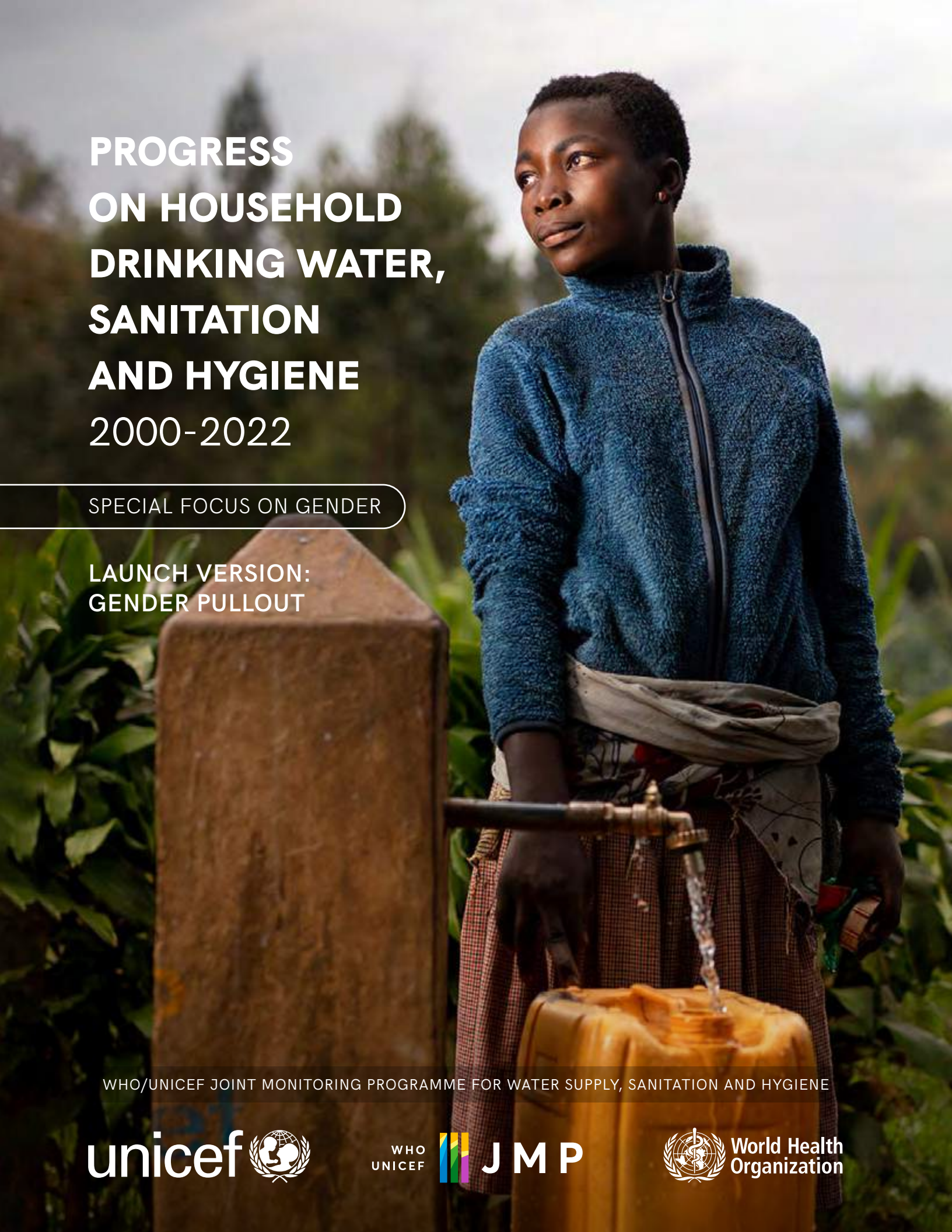


PROGRESS ON HOUSEHOLD DRINKING WATER, SANITATION AND HYGIENE 2000-2022

SPECIAL FOCUS ON GENDER

LAUNCH VERSION: GENDER PULLOUT

WHO/UNICEF JOINT MONITORING PROGRAMME FOR WATER SUPPLY, SANITATION AND HYGIENE

unicef

WHO UNICEF JMP

World Health Organization

Highlights

INTRODUCTION

The World Health Organization and United Nations Children's Fund (WHO/UNICEF) Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) produces internationally comparable estimates of progress on drinking water, sanitation and hygiene (WASH) and is responsible for global monitoring of the Sustainable Development Goal (SDG) targets related to WASH. In 2022, the JMP released updated estimates for WASH in schools and WASH in health care facilities (2000–2021). This report presents updated national, regional and global estimates for WASH in households for the period 2000 to 2022.

The 2030 Agenda for Sustainable Development Goal 6 aims to 'ensure availability and sustainable management of water and sanitation for all' and includes targets for universal access to safe drinking water (6.1), and sanitation and hygiene (6.2). Data for the corresponding global indicators are now available for more than 50% of the world's population but, as we approach the mid-point of the SDG period, the world is not on track to achieve SDG targets 6.1 and 6.2. Achieving universal coverage by 2030 will require a sixfold increase in current rates of progress for safely managed drinking water, a fivefold increase for safely managed sanitation and a threefold increase for basic hygiene services (Figure 1).

The importance of progress on drinking water, sanitation and hygiene for achieving SDG 5, which aims to 'realize gender equality and empower all women and girls', is widely recognized and this report has a special focus on gender to reflect this. Each chapter examines available data related to gender and WASH, indicates how addressing gender inequalities can accelerate progress on WASH, and highlights opportunities for enhanced national and global monitoring in the future (Box 1).

Achieving SDG WASH targets by 2030 will require a three- to sixfold increase in current rates of progress

FIGURE 1 Global coverage of WASH services, 2015–2022 (%), and acceleration required to reach universal coverage (>99%) by 2030

BOX 1

Gender and WASH

The importance of progress on drinking water, sanitation and hygiene for achieving SDG 5, which aims to 'realize gender equality and empower all women and girls', is widely recognized. Likewise, gender inequalities impede realization of the SDG 6 targets on WASH. This report has a special focus on gender and WASH. It shows that:

- 1.8 billion people collect drinking water from supplies located off premises,[1] and in seven out of ten households women and girls are primarily responsible for water collection.
- In almost all countries with comparable data, the burden of water carriage remains significantly heavier for women and girls than for men and boys.
- Over half a billion people share sanitation facilities with other households and emerging data show that among these, women are more likely than men to feel unsafe walking alone after dark.
- Lack of handwashing facilities disproportionately impacts adolescent girls and women who are primarily responsible for child care and domestic chores in many countries around the world.
- Inadequate WASH services limit the ability of adolescent girls and women, and other persons who menstruate, to safely and privately manage their periods.

[1] Estimate includes collection from improved and unimproved drinking water sources.

DRINKING WATER

- Since 2015, coverage of safely managed drinking water has increased from 69% to 73%, rising from 56% to 62% in rural areas and from 80% to 81% in urban areas.
- In 2022, 32 countries[2] were on track to achieve universal access (>99%) by 2030, 78 were progressing too slowly and in 16 countries, coverage was decreasing.
- No SDG region is on track to achieve universal access by 2030 and the overall rate of progress will need to increase sixfold to meet the SDG global target.
- In 2022, 2.2 billion people still lacked safely managed drinking water, including 1.5 billion with basic services, 292 million with limited services, 296 million with unimproved and 115 million drinking surface water.
- This report includes estimates of safely managed services for 142 countries and for six out of eight SDG regions (compared with 95 countries and four regions in the 2017 SDG baseline report).

[2] The JMP produces internationally comparable estimates for 235 countries, areas and territories including all UN Member States. Statistics in this report refer to countries, areas and territories.

In 2022, one in four people lacked safely managed drinking water and regional coverage varied widely

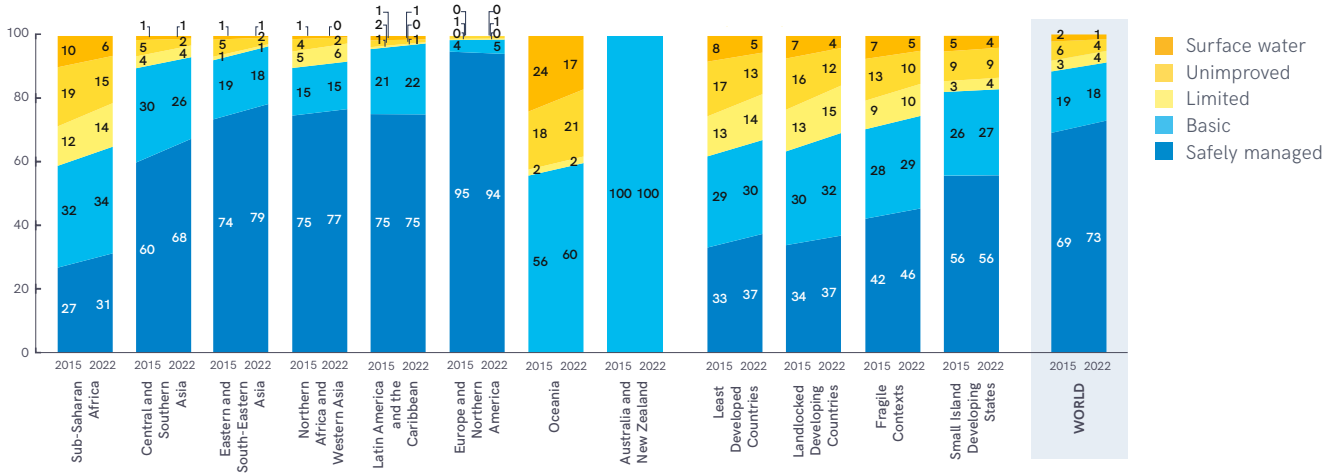


FIGURE 2 Global and regional drinking water coverage, 2015–2022 (%)

In 2022, 142 countries had estimates for safely managed drinking water

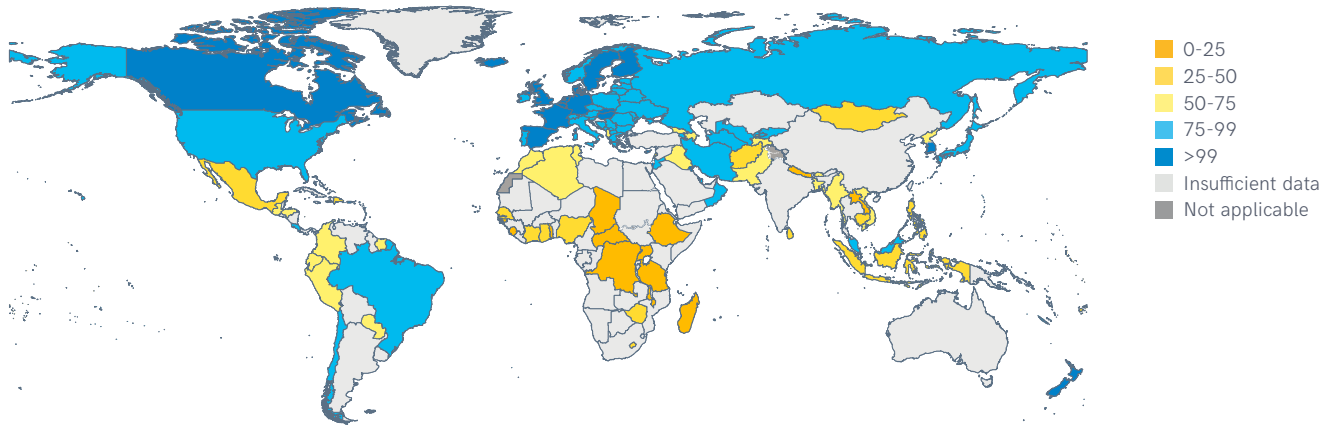


FIGURE 3 Proportion of population using safely managed drinking water services, 2022 (%)

SANITATION

- Since 2015, coverage of safely managed sanitation has increased from 49% to 57%, rising from 36% to 46% in rural areas and from 60% to 65% in urban areas.
- In 2022, 17 countries were on track to achieve universal access (>99%) by 2030, 84 were progressing too slowly and in 24 countries, coverage was decreasing.
- No SDG region is on track to achieve universal access by 2030 and the overall rate of progress will need to increase fivefold to meet the SDG global target.
- In 2022, 3.4 billion people still lacked safely managed sanitation, including 1.9 billion with basic services, 570 million with limited services, 545 million with unimproved services and 419 million practising open defecation.
- This report inclues estimates of safely managed services for 135 countries and for seven out of eight SDG regions (compared with 84 countries and five regions in the 2017 SDG baseline report).

In 2022, two out of five people lacked safely managed sanitation and regional coverage varied widely

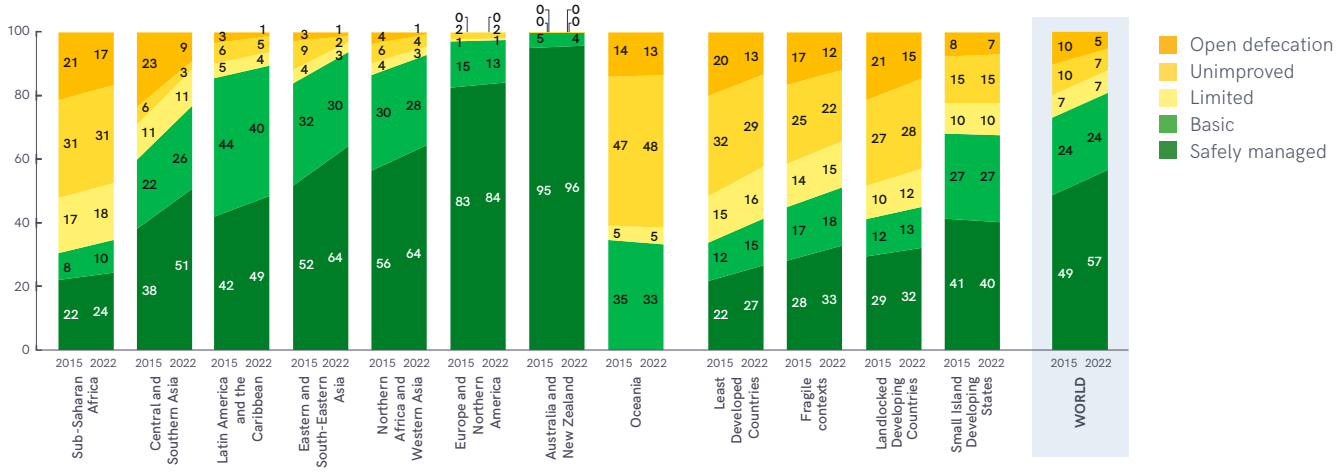


FIGURE 4 Global and regional sanitation coverage, 2015–2022 (%)

In 2022, 135 countries had estimates for safely managed sanitation services

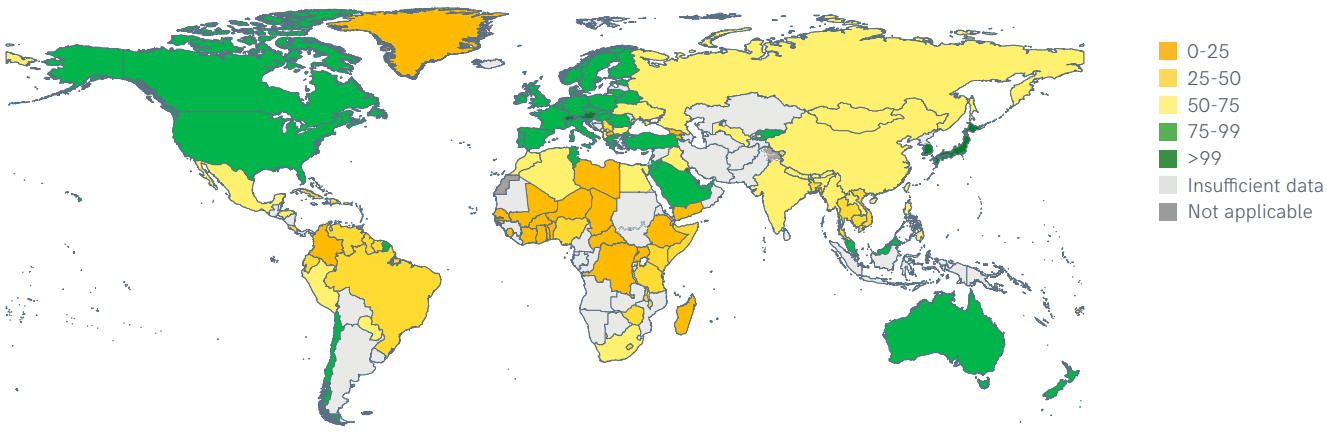


FIGURE 5 Proportion of population using safely managed sanitation services, 2022 (%)

HYGIENE

- Since 2015, coverage of basic hygiene services has increased from 67% to 75%, rising from 53% to 65% in rural areas but remaining largely unchanged, at 83%, in urban areas.
- In 2022, 11 countries were on track to achieve universal access (>99%) by 2030, 56 were progressing too slowly and in seven countries, coverage was decreasing.
- No SDG region is on track to achieve universal access by 2030 and the overall rate of progress will need to increase threefold to meet the SDG global target.
- In 2022, 2 billion people still lacked basic hygiene services, including 1.3 billion with limited services and 653 million with no facility.
- This report includes estimates of basic services for 84 countries and for four out of eight SDG regions (compared with 70 countries and two regions in the 2017 SDG baseline report).

In 2022, one in four people lacked basic hygiene services but four SDG regions had insufficient data

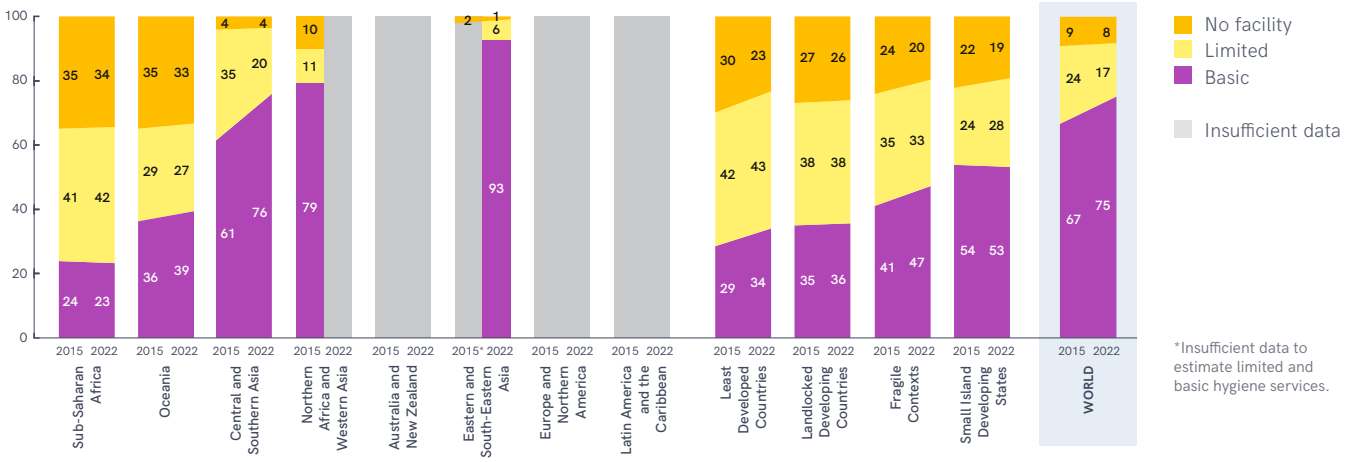


FIGURE 6 Global and regional hygiene coverage, 2022 (%)

In 2022, 84 countries had estimates available for basic hygiene services

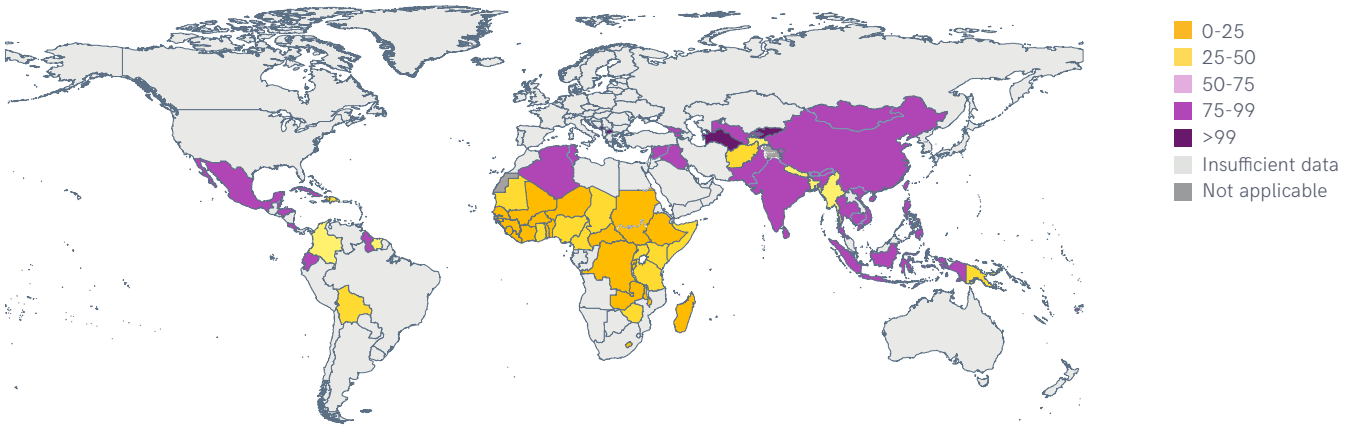


FIGURE 7 Proportion of population with basic hygiene services, 2022 (%)

MENSTRUAL HEALTH

- 53 countries had data for at least one menstrual health indictor in 2022, and three quarters were low-income or lower-middle-income.
- Adolescent girls and women living in rural areas were more likely to use reusable menstrual materials or no materials at all.
- Adolescent girls and women in the poorest wealth quintile and those with functional difficulties were more likely to lack a private place to wash and change their menstrual materials at home.
- Many adolescent girls and women did not participate in school, work or social activities during menstruation but there is significant variation between and within countries.
- Awareness of menstruation before menarche varied widely in the two countries that have data. Girls who were unaware were much more likely to have negative experiences.

