UN-WATER PLANNED PUBLICATIONS 2017-2018

- Update of UN-Water Policy Brief on Water and Climate Change
- UN-Water Policy Brief on the Water Conventions
- UN-Water Analytical Brief on Water Efficiency
- SDG 6 Synthesis Report 2018 on Water and Sanitation

More Information on UN-Water Reports at www.unwater.org/publications

DRINKING WATER

In 2015,

- 71 per cent of the global population (5.2 billion people) used a **safely managed** drinking water service; that is, one located on premises, available when needed and free from contamination.
- Eight out of ten people (5.8 billion) used improved sources with **water available when needed**.
- Three quarters of the global population (5.4 billion) used improved sources **located on premises**.
- Three out of four people (5.4 billion) used improved sources **free from contamination**.
- 844 million people still lacked even a **basic** drinking water service.
- 263 million people spent over 30 minutes per round trip to collect water from an improved source (a **limited** drinking water service).
- 159 million people still collected drinking water directly from **surface water** sources, 58% lived in sub-Saharan Africa.

SANITATION

In 2015,

- 39 per cent of the global population (2.9 billion people) used a **safely managed** sanitation service; that is, excreta safely disposed of in situ or treated off-site.
- 27 per cent of the global population (1.9 billion people) used private sanitation facilities connected to sewers from which **wastewater was treated**.
- 13 per cent of the global population (0.9 billion people) used toilets or latrines where excreta were **disposed of in situ**.
- Available data were insufficient to make a global estimate of the proportion of population using septic tanks and latrines from which excreta are **emptied and treated off-site**.
- 2.3 billion people still lacked even a **basic** sanitation service.
- 600 million people used a **limited** sanitation service.
- 892 million people worldwide still practised **open defecation**.

HYGIENE

In 2015,

- 70 countries had comparable data available on handwashing with soap and water, representing 30 per cent of the global population.
- Coverage of **basic handwashing** facilities with soap and water varied from 15 per cent in sub-Saharan Africa to 76 per cent in Western Asia and Northern Africa, but data are currently insufficient to produce a global estimate, or estimates for other SDG regions.
- In Least Developed Countries, 27 per cent of the population had basic handwashing facilities with soap and water, while 26 per cent had handwashing facilities lacking soap or water. The remaining 47 per cent had no facility.
- In sub-Saharan Africa, three out of five people with basic handwashing facilities (89 million people) lived in urban areas.
- Many high-income countries lacked sufficient data to estimate the population with basic handwashing facilities.

JMP website: www.washdata.org

World Health Organization

WHO UNICEF JMP

unicef