Adolescent girls and women in most countries have access to materials and a private place to wash and change, but often don't participate in school, work and social activities during menstruation

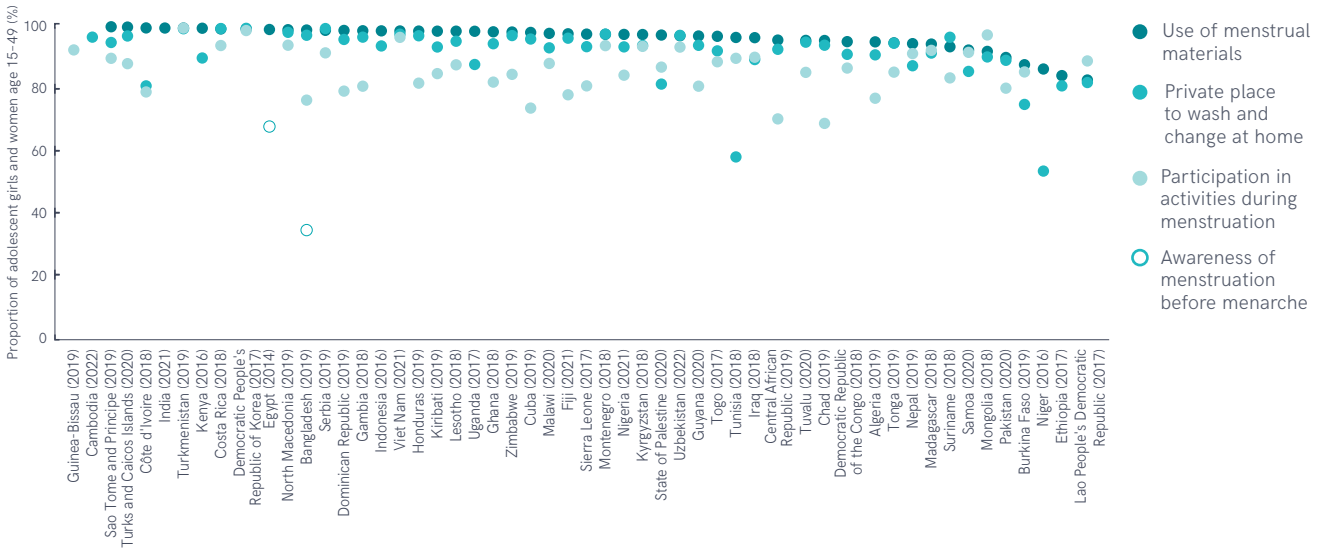


FIGURE 8 Proportion of adolescent girls and women age 15-49 by menstrual health indicator, selected countries, 2014-2022 (%)

In 2022, 53 countries had nationally representative data on at least one menstrual health indicator

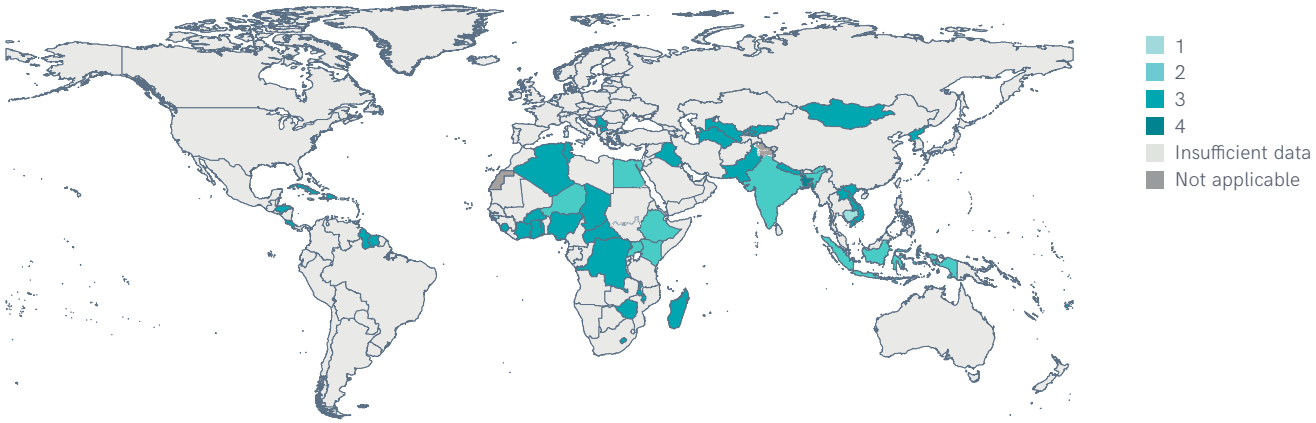


FIGURE 9 Number of menstrual health indicators with national data available, by country, 2022

INEQUALITIES

- Achieving SDG targets in low-income countries will require current rates of progress to increase sixfold, 13-fold and 16-fold for basic water, sanitation and hygiene, respectively, and 20-fold and 21-fold for safely managed water and safely managed sanitation services, respectively.
- The 1.9 billion people living in fragile contexts are twice as likely to lack safely managed drinking water and basic hygiene, and one and a half times as likely to lack safely managed sanitation services.
- Out of 105 countries with data, coverage of basic drinking water, sanitation and hygiene among the richest was more than double that of the poorest in 27, 54 and 64 countries, respectively.
- Emerging data from Multi-Sector Needs Assessments (MSNAs) in emergency settings show that displaced populations often have lower coverage of basic WASH services than non-displaced populations.

In low-income countries, achieving universal coverage of basic WASH services by 2030 will require a dramatic acceleration in current rates of progress

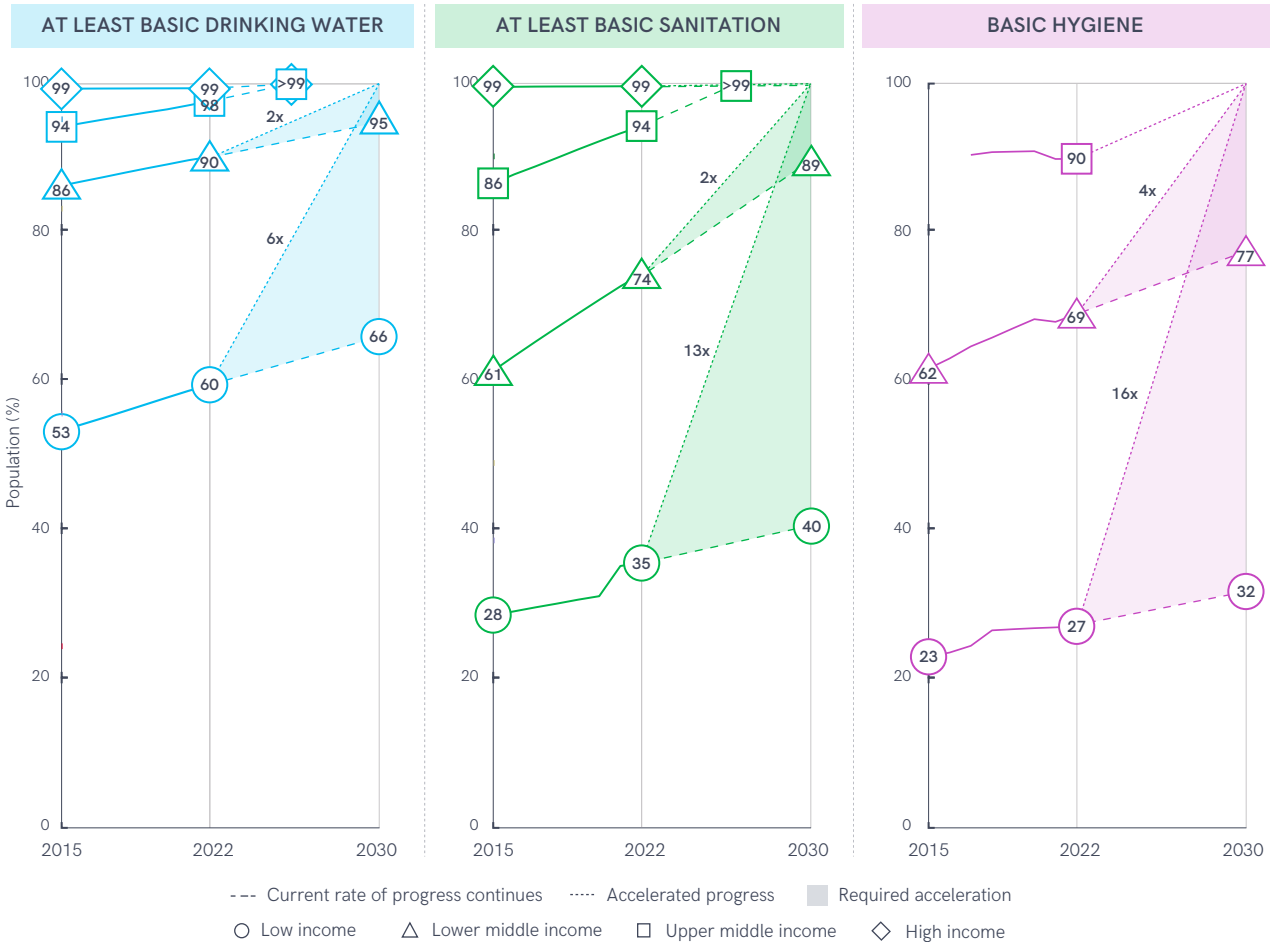


FIGURE 10 Coverage of basic WASH services by income group, 2015-2022 (%), and acceleration required to reach universal coverage (>99%) by 2030

Displaced populations often have lower coverage than non-displaced, but the impact of displacement on WASH service levels is highly context specific

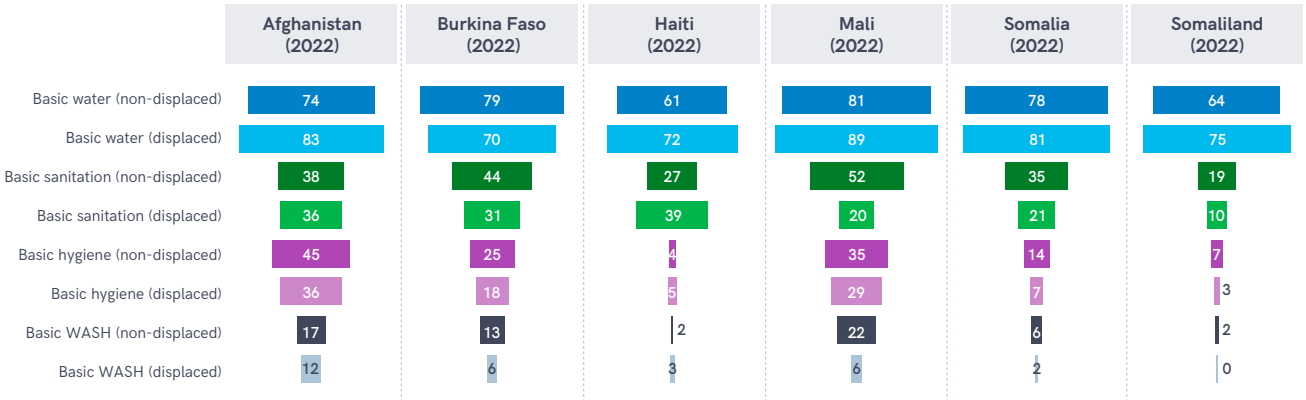


FIGURE 11 Proportion of population with basic drinking water, sanitation and hygiene services, and basic WASH combined, by displacement status, from selected Multi-Sector Needs Assessments surveys, 2022 (%)

GENDER IN WASH

Goal 5 of the 2030 Agenda for Sustainable Development aims to 'achieve gender equality and empower all women and girls'. It includes six targets focused on ending discrimination and violence against women and girls, eliminating harmful practices such as child marriage and female genital mutilation, recognizing and valuing unpaid care and domestic work, ensuring participation and equal opportunities at all levels of decision-making, ensuring access to sexual and reproductive health, and undertaking policy and legal reforms to give women equal rights and access to resources.[3] The 2030 Agenda further recognizes that realizing gender equality and the empowerment of women and girls will make a crucial contribution to progress across all of the SDG goals and targets, including those related to WASH.

The importance of progress on drinking water, sanitation and hygiene in realizing gender equality and the empowerment of women and girls is already widely recognized. The SDG global target for sanitation and hygiene (6.2) includes an explicit reference to 'paying special attention to the needs of women and girls', but there remains a lack of commonly agreed indicators for national and global monitoring of gender in WASH. The JMP and the UN-Water Global Analysis and Assessment of Sanitation and Drinking Water (GLAAS), in collaboration with Emory University, have therefore undertaken a joint review of opportunities for enhanced monitoring of gender in relation to SDG WASH targets.[4]

The first phase of the JMP/GLAAS gender review involved consultations with key stakeholders, a review of existing literature and technical guidance developed by United Nations agencies, synthesis of key terms related to monitoring gender in WASH (Table 2),[5] and the development of a conceptual framework identifying 15 dimensions of gender equality related to WASH across four interrelated domains (Table 3). An inventory of existing indicators and tools was prepared and a series of expert group meetings were held to assess their potential for measuring each dimension. Detailed briefs were prepared, summarizing key findings for each dimension, including major gaps and opportunities to leverage existing data collection at national and subnational levels. The GLAAS 2021/2022 questionnaire was later updated to include additional gender relevant indicators, and the resulting GLAAS 2022 report includes a chapter on gender and WASH.[6]

[3] Sustainable Development Goal 5 <https://sdgs.un.org/goals/goal5>

[4] JMP/GLAAS Gender Review <https://washdata.org/monitoring/inequalities/gender>.

[5] The review noted that gender also intersects with myriad forms of discrimination, including but not limited to sexual orientation and gender identity, age, ability, income, caste, race, ethnicity, geography, religion, origin, nationality, and indigenous, marital, family, immigration and HIV status.

[6] World Health Organization. UN-Water global analysis and assessment of sanitation and drinking-water (GLAAS) 2022 report: strong systems and sound investments - evidence on and key insights into accelerating progress on sanitation, drinking-water and hygiene. Geneva; World Health Organization; 2022. <https://glaas.who.int/glaas/un-water-global-analysis-and-assessment-of-sanitation-and-drinking-water-(glaas)-2022-report>.

KEY TERMS RELATED TO MONITORING GENDER IN WASH	
Gender[7]	A social and cultural construct that distinguishes differences in the attributes of men and women, girls and boys, and accordingly refers to the roles and responsibilities of men and women. Gender-based roles and other attributes, therefore, change over time and vary with different cultural contexts. The concept of gender includes the expectations held about the characteristics, aptitudes and likely behaviours of both women and men (femininity and masculinity). This concept is useful in analysing how commonly shared practices legitimize discrepancies between sexes.
Sex-disaggregated data	Data that are collected and reported separately for males and females. Sex-disaggregated data enable understanding of differences by sex and the unique needs of males and females. They can also reflect differences by gender and the socially and culturally constructed roles, responsibilities and expectations of women and men, and girls and boys. However, these definitions do not adequately acknowledge sexual and gender minorities, including people who are intersex or transgender.
Gender statistics[8]	Gender statistics are inclusive of: • data that are collected and presented by sex as a primary and overall classification; • data that reflect gender issues; • data that are based on concepts and definitions that adequately reflect the diversity of women and men [all genders] and capture all aspects of their lives; • data collection methods that take into account stereotypes and social and cultural factors that may induce gender bias in the data; and • data analyses and presentation of data rather reveal meaningful similarities and differences between women and men [individuals of different genders].
Gender integration	The WHO Gender Responsive Assessment Scale[9] uses the following categories to assess gender integration into policy and programming: • Gender-unequal – perpetuates gender inequalities • Gender-blind – ignores gender inequalities • Gender-sensitive – acknowledges but does not address gender inequalities • Gender-specific – addresses the specific needs of women and men [all genders] • Gender-transformative – addresses the underlying causes of gender-based inequalities
Gender identity	A person's perceptions of having a particular gender, which may or may not correspond with their sex assigned at birth. There are no international standards on measuring gender identity and data are limited but there is growing recognition of the importance of understanding the unique needs of gender-diverse and non-conforming persons in relation to WASH.

TABLE 2 Definitions of key terms related to monitoring gender in WASH[10]

[7] UNICEF. Gender Equality: Glossary of Terms and Concepts. Nepal: UNICEF Regional Office for South Asia. 2017. <https://www.unicef.org/rosa/reports/gender-equality>.
[8] United Nations Statistics Division (UNSD). Integrating a gender perspective into statistics. New York; Department of Economic and Social Affairs; 2016. ST/ESA/STAT/SER.F/111.
[9] World Health Organization. Gender mainstreaming for health managers: a practical approach. Geneva; World Health Organization; 2011. <https://apps.who.int/iris/handle/10665/44516>.
[10] Based on: Caruso BA, Salinger A, Patrick M, Conrad A, Sinharoy S. A Review of Measures and Indicators for Gender in WASH. WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene. 2021. <https://washdata.org/reports/gender-review-final-report>.

The final report included a traffic light assessment which shows that while at least one relevant measure exists for almost all of the identified dimensions and topic areas (water, sanitation, hygiene and menstruation), most have so far only been collected at subnational level and relatively few have been systematically collected at national level. The second phase of the review will aim to consolidate technical recommendations from the first phase and build consensus around a core set of priority indicators and tools for enhanced national and global monitoring of gender in WASH that can be piloted in a small number of countries and validated prior to integration and scale up within national monitoring systems.

One key finding of the gender review is that national data on WASH services are typically collected at household level rather than individual level and therefore cannot be disaggregated by sex or gender. These indicators can be considered gender-blind because they treat all members of the household the same and ignore differences between women and men. A small number of indicators used for national and global monitoring take account of the fact that the burden of inadequate WASH services is unevenly distributed between women and men, and can therefore be considered gender-sensitive. For example, accessibility of drinking water sources and use of private sanitation facilities are both gender sensitive indicators, but cannot be disaggregated by individual household members (see Sections 2 and 3). However, there are relatively few examples of indicators that directly address the specific WASH needs of women and men, and girls and boys, and can therefore be categorised as gender-specific, and still fewer gender-transformative indicators that address the underlying causes of gender-based inequalities.

This JMP 2023 progress update on household drinking water, sanitation and hygiene has a special focus on gender. Each section analyses currently available national statistics related to gender and WASH and highlights opportunities for enhanced national and global monitoring of gender and WASH in the future.

DOMAIN/DIMENSION	DEFINITION
ABILITY TO MEET WASH NEEDS	
Ability to meet WASH needs	Refers to women and men, boys and girls, and sexual and gender minorities experiencing equity of access to water, sanitation and hygiene facilities, with their different needs and vulnerabilities accounted for and addressed.
ACCESS TO RESOURCES	
Safety and freedom from violence	Freedom from interpersonal and gender-based violence, including women's freedom from both violent acts and threats of violence (both physical and sexual), coercion, harassment or force when accessing and using sanitation and hygiene locations or water collection points.
Privacy	An individual's ability to feel free from observation or being heard or disturbed by others when accessing and using sanitation locations and water sources, including for hygiene (e.g. menstruation, bathing) purposes.
Health	Includes physical, mental and social well-being as they affect and are affected by WASH options and conditions. Health can be viewed as both an outcome of WASH, such as illness linked to unsafe water consumption, and as a resource for accessing WASH, such as the physical ability to walk to water points or sanitation facilities.
Time and labor	Individuals' time and labor (paid or unpaid) spent on WASH-related tasks and activities and meeting their own WASH-related needs, as well as satisfaction with and control over the time and labor spent.
Financial resources and physical assets	Individuals' control over economic resources and long-term stocks of value, such as land, for the purposes of meeting individual and household WASH needs.
Knowledge and information	Individuals' knowledge and access to information related to water, sanitation and hygiene, including WASH improvements and maintenance.
Social capital	Individuals' membership in trusting and cooperative social networks that provide tangible (economic and material) and intangible (emotional and instrumental) support. This includes relationships or social ties with individuals or groups that help individuals access water, sanitation and hygiene, and complete WASH-related tasks and activities.
ABILITY TO EXERCISE AGENCY	
Household decision-making	Individuals' opportunities to influence and make decisions about water, sanitation and hygiene within their homes.
Public participation	Individuals' ability to participate in WASH-related public activities, including influencing decisions at a public level, participating in committees, assuming both formal (elected) and informal (positions of influence) leadership positions, and participating in WASH-related income-generating activities; and the impact of WASH conditions and responsibilities on individuals' abilities to participate in public life.
Freedom of movement	Individuals' autonomy to move freely both to access water, sanitation and hygiene facilities (including accessing resources to meet menstrual needs) and without hindrance as a result of limited WASH access.
MULTILEVEL ENABLING ENVIRONMENT	
Social context	Relationships, interactions and intergroup dynamics and social rules (including social inclusion, social cohesion, social norms and community solidarity) that may impact access to WASH.
Political context	Legal structures, including laws and policies, budgets and local leadership that can influence the realization of individuals' WASH-related rights and access.
Economic context	Inclusive of both physical market places and market systems, an enabling environment in which individuals can access the goods and services that they need for WASH, as well as participate for economic benefit.
Environmental context	The context in which individuals move and operate that can be enabling by providing individuals with safe, accessible conditions, or can pose a barrier to individuals' WASH access.

TABLE 3 Definitions of dimensions identified for assessing gender in WASH[13]

GENDER AND DRINKING WATER

Access to safe drinking water is a universal human right, but 2 billion people around the world still lacked safely managed drinking water services in 2022. The JMP 2023 progress update on WASH in households highlights inequalities in service levels between and within countries. However, the impact of inadequate drinking water on health, welfare and productivity varies across population subgroups.

Inequalities in the accessibility, availability and quality of drinking water services impact women and men in different ways. This is due partly to differences in the specific needs of women and men, but also to differences in gender norms and roles and responsibilities related to the provision of services. Inadequate service levels disproportionately affect women and girls who remain primarily responsible for domestic chores in many parts of the world. Women and girls are more likely to be responsible for ensuring the household has sufficient water for drinking, cooking, cleaning and caring for children, older people and those with disabilities. In many countries, accessing sufficient quantities of safe drinking water is both a physical burden and a source of psychosocial stress.

National data on drinking water are typically collected at household level, rather than individual level, but some indicators take account of gender inequalities and can therefore be considered gender-sensitive. In a small number of cases, national data can be disaggregated by sex or gender and are therefore considered gender-specific, but further work is required to develop indicators that address other dimensions of gender inequality related to drinking water.

Improving the accessibility of drinking water is a well established priority for achieving gender equality and empowering women and girls. Gender inequalities related to accessibility were also a key consideration in the construction of the SDG service ladder for drinking water which distinguishes households using improved sources accessible on premises from those that spend up to 30 minutes or more collecting water from improved sources located elsewhere. While these indicators are not gender-specific, they are gender-sensitive.

In 2022, there were 152 countries where more than three quarters of the population already had improved water accessible on premises (Figure 17). But there were still 41 countries with less than 50% coverage, including 17 countries where fewer than one in four people used improved sources accessible on premises (except for Haiti, the latter are all located in sub-Saharan Africa). The burden associated with not having water on premises is likely to disproportionately impact women and girls in these countries. The most extreme cases were Central African Republic, Chad, Haiti and South Sudan, where more than nine out of ten people still lacked an improved water source accessible on premises in 2022.

In 41 countries less than half the population used an improved source accessible on premises in 2022

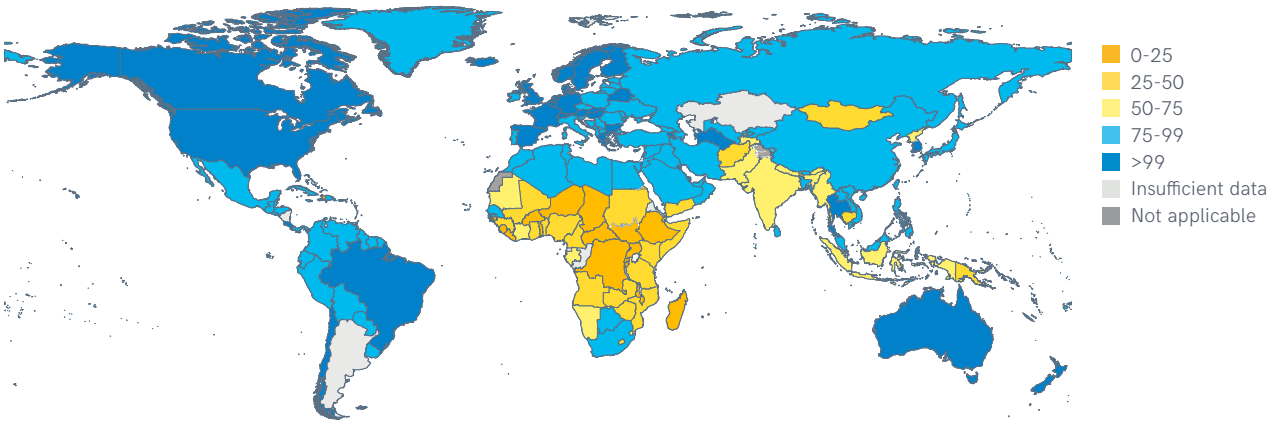


FIGURE 17 Proportion of population using an improved water source accessible on premises, 2022 (%)

Accessibility of drinking water is closely correlated with income (Figure 18). In high-income and upper-middle-income countries, almost all improved sources are either accessible on premises or within 30 minutes. By contrast, in lower-middle-income countries, around two thirds are accessible on premises. However, the accessibility gap is greatest in low-income countries where just over half the improved sources are accessible within 30 minutes and less than a third are accessible on premises. For example, in Afghanistan, while almost all improved sources (83%) are within 30 minutes (82%), just over half (47%) are accessible on premises. In Burundi, Liberia, Malawi, Rwanda, South Sudan and Uganda, the gap between coverage of improved sources and improved sources accessible on premises exceeded 60 % pts in 2022.

In low-income countries improved sources were far less likely to be accessible on premises or within 30 minutes in 2022

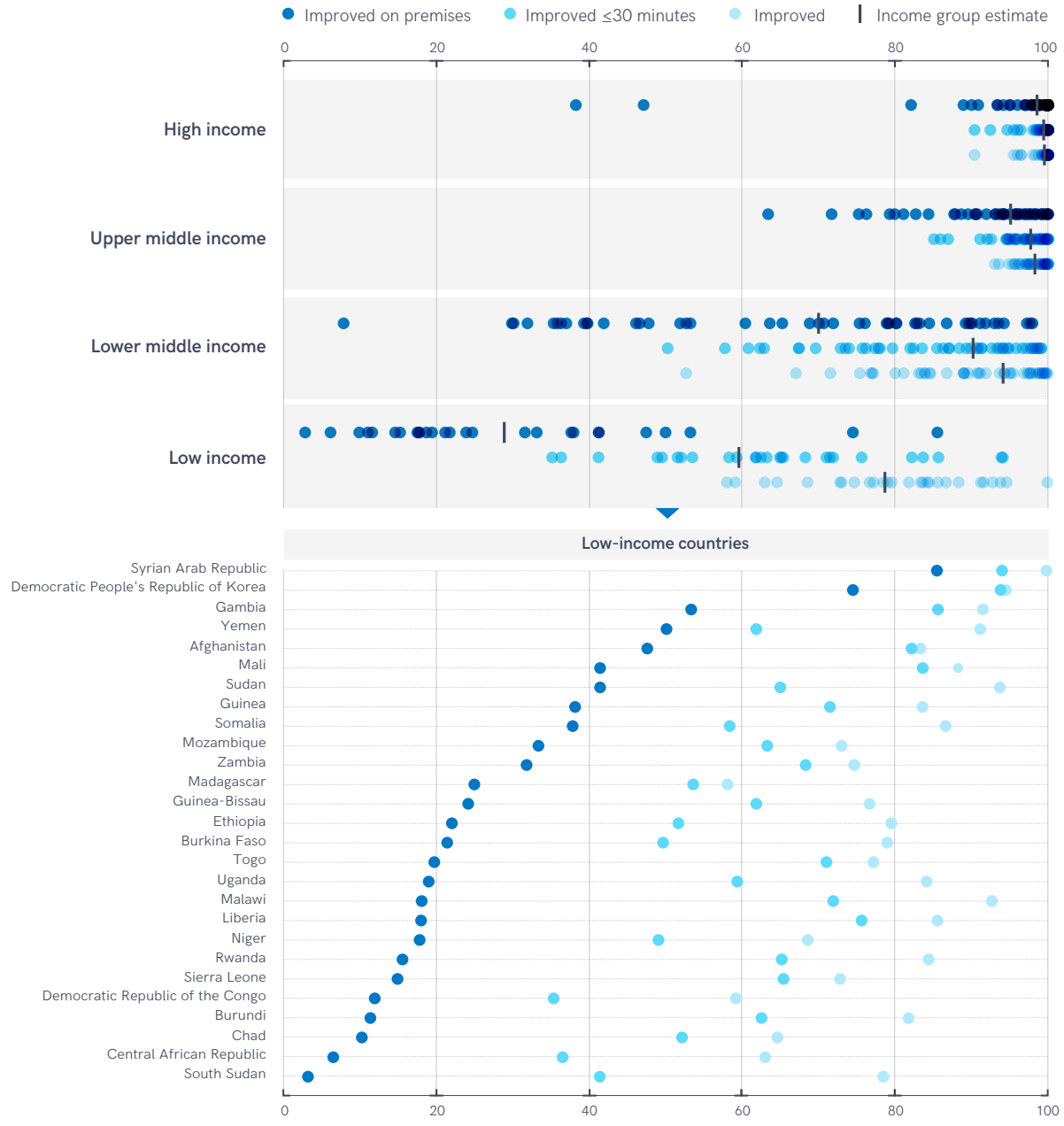


FIGURE 18 Proportion of population using improved sources, improved sources within 30 minutes, and improved sources on premises, by income group and country 2022 (%)

Women are mainly responsible for water carriage in most countries with disaggregated data

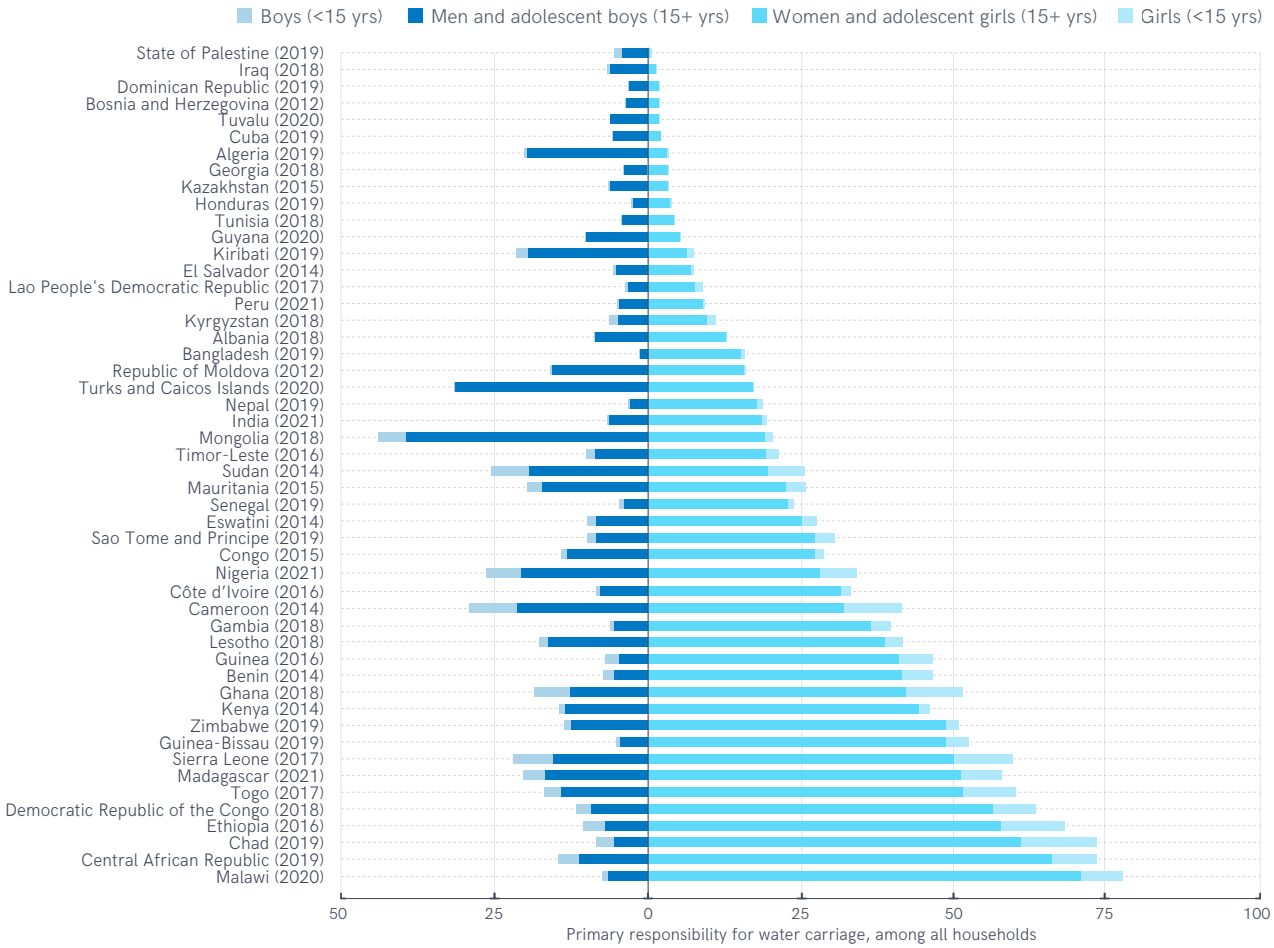


FIGURE 19 Proportion of households in which women, men, girls and boys are primarily responsible for water collection, by country, selected surveys where at least 10% of households collect water, 2012–2022 (%)

Figure 19 shows that responsibility for collecting drinking water from sources located off premises is often a highly gendered activity. Analysis of harmonized data from 50 recent surveys shows that primary responsibility for fetching drinking water falls mainly to women (34 countries).[11] In eight countries (Central African Republic, Chad, Democratic Republic of the Congo, Ethiopia, Madagascar, Malawi and Togo), over half of households relied on women to collect water. All 21 of the countries where at least a quarter of households relied on women are located in sub-Saharan Africa. In Bangladesh, Chad, Guinea-Bissau and Malawi, women are more than ten times more likely than men to be responsible for fetching water. The distribution of responsibility is most unequal in Malawi, where women and men are responsible for fetching water in 71% and 7% of households, respectively.

Over a quarter of households rely on men to collect water in Mongolia and Turks and Caicos Islands, and there were 13 other countries where more men collected water than women. Men were more likely to fetch water than girls in all countries (except for Chad, where men and girls are responsible in 6% and 12% of households, respectively, and Ethiopia, where men and girls are responsible in 7% and 10% of households, respectively). However, in two thirds of countries with data available, girls were more likely than boys to be responsible for water carriage. The largest differences were in Chad and Ethiopia, where girls were four and three times as likely as boys to be responsible for collecting water, respectively.

[11] Household surveys often use the terms 'adult men' and 'adult women' to describe individuals aged 15 years and older, and 'female child' and 'male child' to describe individuals under 15 years of age. The United Nations defines individuals aged 0–18 as children, and those aged 10–19 as adolescents. Accordingly, the group of 'adult women (aged 15+ years)' would more correctly be termed 'women and girls aged ≥15 years', or 'women and adolescent girls aged ≥15 years'. Likewise, 'female child' would be more accurately termed 'girls <15 years'. This report uses these terms in the Figures, but uses the shortened terms 'women', 'men', 'girls' and 'boys' in the text.

The burden and responsibility for water carriage also varies between regions (Figure 20). Globally, it is estimated that 16% of the population (1.8 billion people) live in households where water is collected from sources located off premises (both improved and unimproved). In two out of three of these households (63%), women are primarily responsible for water carriage, compared with one in four households (26%), where men are responsible. Nearly half (45%) of the 1.2 billion people in sub-Saharan Africa and a quarter (24%) of the 2.1 billion people in Central and Southern Asia still rely on water collection, compared with only 12% of the population in Northern Africa and Western Asia (554 million), and just 3% in Latin America and the Caribbean (660 million). Women are four times as likely as men to fetch water in sub-Saharan Africa and nearly three times as likely in Central and Southern Asia. However, in Northern Africa and Western Asia, and in Latin America and the Caribbean, men are more likely to be responsible. Globally, girls (7%) are more likely than boys (4%) to fetch water and this is true for all regions except Northern Africa and Western Asia.

Figure 21 shows the average amount of time spent each day collecting water in countries with disaggregated data available for women, men, girls and boys. The average time spent per household per day on water collection ranges from 55 minutes in Malawi to less than one minute in Dominican Republic. In 21 out of 32 countries, women and girls spent more time collecting water than men and boys. In countries where men and boys are primarily responsible for water collection, the burden of water carriage was relatively light: men and boys spent four minutes per day fetching water in Kiribati and Mongolia, two minutes per day in Algeria, and one minute or less per day in the remaining eight countries. In all 12 countries where household members spent at least 10 minutes per day collecting water, women were primarily responsible for water fetching; all but one of these countries are located in sub-Saharan Africa. In 11 countries, women and girls spent more than five times as much time collecting water per day as men and boys, and in five countries (Bangladesh, Chad, Gambia, Guinea-Bissau and Malawi), women and girls spent more than ten times as much time. The biggest gender disparity was observed in Malawi, where women and girls spent 52 minutes per day collecting water while men and boys spent three minutes. In Chad, girls spent five times as much time per day (eight minutes) collecting water than boys (1.7 minutes).

Women and adolescent girls are primarily responsible for water carriage in seven out of ten households using sources located off premises

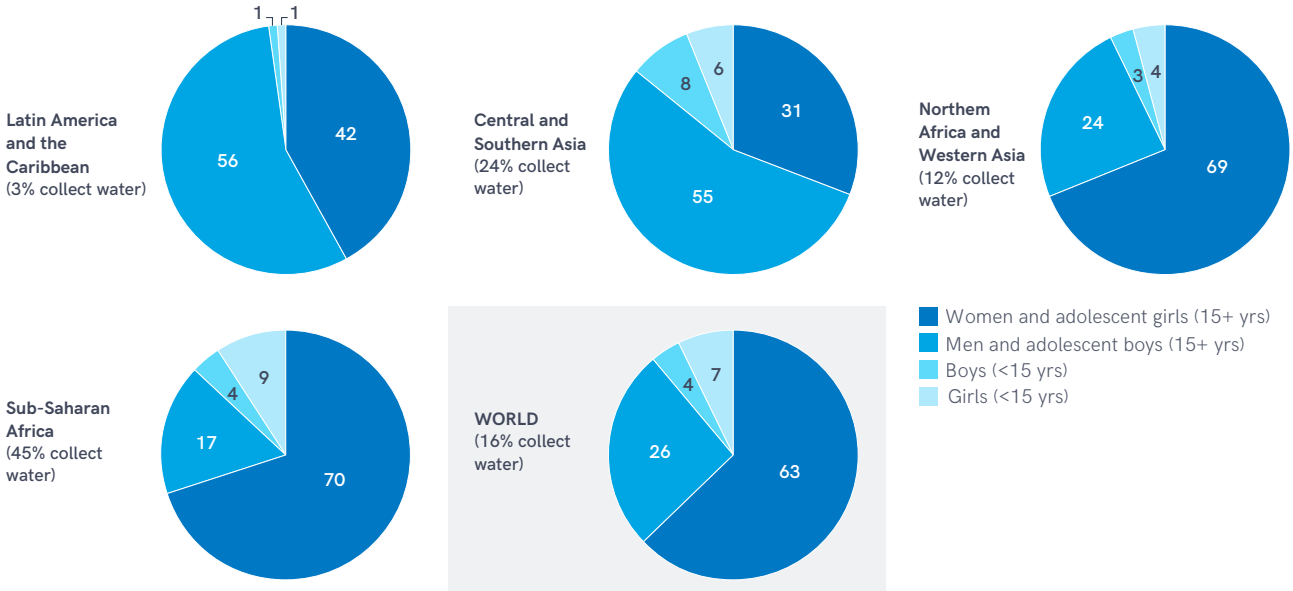


FIGURE 20 Primary responsibility for water collection among households using sources located off premises, by region (%)

In almost all countries with comparable data, the burden of water carriage remains heavier for women and girls

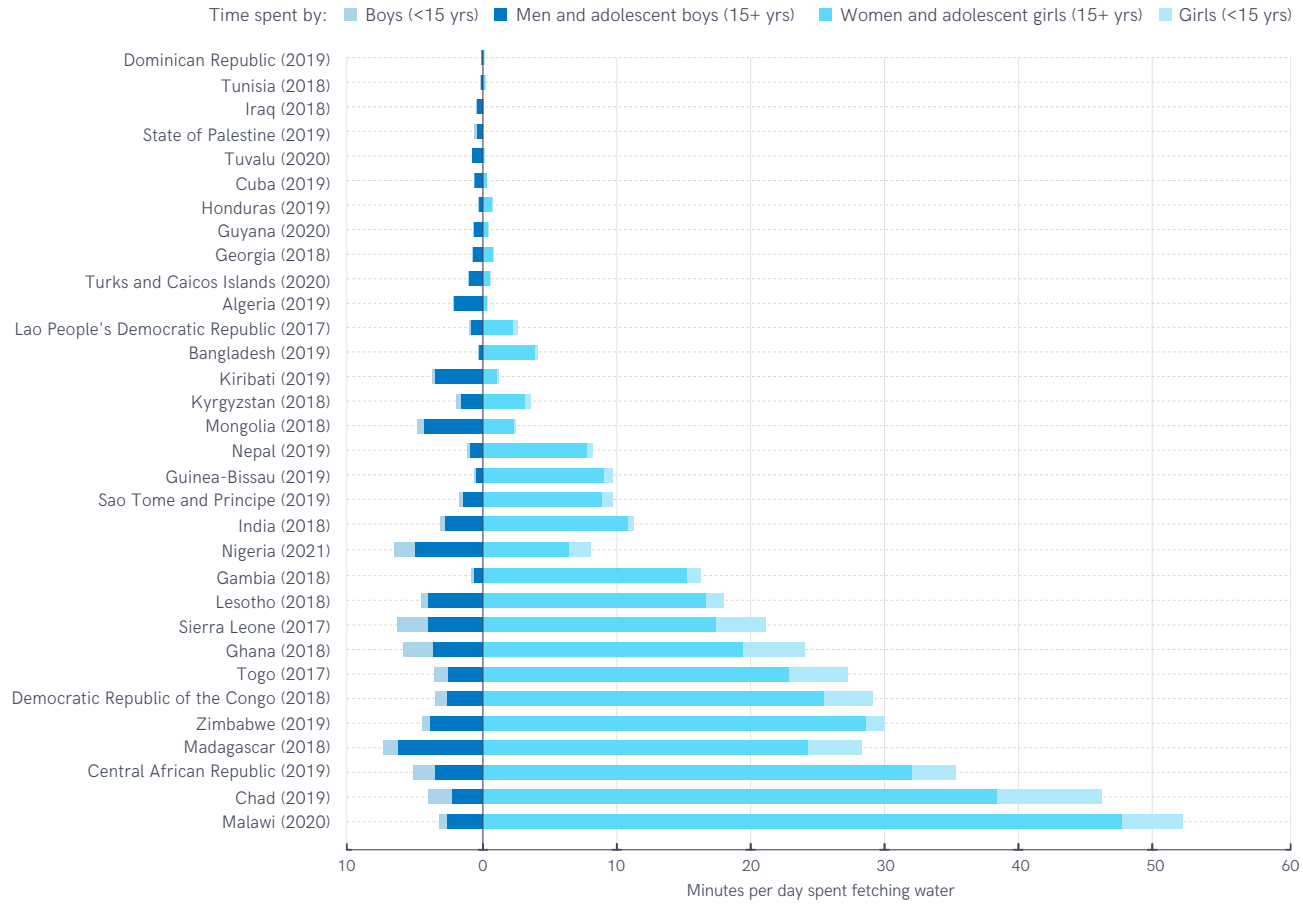


FIGURE 21 Average time spent collecting water by women, men, girls and boys, by country, selected surveys, 2012–2022 (minutes per day)

The Individual Water Insecurity Experience (IWISE) scale aims to measure individual experiences of water insecurity based on 12 questions that ask about frequency of water-related problems in the previous year. During 2020, the scale was included in Gallup World Poll phone surveys administered to nationally representative samples of adult women and men in 31 low-income and middle-income countries. Individuals with a composite IWISE score of 12 or higher (out of a possible 36) were classed as water insecure.[12] Figure 22 shows that, after adjusting for socio-economic and other differences among individuals, mean IWISE scores varied widely between countries and were higher in sub-Saharan Africa and Latin America than in North Africa and Asia. In some countries, women reported more insecurity experiences while in others, men did with the biggest differences observed in Cameroon, Ethiopia and Ghana. In Cameroon, average IWISE scores were 2.6 points higher among women, while in Ethiopia and Ghana, scores were 2.7 and

Individual experiences of water insecurity vary widely between countries and regions but overall differences between men and women are small

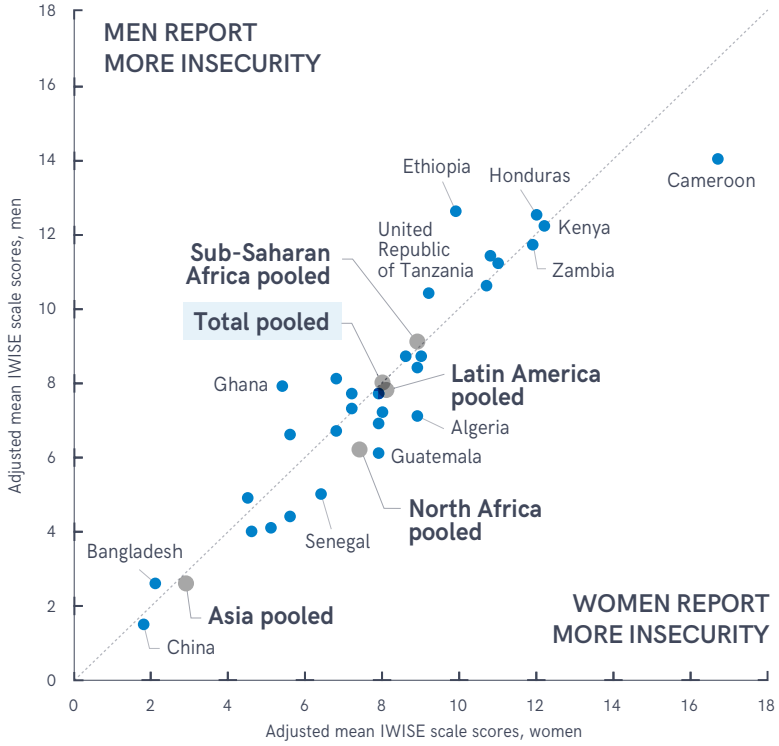


FIGURE 22 Individual Water Insecurity Experience scale (IWISE) adjusted mean scores for women and men, by country and region (countries weighted equally to produce pooled scores), 2020

2.5 points higher among men, respectively. Scores pooled across countries suggest that regional differences are small and at global level both women and men have an average IWISE score of eight.

While existing national data highlight significant gender inequalities related to drinking water, further work is required to understand sex and gender-related differences in drinking water needs and to find ways to measure inequalities in access to the knowledge, resources and social support needed to satisfy them.

[12] Young SL, Bethancourt HJ, Ritter ZR, Frongillo EA. Estimating national, demographic, and socioeconomic disparities in water insecurity experiences in low-income and middle-income countries in 2020–21: a cross-sectional, observational study using nationally representative survey data. The Lancet Planetary Health. 2022;6(11):e880-e91. doi: 10.1016/S2542-5196(22)00241-8.

GENDER AND SANITATION

Access to safe sanitation is a universal human right, but in 2022, 3.4 billion people still lacked safely managed sanitation services. The JMP 2023 progress update documents inequalities in service levels between and within countries, but it is widely recognized that the impact of inadequate sanitation is not evenly distributed across the population.

Accelerating progress on sanitation is a high priority for achieving gender equality because inadequate services disproportionately impact the health, welfare and productivity of women and girls. Physical differences mean that women and girls face additional challenges when it comes to safely accessing and using toilets with privacy and dignity, and gender norms mean that women and girls are less likely to be able to influence the design and delivery of sanitation services. Inadequate sanitation poses additional health risks for pregnant women. It may also expose women and girls directly to violence, and the perceived threat of violence can add to other causes of psychosocial stress such as the perceived threat of harassment, or the threat of being unable to meet basic needs.[13]

While national data on sanitation are rarely disaggregated by sex, some indicators take account of gender inequalities and can therefore be considered gender-sensitive. For example, gender inequalities related to the accessibility of sanitation services were acknowledged in the construction of the SDG service ladder for sanitation. This distinguishes populations who practise open defecation (no service) from those using improved sanitation facilities that are private, and from those that are shared with other households. In a small number of cases, national data can be disaggregated by sex or gender and are therefore considered gender-specific, but further work is required to develop indicators that address other dimensions of gender inequalities related to sanitation.

In 2022, 419 million people worldwide did not use a toilet and practised open defecation. Women and girls who practise open defecation are less likely to be able to maintain privacy and dignity, and more likely to face physical, sexual or verbal assault than men and boys.[14] While there were still 36 countries with open defecation rates between 5% and 25%, gender inequalities are likely to be greatest in the 13 countries where at least one in four people practise open defecation. These are mostly in sub-Saharan Africa and include Chad (63%), Niger (65%) and South Sudan (60%), where more than half of the population still practised open defecation in 2022 (Figure 44).

[13] Mills JE, Cumming O. The impact of water, sanitation and hygiene on key health and social outcomes. Sanitation and Hygiene Applied Research for Equity (SHARE) and UNICEF. 2016;112.

[14] Burt Z, Nelson K, Ray I. Towards gender equality through sanitation access: UN-Women; 2016.Discussion paper no. 12. doi:10.18356/25216112/12

In 13 countries, more than one in four people still practised open defecation in 2022

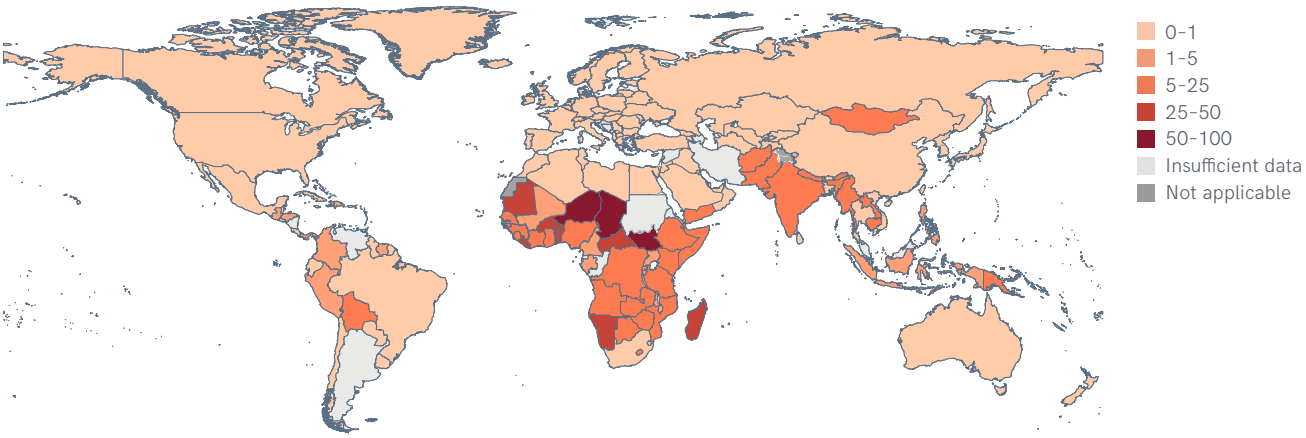


FIGURE 44 Proportion of population practising open defecation in 2022 (%)

Shared sanitation facilities are an important interim solution when individual household facilties are not feasible, but they frequently do not meet the needs of women and girls due to concerns about accessibility when needed, cleanliness, privacy and personal safety.[15] In 2022, 570 million people used improved facilties that were shared with other households and count as a 'limited' service. Three out of five (335 million) lived in urban areas. Gender inequalities related to shared sanitation are likely to be greatest in the 33 countries where more than a quarter of the urban population used limited services in 2022, of which 30 were located in sub-Saharan Africa (Figure 45).

In 2022, one in five people used limited services in sub-Saharan Africa (18%), compared with one in ten in Central and Southern Asia (11%), and one in twenty in Oceania (5%).

However, Figure 46 shows that the proportion of sharing among those using improved sanitation facilities decreased in many countries and regions

[15] World Health Organization. Guidelines on sanitation and health. Geneva; World Health Organization; 2018 <https://apps.who.int/iris/handle/10665/274939>.

In 33 countries, more than one in four people in urban areas used limited sanitation services in 2022

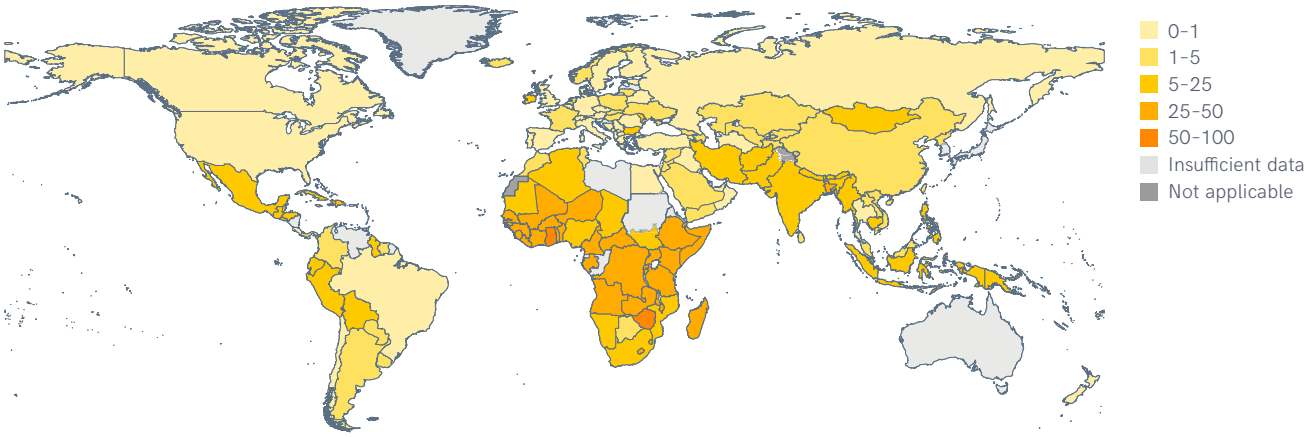


FIGURE 45 Proportion of urban population with limited sanitation services in 2022 (%)

between 2000 and 2022. In sub-Saharan Africa, sharing declined from 41% to 34%, with Ghana achieving the biggest decrease (from 89% to 61%). A similar decline was seen in Central and Southern Asia (from 21% to 13%), where Nepal recorded a reduction of over 30 % pts (from 43% to 11%). In Northern Africa and Western Asia, sharing was cut in half, from 7% to 3%, and in Iraq, the practice was eliminated, falling from 17% in 2000. All other regions achieved decreases, except for Oceania, where the proportion increased from 9% to 14%.

Since 2000, the proportion of improved sanitation facilities that are shared has fallen rapidly in many countries

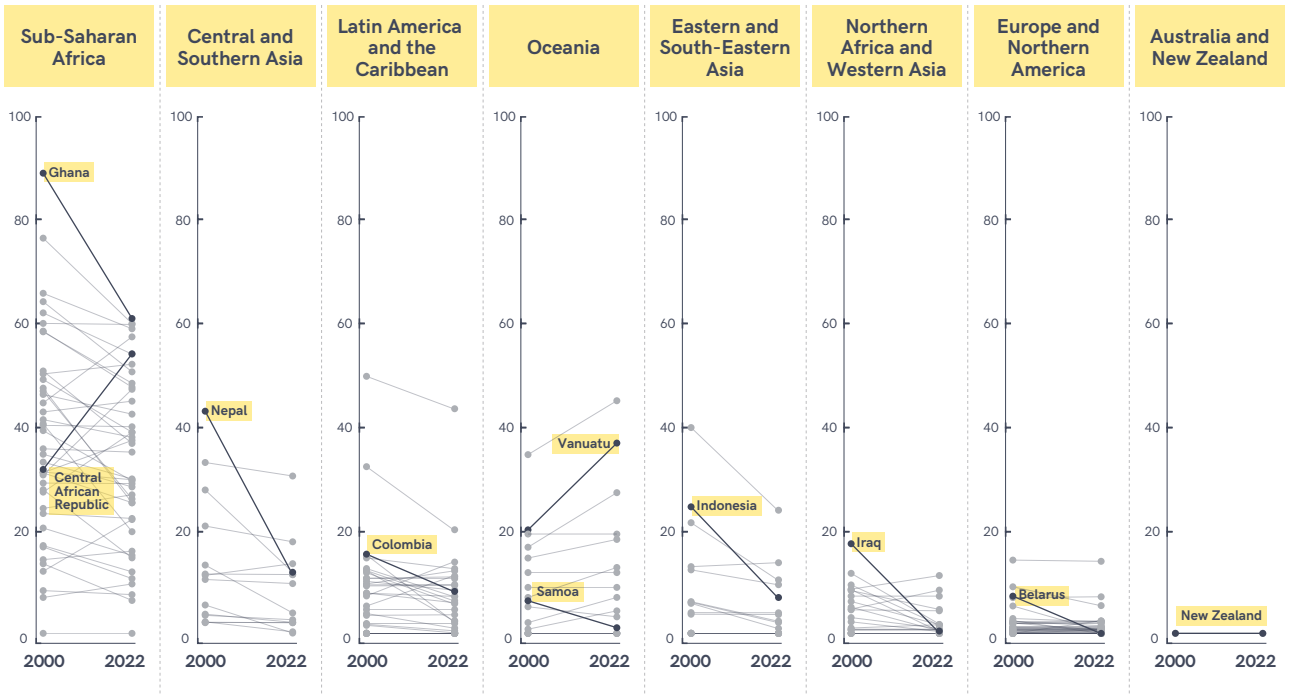


FIGURE 46 Proportion of population sharing sanitation facilities with other households among the population using improved sanitation facilities, by country, 2000 and 2022 (%)

Safety and freedom from violence (both violent acts and threats of violence) has been identified as another key dimension of gender related inequality in WASH. For example, women and girls who need to leave the household for defecation and urination may face harassment or risks of sexual violence, especially at night. The Multiple Indicator Cluster Surveys (MICS) ask women and men separately how safe they feel walking alone in their neighborhood after dark. In 22 recent surveys among households that use shared sanitation facilities, men were much more likely than women to report feeling 'very safe' (Figure 47). For example, in Georgia, 85% of men but only 47% of women said that they felt very safe, while in Belarus, men (59%) were more than four times as likely to report feeling very safe than women (13%). Far fewer respondents reported feeling 'very unsafe', but this was much more common among women than men.

In households with shared sanitation, women are less likely to feel very safe and more likely to feel very unsafe walking alone after dark

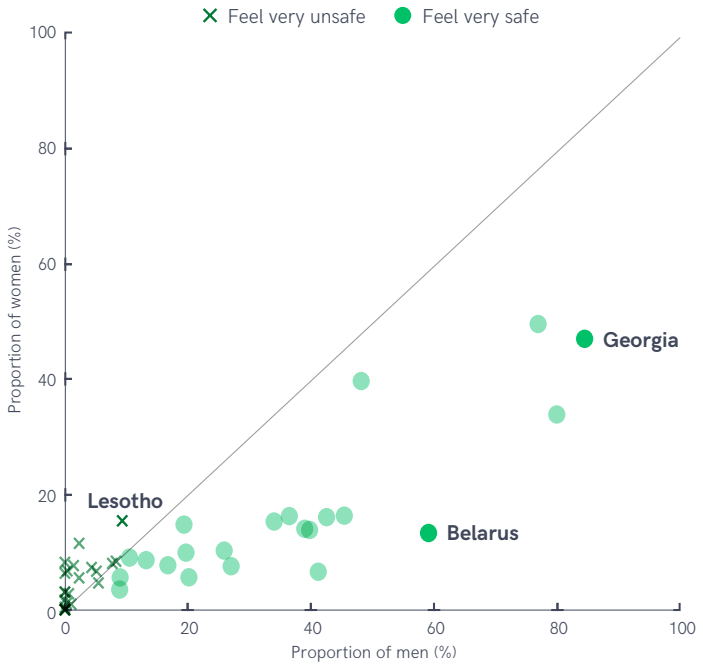


FIGURE 47 Proportion of women and men sharing sanitation facilities who report feeling very safe and very unsafe while walking alone in their neighbourhood after dark, selected Multiple Indicator Cluster Surveys, 2018–2021 (%)

Perceived risks faced while using the toilet vary widely between subnational regions in Sierra Leone and Nigeria

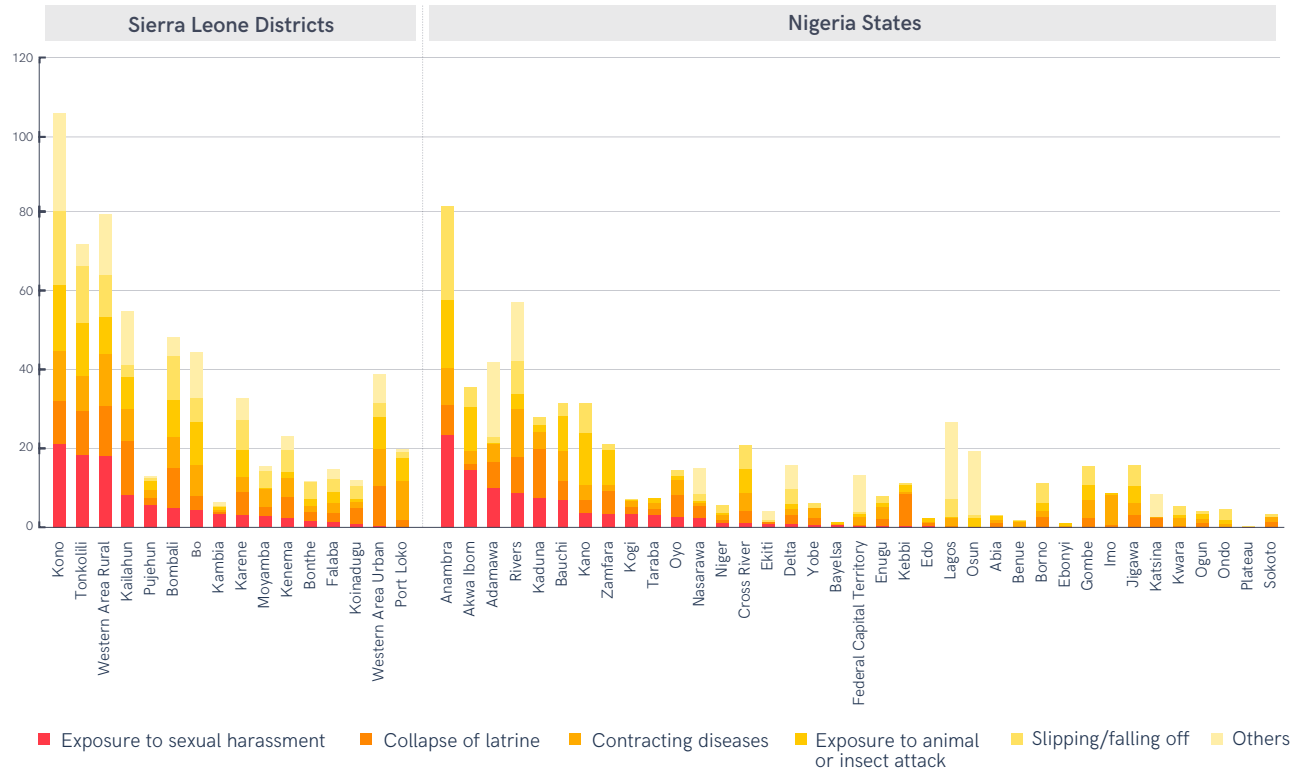


FIGURE 48 Proportion of population reporting exposure to sexual harassment and other risks while using the toilet, by subnational region in Sierra Leone (2022) and Nigeria (2021) (%)

Recent Water, Sanitation and Hygiene National Outcome Routine Mapping (WASHNORM) household surveys in Sierra Leone and Nigeria asked about perceived risks while using the toilet. One in five households in Sierra Leone (21%) and one in ten households in Nigeria (8%) reported perceived risks. In both countries, perceptions of risk were twice as high among households sharing sanitation facilities, and in Nigeria, households using public latrines were more likely to report risks than those sharing with other households they know. Figure 48 shows that the type and number of different risks reported varied widely across subnational regions. While exposure to sexual harassment was less commonly reported than fear of contracting diseases, collapse of latrines and exposure to insect attacks, the perceived risk was significantly higher in some regions than others.

Women's and men's perceptions of risk often differ. For example, a 2022 MUSE survey in Warangal, India found that more women (19%) than men (1%) agreed that women in their community face the risk of being physically harmed by men or boys when going to sanitation locations. Meanwhile, a MUSE 2022 survey in Kampala, Uganda found that more men (39%) than women (21%) agreed with the statement.[16]

Very few countries have national data on individual experiences/satisfaction with sanitation services. During the COVID-19 epidemic, the United States Census Bureau launched an experimental Household Pulse Survey.[17] This included data from respondents who reported

[16] Caruso et al. Measuring Urban Sanitation and Empowerment (MUSE). MUSE preliminary reports for Kampala, Uganda and Warangal, India. 2022: <https://www.museproject.org/publications-reports>

[17] <https://www.census.gov/data/experimental-data-products/household-pulse-survey.html>

having been displaced from their home in the past year because of a natural disaster, such as a hurricane, flood or fire. In the first month after the natural disaster, approximately half of all respondents that were displaced reported experiencing unsanitary conditions such as inadequate toilets. Cisgender males and females, and those that identified as straight, were least likely to report unsanitary conditions. In contrast, 33% of those identifying as gay or lesbian, 67% of bisexuals and 89% of transgender respondents reported experiencing unsanitary conditions 'a lot' (Figure 49).

While existing national data highlight point to gender inequalities related to sanitation, further work is required to understand sex and gender-related differences in sanitation needs and to find ways to systematically measure inequalities in access to the knowledge, resources and social support needed to satisfy them.

In the United States of America, persons who identify as gay or lesbian, bisexual, non-cisgender and transgender are more likely to experience unsanitary conditions after a natural disaster

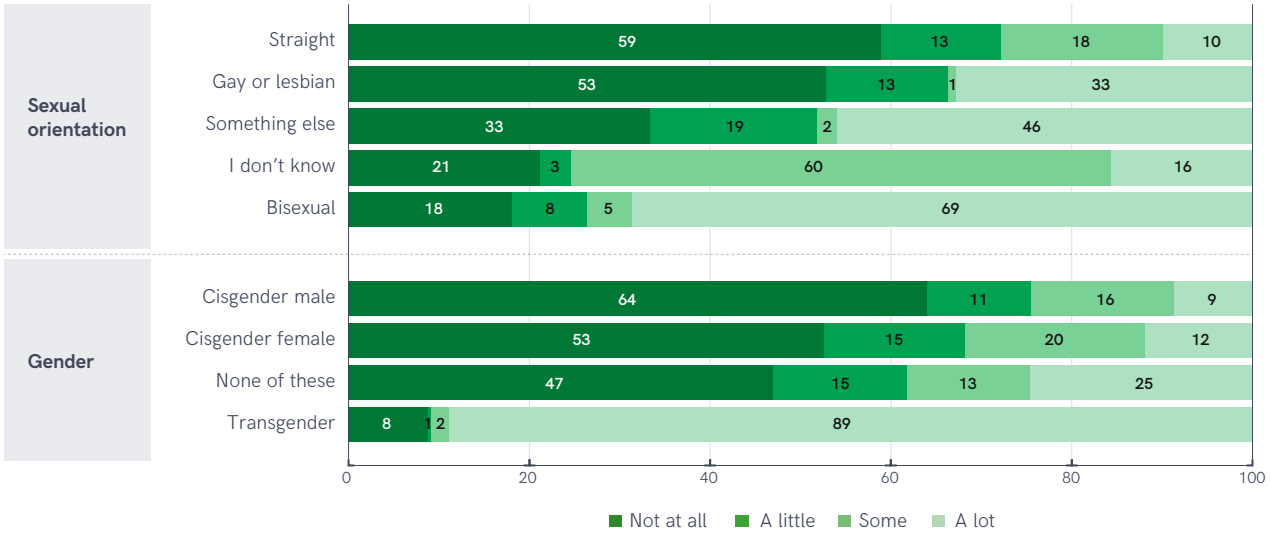


FIGURE 49 Proportion of population that reported experiencing unsanitary conditions following a disaster, by sexual orientation and gender in the United States of America, 2022 (%)

GENDER AND HYGIENE

Hand hygiene is a top priority for improving global health. However, in 2022, 2 billion people worldwide still lacked access to a handwashing facility with soap available at home. The JMP 2023 progress update highlights inequalities in service levels between and within countries. But the burden of inadequate hygiene also varies widely across population subgroups.

It is widely recognized that inequalities in hygiene services impact women and men in different ways. This is partly due to differences in the specific needs of females and males, but also due to differences in gender norms, roles and responsibilities related to hygiene. Inadequate hand hygiene is likely to disproportionately impact women and girls because they remain primarily responsible for child care and domestic chores in many countries around the world. Access to handwashing facilities is also important for maintaining personal hygiene, and women and girls, and other persons who menstruate, have specific additional hygiene needs related to menstrual health (Section 5).

National data on hand hygiene are typically collected at household rather than individual level, but some indicators take account of gender inequalities and can therefore be considered gender-sensitive. In a small number of cases, national data can be disaggregated by sex or gender and are therefore considered gender-specific, but further work is required to develop indicators that address the specific hygiene needs of women and girls.

In 2022, 84 countries had estimates for basic hygiene services (access to handwashing facilities with soap and water available at home). Among these were 25 countries where more than one in four people had no handwashing facility at all. The most extreme cases in 2022 were ten countries where more than half the population still had no handwashing facility at home (Figure 71). Over two thirds of the population had no facility in Guinea-Bissau (66%), Liberia (73%), Sierra Leone (70%) and Togo (75%). The burden associated with not having handwashing facilities is likely to disproportionately impact women and girls in these countries.

People are much more likely to report washing their hands at key times than to consistently practise proper hand hygiene. However, it is time consuming and difficult to objectively measure handwashing practices.

In ten countries more than half the population still had no handwashing facility in 2022

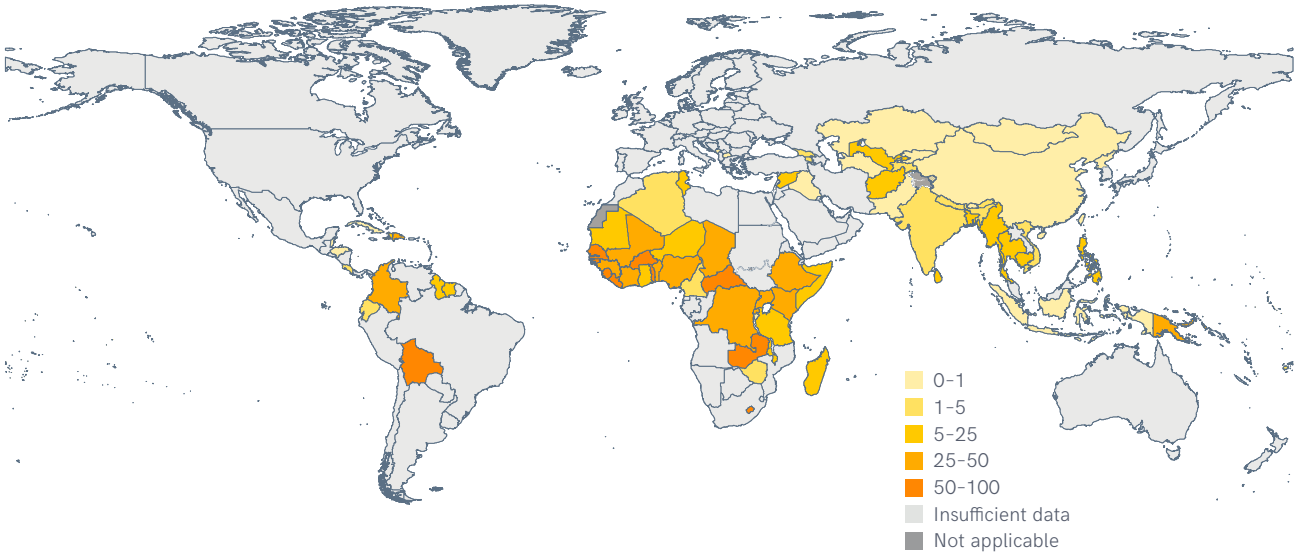


FIGURE 71 Proportion of population with no handwashing facility at home, by country, 2022 (%)

Studies in high-income countries find that women are more likely than men to wash their hands

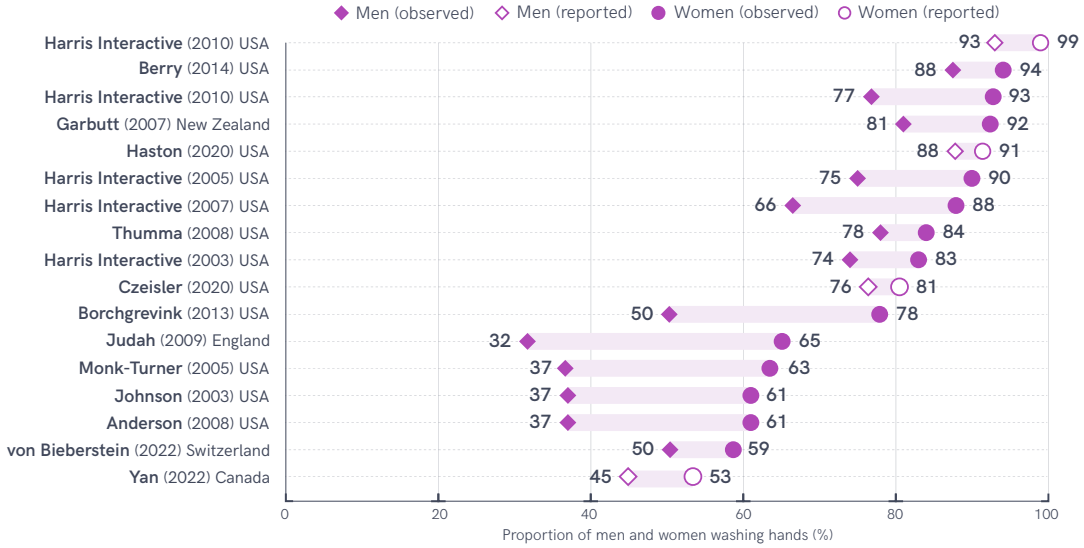


FIGURE 72 Proportion of women and men observed or reporting washing their hands with soap and water, selected studies, 2003–2022 (%)

A small number of studies in high-income countries have either asked people about their reported handwashing practices, or observed actual handwashing behaviour in public settings, such as bathrooms in universities, transport hubs or museums.[18] These studies are often small-scale, not nationally representative and not fully comparable due to methodological differences. However, they consistently show that, while people do not always wash their hands after using public bathrooms, women are more likely to do so than men (Figure 72).

In one study of motorway rest stop bathrooms in England, women were more than twice as likely as men to be observed washing their hands with soap and water after using the toilet (Judah, 2009). However, in most other studies, gender gaps were smaller, at around 10–25 % pts. Women are also more likely to self-report handwashing than men, but this gap is smaller. In 2010, a Harris Interactive study found that 99% of women and 93% of men in the United States of America reported 'always' washing their hands after using public toilets, but structured observation in four major cities showed that only 93% of women and 77% of men actually did so. A similar study in shopping malls in New Zealand (Garbutt, 2007) found that males (81%) not only washed their hands less frequently than females (92%), but also washed their hands for a shorter period of time and were less likely to use soap (66.2% vs. 76.5%).

Further work is required to understand sex and gender-related differences in personal hygiene needs and to find ways to measure inequalities in access to the knowledge, resources and social support needed to satisfy them.

[18] Anderson JL, Warren CA, Perez E, Louis RI, Phillips S, Wheeler J, et al. Gender and ethnic differences in hand hygiene practices among college students. Am J Infect Control. 2008;36(5):361-8.
Berry TD, Mitteer DR, Fournier AK. Examining hand-washing rates and durations in public restrooms: a study of gender differences via personal, environmental, and behavioral determinants. Environ Behav. 2015;47(8):923-44.
Borchgrevink CP, Cha J, Kim S. Hand washing practices in a college town environment. J Environ Health. 2013;75(8):18-25.
Czeisler MÉ, Garcia-Williams AG, Molinari N-A, Gharpure R, Li Y, Barrett CE, et al. Demographic characteristics, experiences, and beliefs associated with hand hygiene among adults during the COVID-19 pandemic — United States, June 24–30, 2020. Morb Mortal Weekly Rep. 2020;69(41):1485.
Garbutt C, Simmons G, Patrick D, Miller T. The public hand hygiene practices of New Zealanders: a national survey. The New Zealand Medical Journal (Online). 2007;120(1265).
Harris Interactive. A survey of hand washing behavior (trended): Prepared for the American Microbiology Society and the American Cleaning Institute. 2010. <https://www.cleaninginstitute.org/sites/default/files/assets/1/AssetManager/2010%20Hand%20Washing%20Findings.pdf>.
Haston JC, Miller GF, Berendes D, Andújar A, Marshall B, Cope J, et al. Characteristics associated with adults remembering to wash hands in multiple situations before and during the COVID-19 pandemic — United States, October 2019 and June 2020. Morb Mortal Weekly Rep. 2020;69(40):1443.
Johnson HD, Sholcosky D, Gabello K, Ragni R, Ogonosky N. Sex differences in public restroom handwashing behavior associated with visual behavior prompts. Percept Mot Skills. 2003;97(3):805-10.
Judah G, Aunger R, Schmidt W-P, Michie S, Granger S, Curtis V. Experimental pretesting of hand-washing interventions in a natural setting. Am J Public Health. 2009;99(S2):S405-S11.
Monk-Turner E, Edwards D, Broadstone J, Hummel R, Lewis S, Wilson D. Another look at hand-washing behavior. Social Behavior and Personality: an international journal. 2005;33(7):629-34.
Thumma J, Aiello AE, Foxman B. The association between handwashing practices and illness symptoms among college students living in a university dormitory. Am J Infect Control. 2009;37(1):70-2.
von Bieberstein F, Kulle A-C, Schumacher S. Large gender and age differences in hand disinfection behavior during the COVID-19 pandemic: Field data from Swiss retail stores. arXiv preprint arXiv:221009094. 2022.
Yan AP, Howden K, Mahar AL, Glidden C, Garland SN, Oberoi S. Gender differences in adherence to COVID-19 preventative measures and preferred sources of COVID-19 information among adolescents and young adults with cancer. Cancer Epidemiol. 2022;77:102098.

Menstrual health

INTRODUCTION

A large proportion of the global population experience menstruation and, since the start of the SDG period, there has been a concerted effort to develop definitions and indicators for monitoring menstrual health. Menstrual health is linked to SDG target 6.2 which aims to achieve 'access to adequate sanitation and hygiene for all… paying special attention to the needs of women and girls', and there has been an increased focus on menstrual health and hygiene within national WASH policies and programmes. The JMP has expanded its global databases to incorporate emerging national data on menstrual health and this is the second JMP progress update to include it as a dedicated section.

The JMP does not currently use a menstrual health service ladder because norms and standards for monitoring menstrual health are still evolving. However, a growing number of national household surveys include new questions on menstrual health in questionnaires for adolescent girls and women age 15-49. These are typically administered by female enumerators and questions on menstrual health are only asked of those who have menstruated in the last year.

For the purposes of global monitoring, harmonized data are now available for four main indicators:

- **awareness** of menstruation before menarche;
- **use of menstrual materials** to capture and contain blood, such as sanitary pads, cloth, tampons or cups;
- access to a **private place to wash and change** while at home; and
- **participation** in activities during menstruation, such as school, work and social activities.

Menstrual health indicators are sex-specific and highly gender-relevant, and therefore provide a useful measure of gender-related inequalities in WASH. They address both the specific sanitation and hygiene-related needs of women and girls, and other persons who menstruate, and also wider gender norms, taboos and stigma that surround menstruation in many parts of the world. Existing menstrual health data typically refer to adolescent girls and women age 15-49. Globally, this age group comprised nearly 2 billion females in 2022. As these indicators are collected through household surveys, they can also be disaggregated by geographic, socio-economic and individual characteristics to better understand inequalities in menstrual health. However, the experience of many adolescents who start menstruating before the age of 15 is not captured in these data. Furthermore, it is not currently possible to disaggregate information for gender and sexual minorities from existing national datasets on menstrual health. Further work is therefore required to monitor menstrual health among these groups (Box 7).

BOX 7

Not all people who menstruate are women; not all women menstruate

While much of the literature about menstruation refers to 'women and girls', it is considered more inclusive to refer to 'people who menstruate', or 'women, adolescent girls and people who menstruate'.[19] Some women do not have periods due to menopause, stress or having had a hysterectomy. Likewise, people who are not cisgender women (for example, transgender men, intersex and non-binary) can menstruate. Some gender-diverse people experience feelings of gender dysphoria, which can be exacerbated by menstruation and by some aspects of menstrual hygiene management, such as the use of tampons or menstrual cups.

Menstrual products are often branded and designed with traditionally feminine imagery, such as pink colours and flowers, which may be unattractive or offensive to gender-diverse people who menstruate. Tampons and pads are increasingly available (either for free, or through vending machines) in women's toilets in public areas, and women's toilets also frequently have sanitary bags and bins for disposal of used menstrual materials. However, these amenities are not available in men's or many gender-neutral bathrooms.

[19] Babbar K, Martin J, Varanasi P, Avendaño I. Inclusion means everyone: standing up for transgender and non-binary individuals who menstruate worldwide. The Lancet Regional Health-Southeast Asia. 2023;13:100177.

Furthermore, transgender and non-binary people who menstruate may feel uncomfortable using 'men's' rooms when menstruating, for fear of being identified as a non-cisgender man, with potentially dangerous consequences.[20]

[20] Barrington DJ, Robinson HJ, Wilson E, Hennegan J. Experiences of menstruation in high income countries: A systematic review, qualitative evidence synthesis and comparison to low-and middle-income countries. PLoS One. 2021;16(7):e0255001.

By 2022, nationally representative data on menstrual health were available for 53 countries, representing seven out of eight SDG regions, of which 44 countries had data for at least three of the four harmonized indicators (Figure 82). Fifty-one countries had data for use of materials, 50 countries had data for a private place to wash and change, and 46 countries had data on participation in activities during menstruation. Only two countries had national data on awareness of menstruation before menarche, Egypt and Bangladesh, the latter of which was the only country with data for all four indicators.

Sub-Saharan Africa had the largest number of countries with data (20), more than Europe and Northern America (three), Northern Africa and Western Asia (five), Oceania (five), and Eastern and South-Eastern Asia (six) combined. Since the 2021 progress update, the total number of countries with data on menstrual health has increased by more than a quarter, from 42 to 53. Most of the growth has been in lower-middle-income countries where the number of countries with data rose from 18 in 2021 to 25 in 2023 (Figure 83). Turks and Caicos Islands was the only high-income country, area or territory with menstrual health data available for this 2023 upate.

National data for menstrual health indicators are available from seven out of eight SDG regions

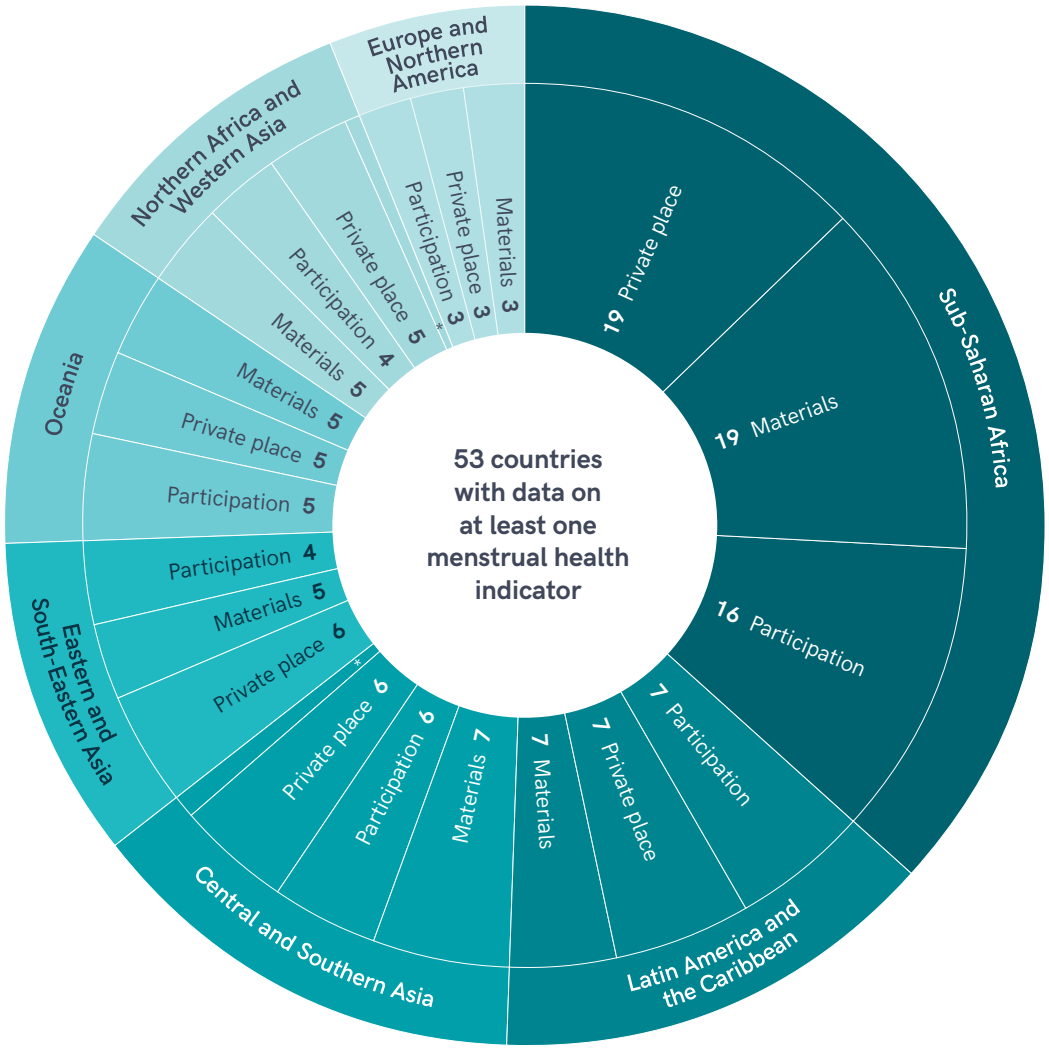


FIGURE 82 Number of countries with national data on menstrual health indicators, by SDG region

*Awareness data from one country in the region.

The number of countries with menstrual health data available has increased since the JMP 2021 update

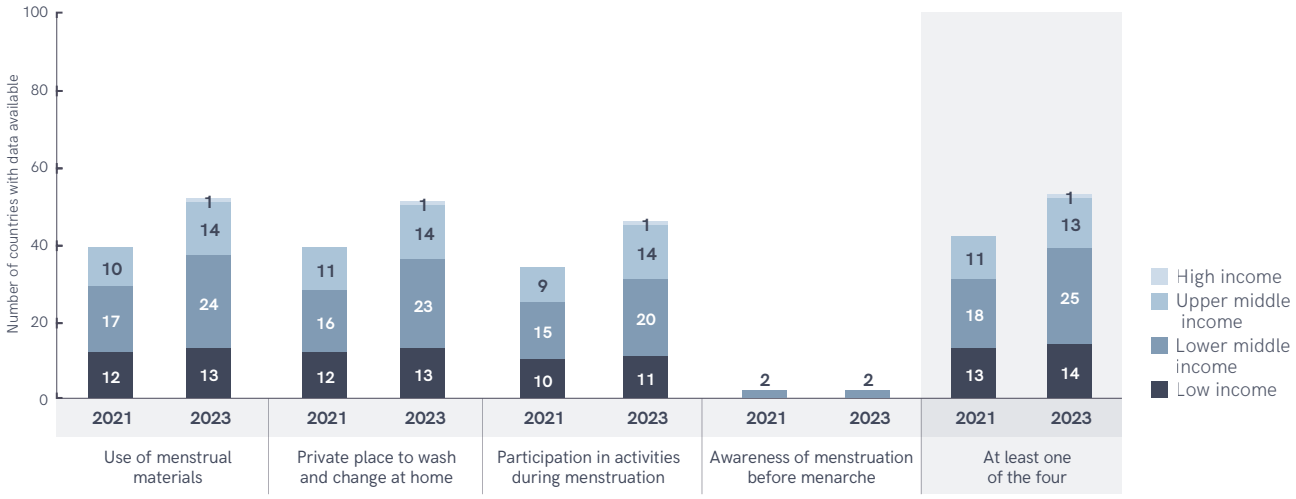


FIGURE 83 Number of countries with data on menstrual health indicators in the 2021 and 2023 JMP progress updates, by income

Very few indicators relating to menstruation can be disaggregated by sex, but Demographic and Health Surveys (DHS) include a common set of questions for adult women and men on knowledge and attitudes to reproductive health. Analysis of disaggregated data from 46 countries shows that in almost all countries, women were more likely than men to correctly identify the fertile period (the middle of the menstrual cycle) (Figure 84). This highlights the importance of involving men and boys in campaigns to promote menstrual health. In 33 countries, fewer than one in five men correctly identified the fertile period, compared with just 15 countries with fewer than one in five women. In Armenia, twice as many women (50%) had correct knowledge than men (25%), and in Liberia, women (12%) were four times as likely to have correct knowledge than men (3%). In Mozambique, men and women were both equally unlikely to correctly identify the fertile period (3%).

Women were more likely than men to correctly identify the fertile period in almost all countries

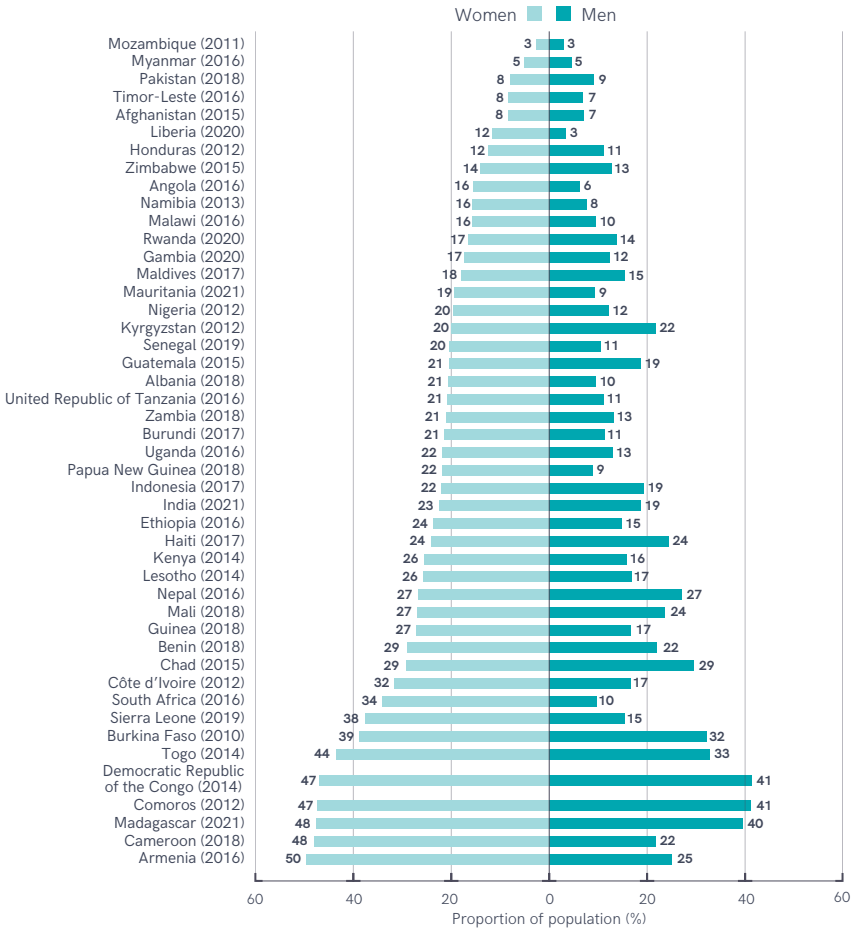


FIGURE 84 Correct knowledge of the fertile period for women and men, selected national surveys, DHS, 2010–2021 (%)

AWARENESS

Awareness of menstruation before menarche has been identified as a useful indicator of changing gender and social norms related to menstruation, but only a small number of countries have collected this information to date. While Bangladesh and Egypt are the only countries with nationally representative data, subnational surveys are available for Magway region in Myanmar and for Soroti district in Uganda. Disaggregated data enables analysis of awareness among girls age '11 and younger', 12, 13, 14 and '15 and older' at menarche. Figure 85 shows that awareness among the oldest age group in Myanmar (85%) was significantly higher than in Egypt (70%) and Uganda (54%), and more than twice as high as in neighbouring Bangladesh (41%). Uganda has the largest gap (22 % pts) in awareness between girls aged '15 and older' and girls aged '11 and younger' at menarche, but there are also large gaps in Bangladesh (16 % pts) and Egypt (13 % pts).

The same survey in Egypt included a follow up question: 'The first time you got your menstrual cycle, what was your reaction?'. Those who were not aware of menstruation prior to having their first period were nearly twice as likely to experience shock, upset and fear as those who were already aware of menstruation at menarche (74% vs. 40%). Thirty-seven percent of girls who were already aware were either happy or indifferent, compared with just 7% of those who were unaware (Figure 86).Various types of

Awareness of menstruation before menarche varies by country and also by age at menarche

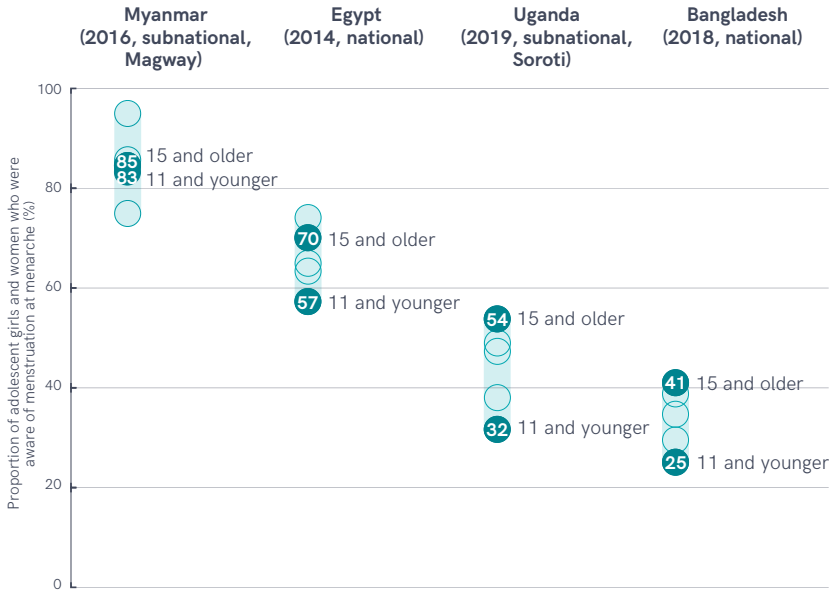


FIGURE 85 Proportion of adolescent girls and women who knew about menstruation before menarche, by age at menarche, selected surveys, 2014–2019 (%)

Note: Subnational surveys focused on schoolgirls

In Egypt, adolescent girls who were unaware of menstruation at menarche were nearly twice as likely to experience shock, upset and fear

FIGURE 86 Proportion of adolescent girls and women in Egypt, by awareness and experience at menarche, 2014 (%)

MATERIALS

materials may be used to capture and contain menstrual blood, including single use and reusable materials. For the purposes of global monitoring, adolescent girls and women who used materials such as sanitary pads, tampons, menstrual cups, cloth or cotton wool during their last period are counted as 'using menstrual materials'. Those who only used toilet paper, underwear alone or nothing, are counted as 'not using menstrual materials'. Those reporting that they used reusable materials during their last period are counted as 'using reusable materials'.

The total proportion using menstrual materials was high in most of the 51 countries with data, but further disaggregation reveals differences between population subgroups (Figure 87). The differences between rural and urban areas, between adolescent girls age 15–19 and women age 20–49, and between those with and without functional difficulties, are mostly small. However, in some countries, usage is lower among adolescent girls and women in the poorest quintile. The gap in usage between richest and poorest exceeded 5 % pts in Democratic Republic of the Congo, Madagascar, Nepal, Tuvalu and Lao People's Democratic Republic, where there was a gap of 50 % pts between use of materials among the richest (97%) and the poorest (47%).

Use of menstrual materials is high for all population subgroups

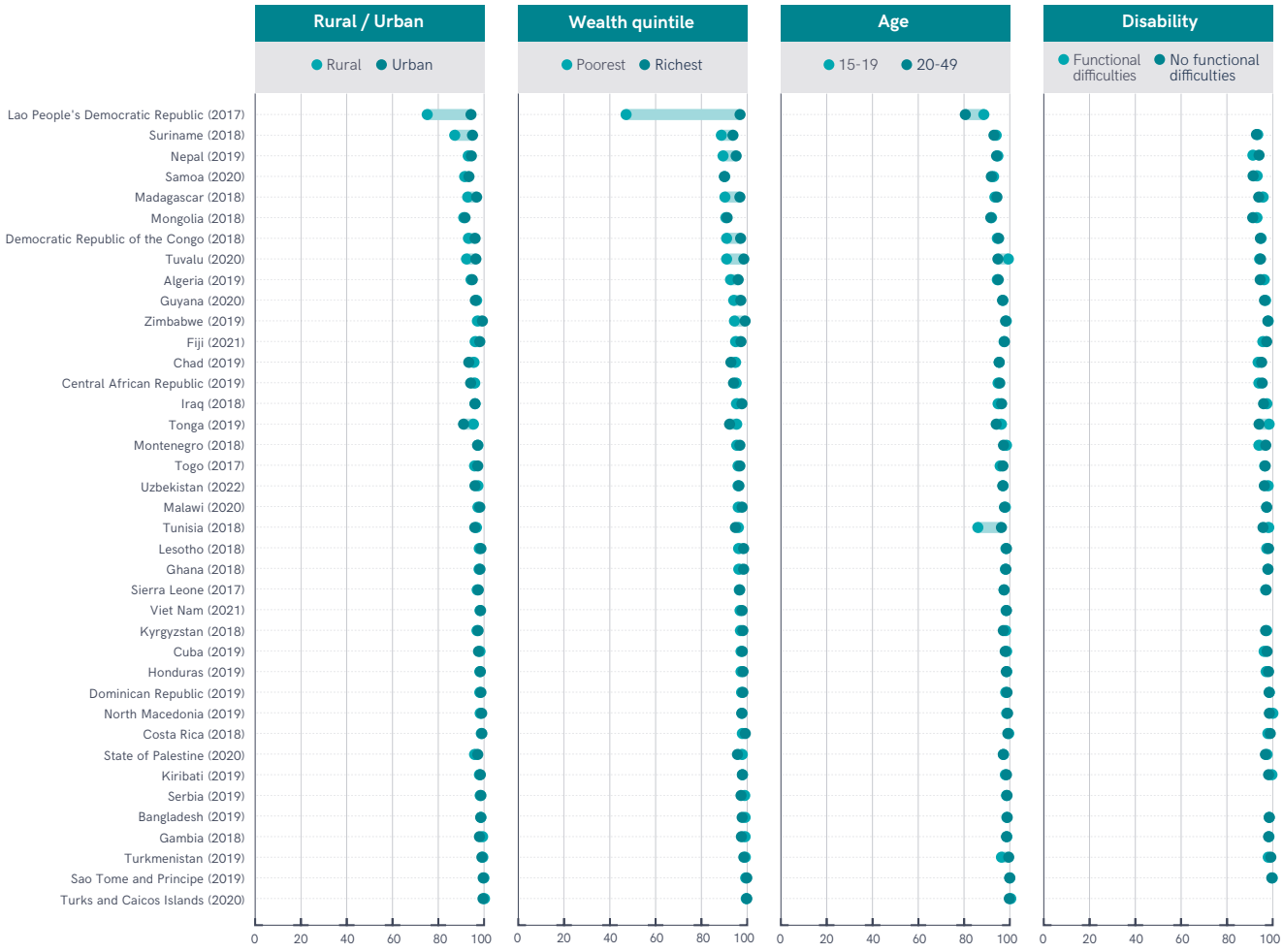


FIGURE 87 Proportion of adolescent girls and women age 15–49, who used menstrual materials during their last period, by residence, wealth, age and disability, selected surveys, 2016–2022 (%)

The types of menstrual materials used are often country context specific. However, a small number of national household surveys have collected data on types of menstrual materials which also reveal differences between urban and rural areas (Figure 88). In all five countries with comparable data, sanitary pads were more commonly used in urban areas, and cloth was more commonly used in rural areas. The biggest differences were observed in Madagascar where pads were three times as likely to be used in urban areas, and in India where cloth was nearly twice as likely to be used in rural areas. In rural areas of Zimbabwe, adolescent girls and women were twice as likely to use cotton wool, while in rural areas of Madagascar, they were five times as likely to not use any menstrual materials and to only use underwear.

In five countries with comparable data, adolescent girls and women in urban areas were more likely to use sanitary pads compared to those in rural areas, who were more likely to use cloth

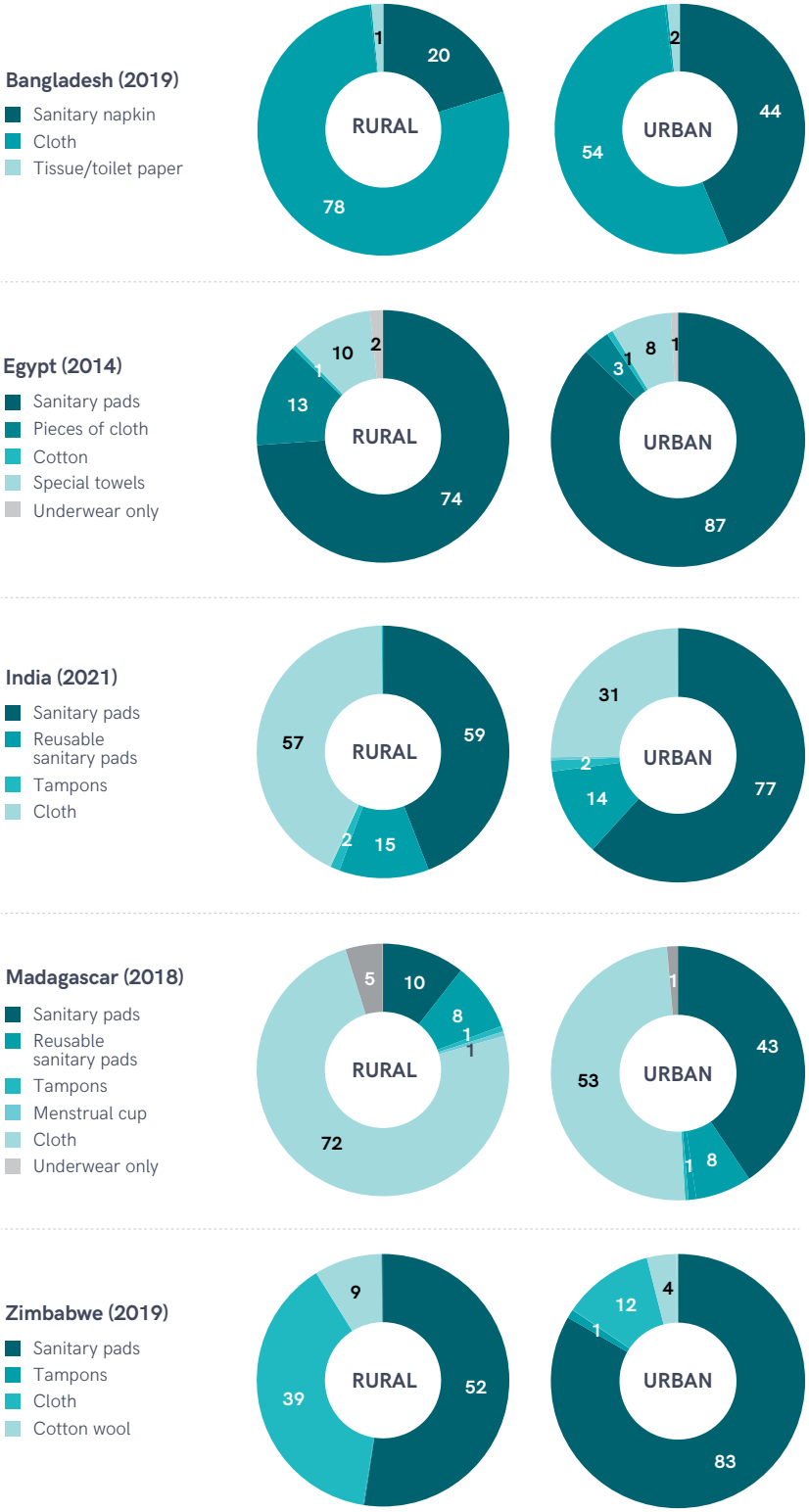


FIGURE 88 Proportion of adolescent girls and women age 15-49, by type of menstrual material they typically use, selected surveys, 2014-2021 (%)

Adolescent girls and women living in rural areas are more likely than those living in urban areas to use reusable menstrual materials or no materials at all

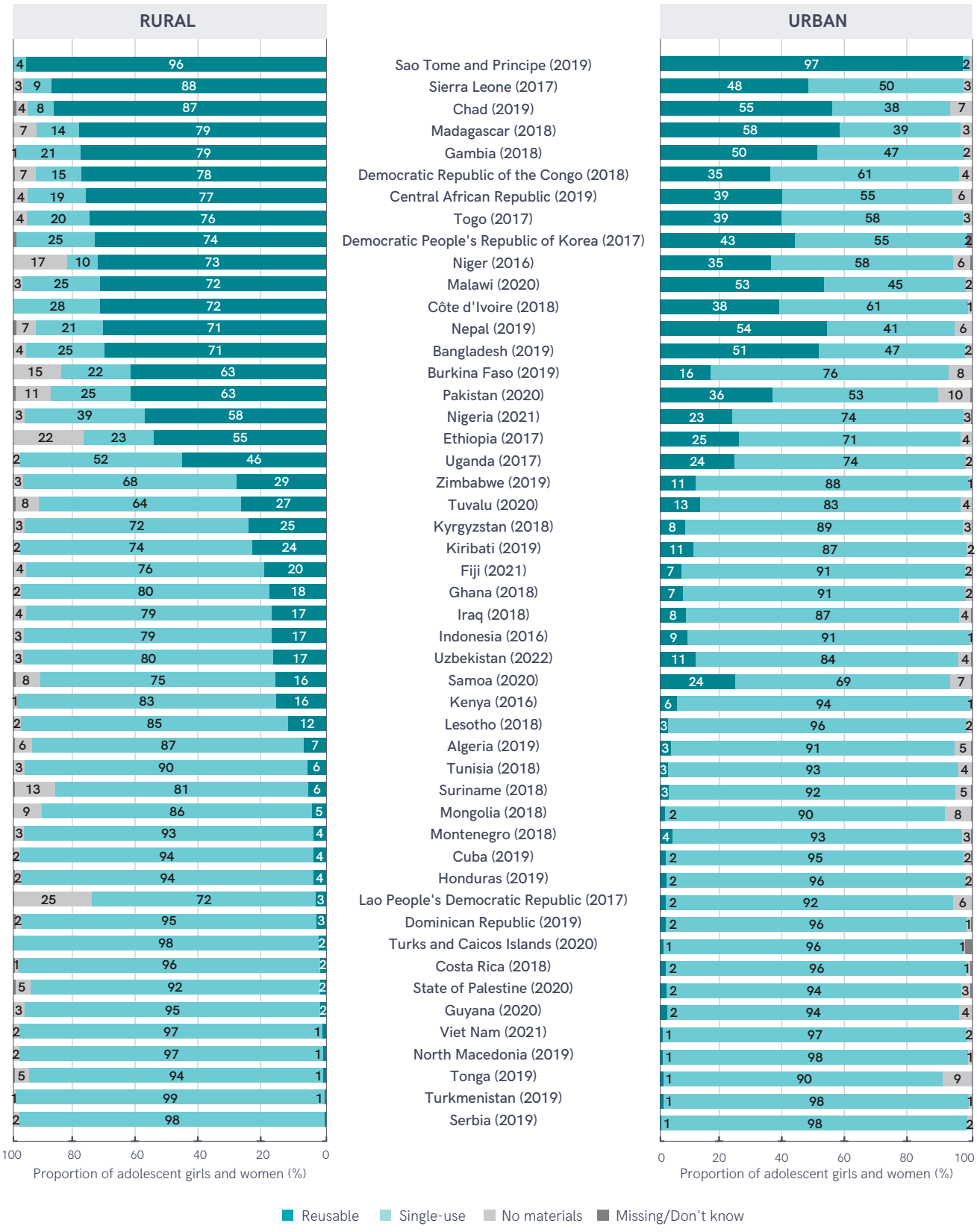


FIGURE 89 Proportion of adolescent girls and women who mainly use reusable and single-use materials, in rural and urban areas by country, selected surveys, 2016–2022 (%)

The proportion of the population using reusable materials also varies widely between and within countries (Figure 89). In most countries, reusable materials are more commonly used in rural areas. In Sierra Leone, 88% use reusable materials in rural areas, compared with just 48% in urban areas, while in Indonesia, 17% use reusable materials in rural areas, and 9% in urban areas. Adolescent girls and women in rural areas are also more likely to report using no materials. There were seven countries where more than one in ten of those living in rural areas used no materials, and no countries where more than one in ten of those living in urban areas used no materials. One in five used no materials in rural Ethiopia, compared with one in twenty in urban areas. Pakistan is the only country where at least 10% of girls and women use no materials in both rural and urban areas. In a few countries, such as Tonga, more women and girls use no materials in urban areas compared to rural areas.

The type of menstrual materials used also has implications for WASH-related needs such as water and soap to wash hands, provision of reusable materials and a safe place to dispose of single-use materials. Figure 90 shows that many adolescent girls and women who use reusable materials lack a handwashing facility with soap and water at home. In 15 countries, more than a quarter lacked facilities with soap and water, and in eight countries, more than half lacked facilities with soap and water, making it more difficult to meet hygiene needs related to menstruation.

In eight countries, less than half the adolescent girls and women who use reusable materials had a handwashing facility with soap and water available at home

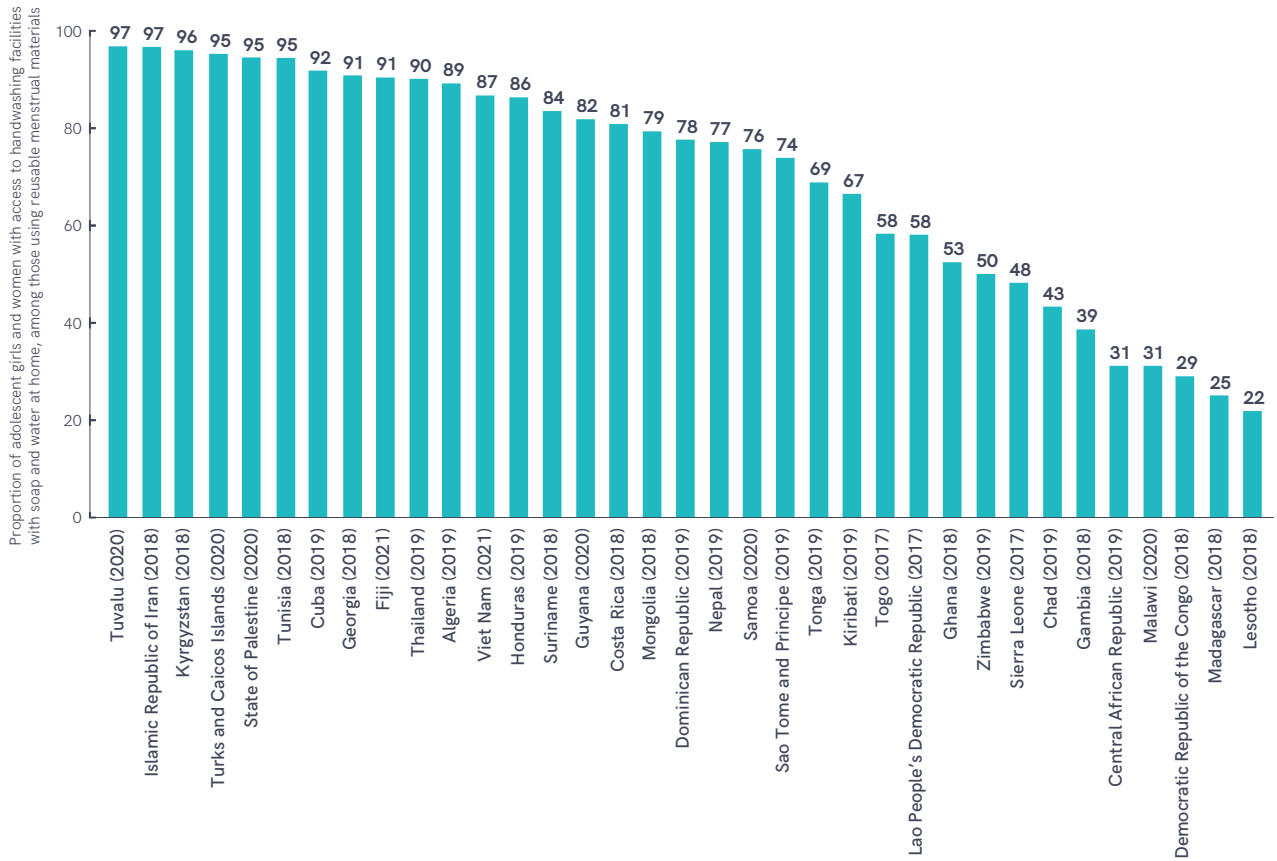


FIGURE 90 Proportion of adolescent girls and women age 15-49 with access to handwashing facilities with soap and water at home, among those mainly using reusable menstrual materials, selected Multiple Indicator Cluster Surveys 2017-2021 (%)

Safe disposal of single-use materials is also a growing concern. In four out of nine countries with data available on methods of disposal, the majority of adolescent girls and women used a waste bin. But in five countries, the majority of single-use materials were disposed of in latrines or flush toilets. In Kenya, Uganda and Burkina Faso, over 80% of adolescent girls and women who use single-use materials directly dispose of them in latrines. In Ghana, Indonesia and Nigeria, over 10% of those who use single-use materials dispose of them by burning (Figure 91).

Few countries have data on whether adolescent girls and women are satisfied with menstrual materials. However, a recent survey of women in Ugandan refugee camps by the United Nations High Commissioner for Refugees (UNHCR) includes questions on satisfaction with Menstrual Hygiene Management kits (Figure 92). While less than half of the women surveyed reported receiving sufficient quantities, three quarters said that the kits were very useful and four out of five said they were very good quality. Only 4% of women reported exchanging, gifting or selling the kits to others.

In five out of nine countries, more than half of adolescent girls and women who used single-use materials disposed of them in latrines or flush toilets

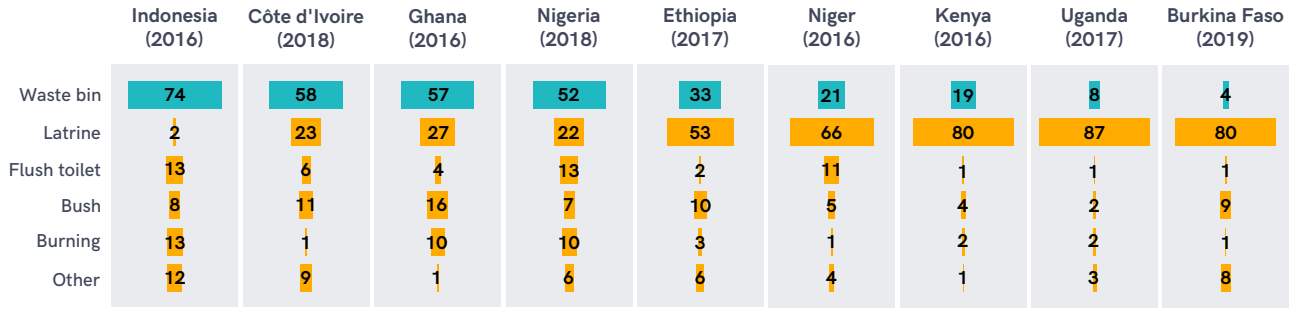
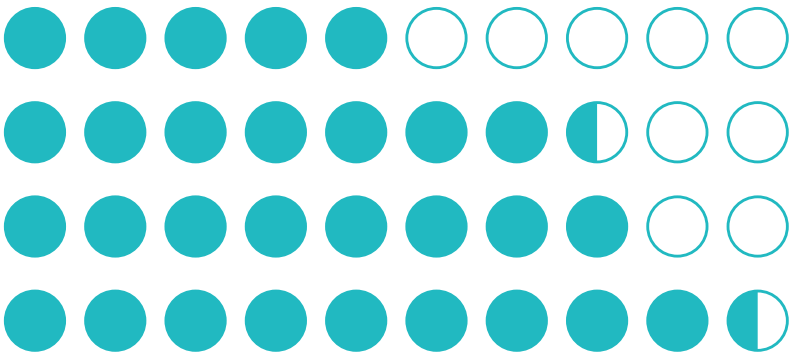


FIGURE 91 Proportion of adolescent girls and women age 15-49, who mainly used single-use menstrual materials during their last period, by method of disposal, selected surveys, 2016-2019 (%)

In refugee camps in Uganda, less than half the women received sufficient quantities of menstrual hygiene materials but over three quarters said they were very useful or very good quality



49% reported receiving a sufficient quantity

75% said they were very useful

81% said they were good or very good quality

96% reported they did not sell, gift or exchange them

FIGURE 92 Post-distribution monitoring of menstrual hygiene management kits in refugee camps, subnational survey in Uganda, 2020

PRIVATE PLACE TO WASH AND CHANGE

A growing number of household surveys ask about the ability to wash and change in privacy during menstruation. In most of the 50 countries with data available in 2022, over 80% of adolescent girls and women reported having a private place to wash and change at home. However, further analysis shows that in some countries there are significant differences between the richest and poorest, and between those with and without functional difficulties (Figure 93). The gap between poorest and richest having access to a private place to wash and change was more than 5 % pts in Algeria, Democratic Republic of the Congo, Kyrgyztan and Mongolia, and more than 10 % pts in Guinea-Bissau, Kiribati and Nepal. In Lao People's Democratic Republic, there was a gap of 56 % pts between the richest (97%) and the poorest (41%). Not all countries have data disaggregated by disability but in Nepal, only 77% of those with functional difficulties had a private place to wash and change at home, compared with 87% of those without functional diffulties. Cuba, Guyana, Mongolia and Uzbekistan had gaps of more than 5 % pts.

Performance Monitoring and Accountability surveys from seven countries collected additional information about the condition of the place that adolescent girls and women use

In some countries the poorest adolescent girls and women, and those with functional difficulties, were less likely to have a private place to wash and change at home during their last period

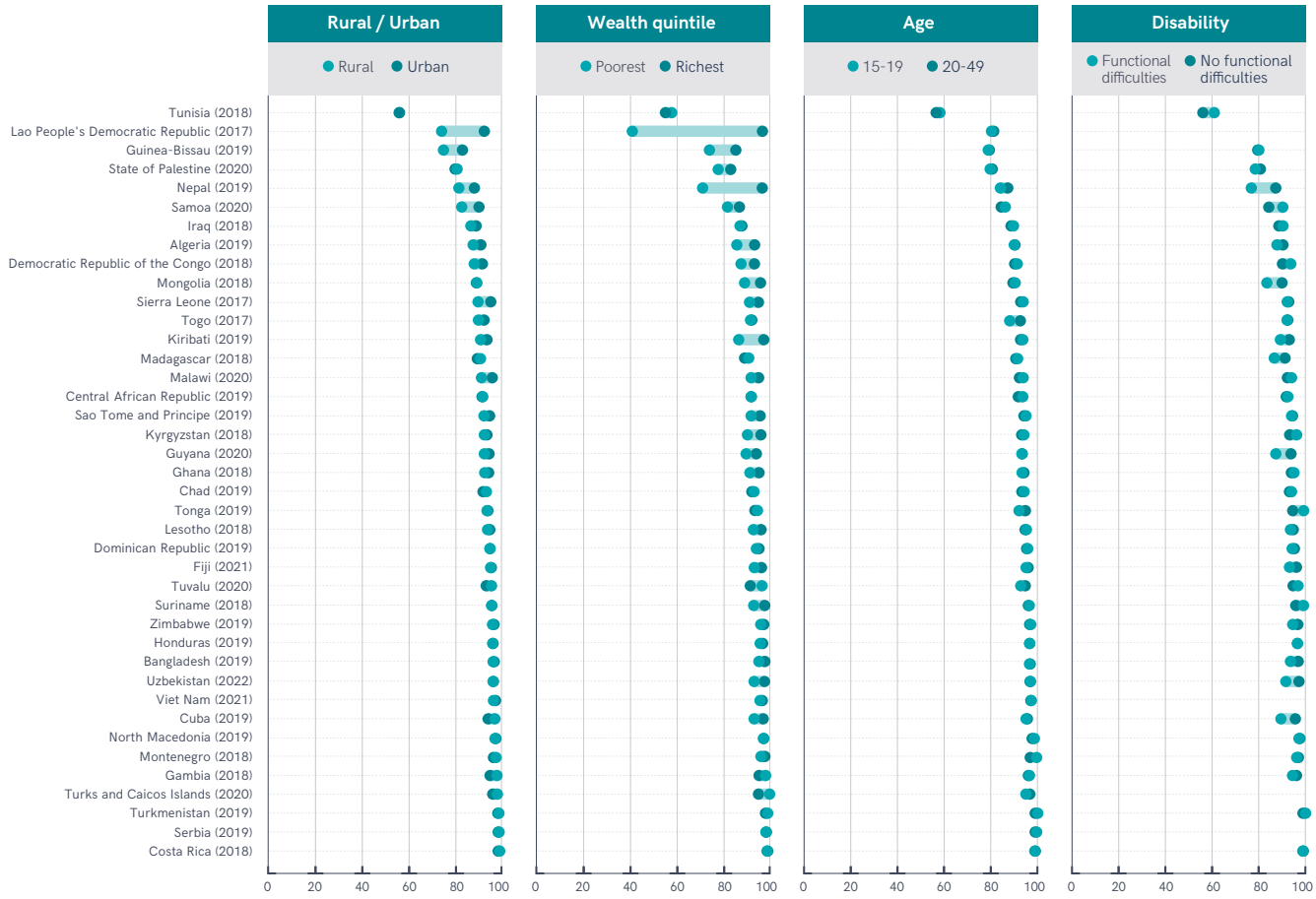


FIGURE 93 Proportion of adolescent girls and women age 15-49, with a private place to wash and change at home during their last period, by residence, wealth, age and disability, selected surveys, 2016-2022 (%)

to change menstrual materials while at home. They were generally more likely to be private, clean and safe, than to have a lock, water, or soap available (Figure 94), but there was wide variation between countries. For example, 95% of women and girls in Indonesia reported that their places were private, compared with just 52% in Niger. Private places in Ethiopia were significantly less likely to be clean and safe. In all countries, except for Indonesia and Uganda, fewer than half of the adolescent girls and women had water and soap available in the place they change menstrual materials.

Sixty-six percent of adolescent girls and women in Indonesia reported that the places where they changed menstrual materials met all six criteria, compared with just 1% in Niger.

Bathing practices during menstruation have been identified as an important dimension of gender inequality related to WASH, especially in countries where gender norms restrict women's and girls' ability to bathe during their period. A 2021 National Family Health Survey in India asked women whether they usually take a bath during their menstrual period and whether they use the same bathroom as other family members (Figure 95). While 89% of women reported usually taking a bath in the same bathroom as other household members, bathing practices varied widely across States and Union Territories. In Gujurat, Odisha, Puducherry, Tamil Nadu and Uttarakhand, more than one in ten women reported taking a bath, but not in the same bathroom as other household members. In India as a whole, just 3% of women reported not taking a bath during menstruation, rising to over half the women in Jammu and Kashmir (57%), and more than two thirds in Ladakh (67%).

Adolescent girls and women reported that their places to wash and change during their last period were more likely to be private, clean and safe than to have a lock, water or soap available

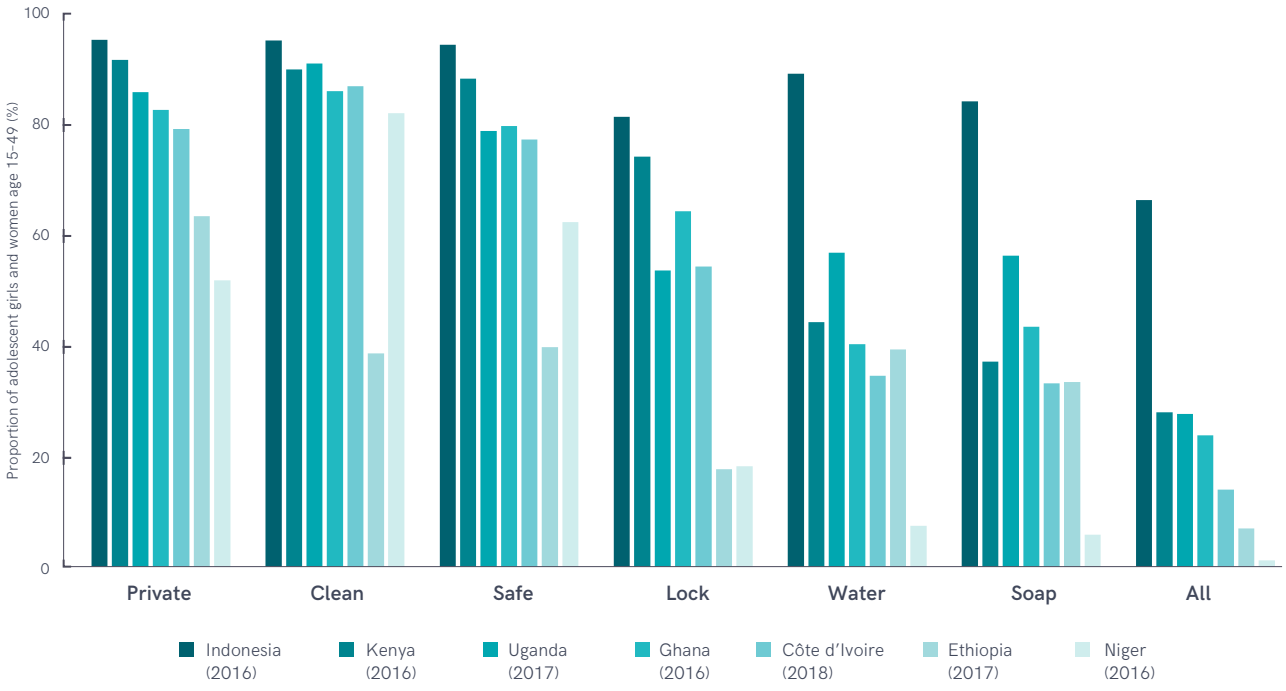


FIGURE 94 Proportion of adolescent girls and women age 15–49, by adequacy of private place to wash and change at home, selected Performance Monitoring and Accountability surveys, 2016–2018 (%)

In five states in India, more than 10% of adolescent girls and women reported taking a bath during their last menstrual period, but not in the same bathroom as other household members

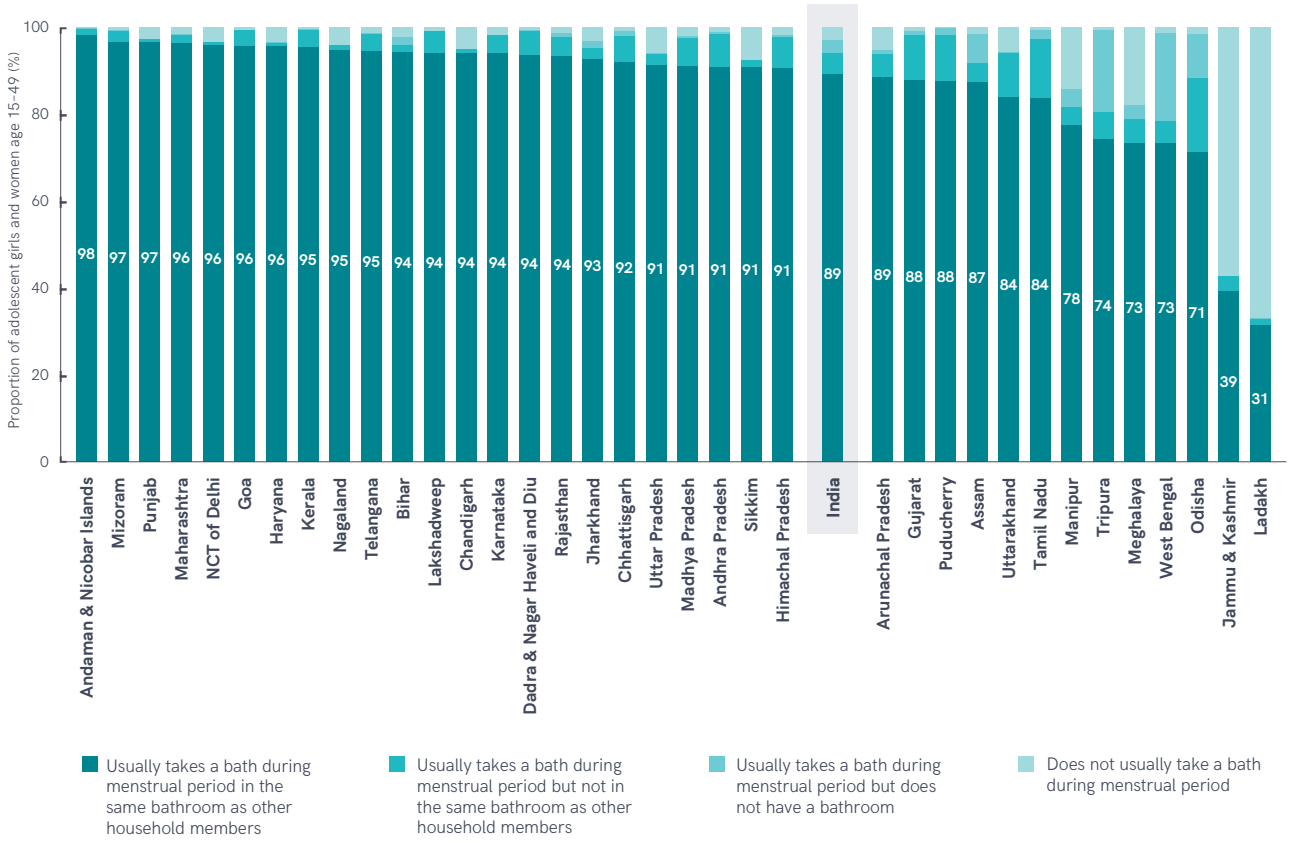


FIGURE 95 Proportion of adolescent girls and women, age 15-49, by bathing practices during their menstrual period, by States and Union Territories of India, National Family Health Survey, 2021 (%)

PARTICIPATION

By 2022, 46 countries had data on the population of adolescent girls and women participating in school, work and social activities during menstruation. Harmonized data from 40 UNICEF Multiple Indicator Cluster Surveys (MICS) datasets enable further disaggregation by population subgroups (Figure 96). In most countries, participation is slightly higher in urban areas, but the differences are small. However, in Turks and Caicos Islands, adolescent girls and women were less likely to participate in school work and social activities in urban areas (87%), compared to rural areas (96%).

In Nepal, the richest (95%) were far more likely to participate than the poorest (79%). In Gambia, adolescent girls, age 15-19 (67%), were less likely to participate than adult women, age 20-49 (83%), with similar patterns in Central African Republic, Malawi, Montenegro, Sao Tome and Principe and Sierra Leone. The lowest levels of participation were observed among girls and women with functional difficulties. Participation rates were 22 % pts lower in North Macedonia, 19 % pts lower in Guyana, and 15 % pts lower in Tonga. Gaps of more than 10 % pts were also observed in Democratic Republic of the Congo, Iraq, Nepal, State of Palestine and Uzbekistan.

Adolescent girls and women with functional difficulties are often less likely to participate in work, school and other social activities during menstruation

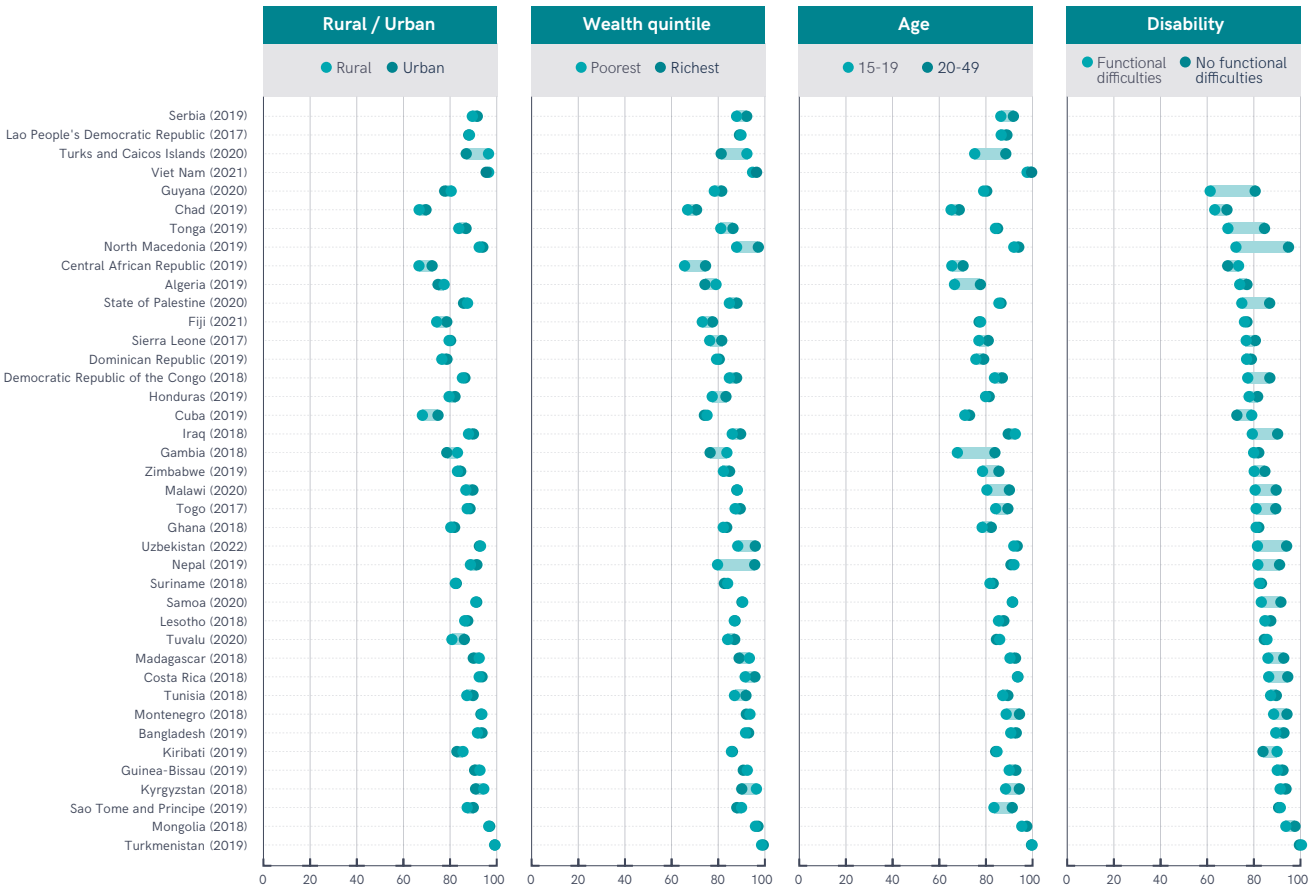


FIGURE 96 Proportion of adolescent girls and women, age 15-49, participating in work, school or other social activities during their last period, by residence, wealth, age and disability, selected Multiple Indicator Cluster Surveys 2016-2022 (%)

Mongolia is one of the few countries which has collected information on the reasons for non-participation in school, work or social activities during menstruation. In a 2018 MICS, three quarters of respondents reported feeling unwell or in pain and a fifth reported heavy bleeding (Figure 97). Less than 1% cited poor sanitation facilities outside the home or fear of degrading treatment by others, but 4% cited 'other' (unspecified) reasons.

In Mongolia, three out of four adolescent girls and women cited feeling unwell or in pain as the main reason for non-participation in school, work or social activites during their last period

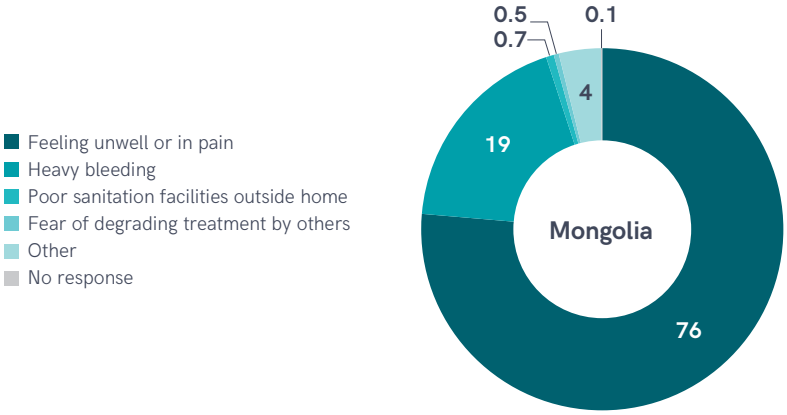


FIGURE 97 Proportion of adolescent girls and women reporting main reason for non-participation in school, work or social activities, Mongolia MICS, 2018 (%)

In countries with data available on use of materials, a private place to wash and change, and participation in school, work and social activities during menstruation, it is possible to analyse all three indicators together. Figure 98 shows that in most countries, coverage of use of materials and a private place to wash and change is higher than participation, and in some countries the proportion of adolescent girls and women meeting all three criteria is significantly lower still. For example, in Madagascar, 94% used materials, 91% had a private place to wash and change, and 92% participated in activities during menstruation, but only 79% satisfied all three needs.

Figure 99 gives an overview of inequalities in menstrual health between population subgroups. It shows that adolescent girls and women living in rural areas, those in the poorest quintile, adolescents aged 15–19, and those with disabilities are less likely to be able to meet their needs. It also shows that, while most women and girls in each group are able to meet at least some of their menstruation-related needs, far fewer are able to meet all of them in combination.

In countries with data on all three indicators, the proportion of adolescent girls and women meeting all three criteria for menstrual health is often significantly lower than for individual criteria

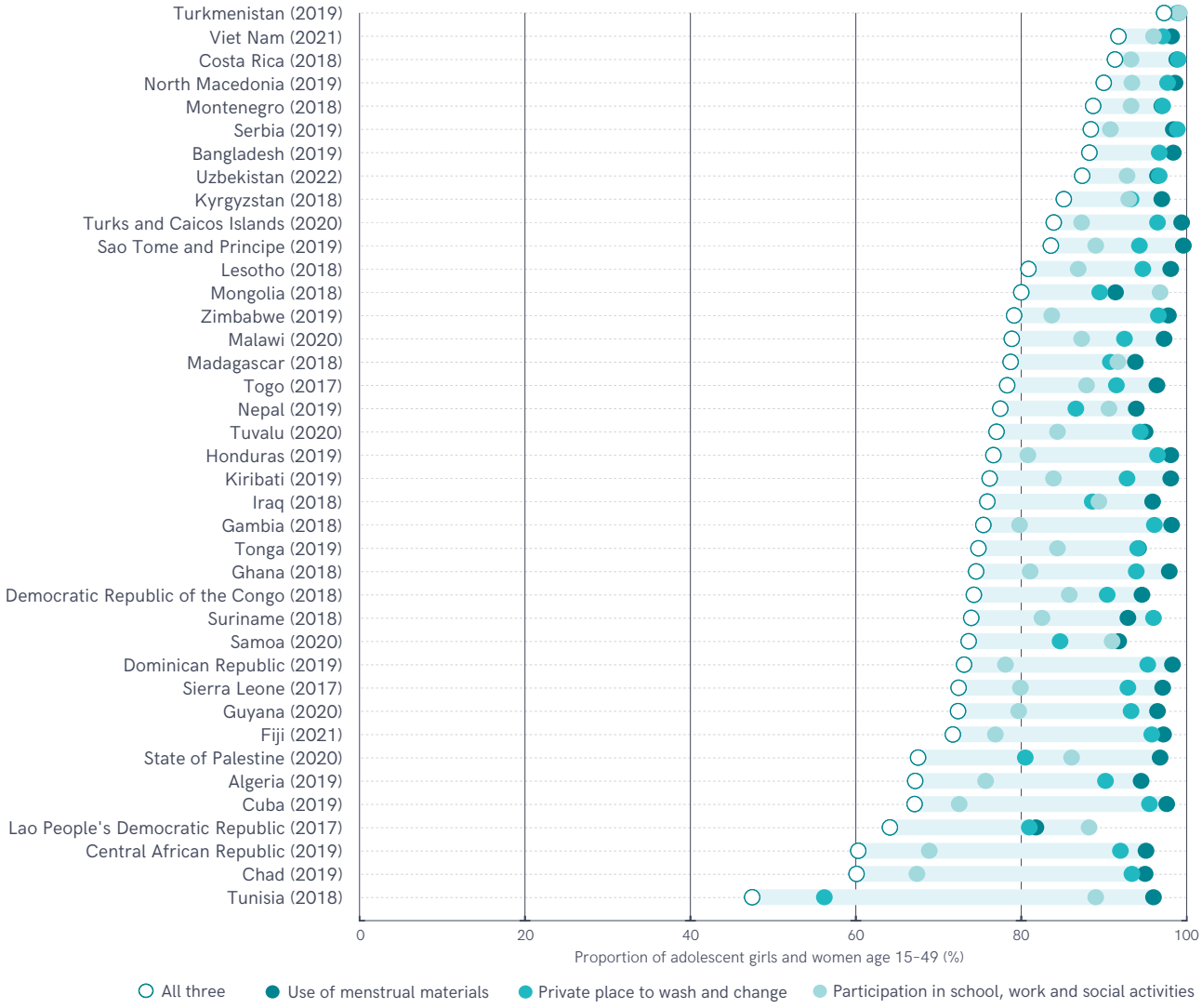


FIGURE 98 Proportion of adolescent girls and women age 15–49 who used menstrual materials, had a private place to wash and change, and participated in work, school and social activities during their last period, selected MICS, 2016–2022 (%)

Adolescent girls and women living in rural areas, in the poorest quintile, age 15–19 and living with disabilities were less likely to meet the criteria for all three harmonized menstrual health indicators

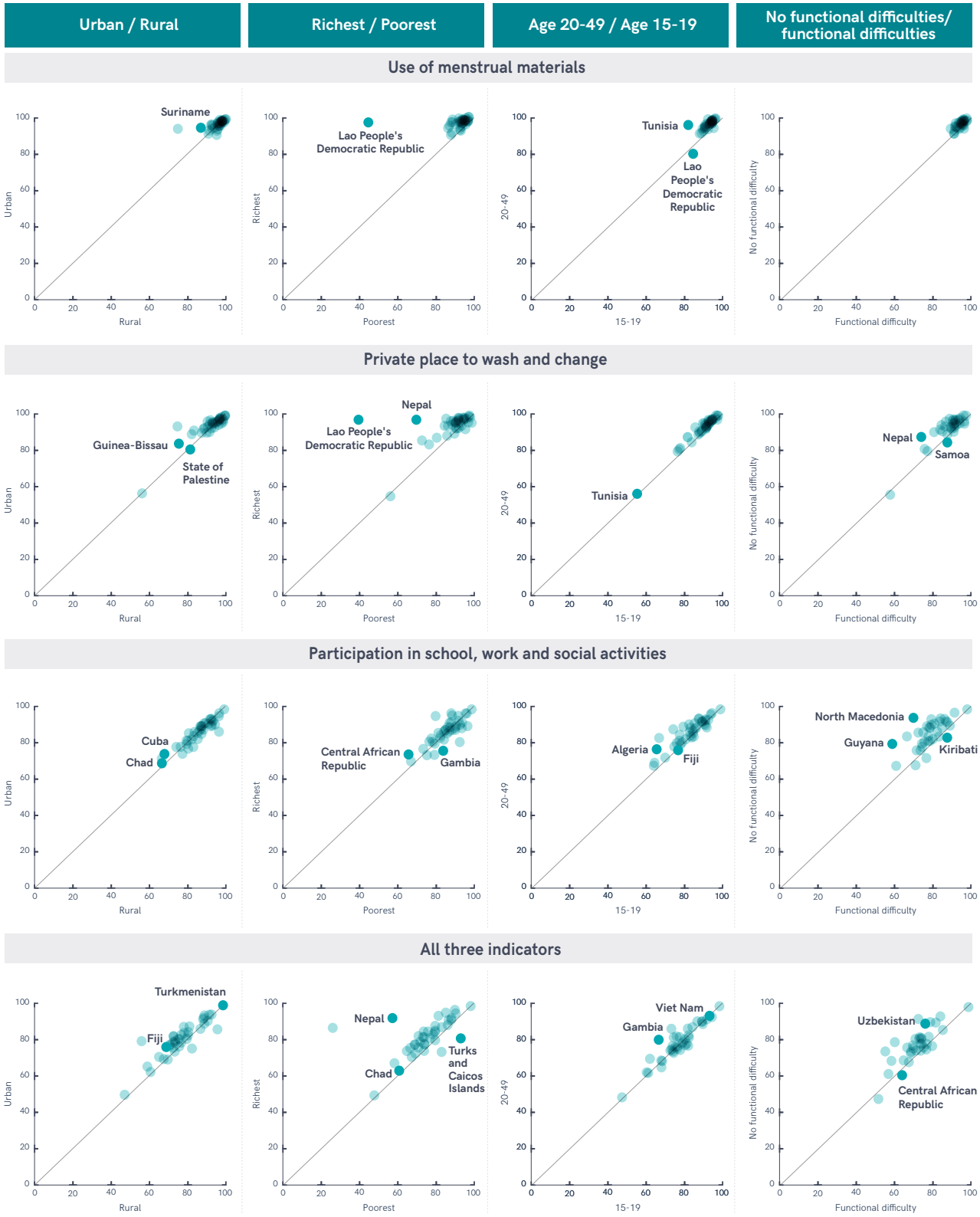


FIGURE 99 Proportion of adolescent girls and women age 15–49, who used menstrual materials, had a private place to wash and change, and participated in work, school and social activities during their last period, by residence, wealth quintile, age and disability, selected MICS surveys, 2016–2022 (%)

BOX 8

Ongoing development of indicators for national and global monitoring of menstrual health

Menstrual health is a broad term that includes various factors that influence the experience of those who menstruate, as defined by the Terminology Action Group of the Global Menstrual Collective in 2021.[21] This new definition reflects a wider range of domains that are critical to menstrual health (including discomfort and a supportive environment), in addition to materials and facilities that have been more commonly monitored to date. As noted in a recent review of countries in East Asia and the Pacific, monitoring of menstrual health has often focused on what is provided to those who menstruate, rather than their experiences and needs.[22] The new definition has informed ongoing development of menstrual health indicators, including a priority list for monitoring girls' menstrual health and hygiene,[23] and updated JMP indicators for household surveys (Table 4).[24] The proposed indicators aim to cover elements from previous household surveys (such as those included in this report), while also addressing emerging elements on unmet material needs, menstrual pain and social support. They are based on questions used in previous surveys, including for other settings, such as the USAID 2021 survey of women in workplaces in Kenya and Nepal, which is one of the few surveys to include questions on discomfort, supportive environment and quantity of materials (Figure 100).[25] Based on previous data, most women in Kenya and Nepal use menstrual materials but this survey suggests that many of these women did not have enough materials to change them whenever they wanted. While nearly all women reported that they were able to reduce menstrual pain when they needed, more than one in ten respondents in both countries said they would not feel comfortable seeking help from a health care provider for menstrual health problems.

[21] Hennegan J, Winkler IT, Bobel C, Keiser D, Hampton J, Larsson G, et al. Menstrual health: a definition for policy, practice, and research. Sexual and Reproductive Health Matters. 2021;29(1):31-8. doi:10.1080/26410397.2021.1911618.

[22] Head A, Huggett C, Chea P, Suttor H, Yamakoshi B, Hennegan J. Menstrual Health in East Asia and the Pacific: Regional Progress Review. Bangkok; United Nations Children's Fund, Burnet Institute and WaterAid, Bangkok; 2023. <https://www.unicef.org/eap/media/13341/file/MenstrualHealthreport.pdf>

[23] Global MHH Monitoring Group. Priority List of Indicators for Girls' Menstrual Health and Hygiene: Technical Guidance for National Monitoring. New York; Columbia University; 2022 <https://www.publichealth.columbia.edu/file/8002/download?token=AViwoc5e>.

[24] UNICEF and WHO. Proposed questions on menstrual health for inclusion in household survey questionnaires for individual women – zero draft. December 2022. <https://washdata.org/reports/proposed-questions-menstrual-health-household-surveys-dec-2022>

[25] USAID. Advancement of Metrics for Menstrual Hygiene Management in the Workplace: Final Report. Washington, DC, USAID Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability (WASHPaLS) Project; 2021 <https://www.globalwaters.org/sites/default/files/washpals_mhh_metrics_report_final_jan2022_1.27_final_1.pdf>.

DOMAIN	PROPORTION OF WOMEN AGE 15–49 WHO HAVE MENSTRUATED IN THE PAST YEAR WHO:
Materials	reported having enough menstrual materials throughout their last menstrual period;
Facilities	had a private place to change their menstrual materials at home;
Knowledge	knew about menstruation before their first menstrual period;
Discomfort/ disorders	were able to reduce their menstrual (menstruation-related) pain during their last menstrual period when they needed to;
Supportive environment	would feel comfortable seeking help for menstrual problems from a health care provider; and
Menstrual health impacts	did not have trouble participating in school, paid work or social activities due to their last menstrual period.

TABLE 4 Indicators proposed by the JMP-convened global expert group on monitoring menstrual health

A fifth of women in Nepal and a third of women in Kenya did not always have enough menstrual materials while working outside the home during their last period

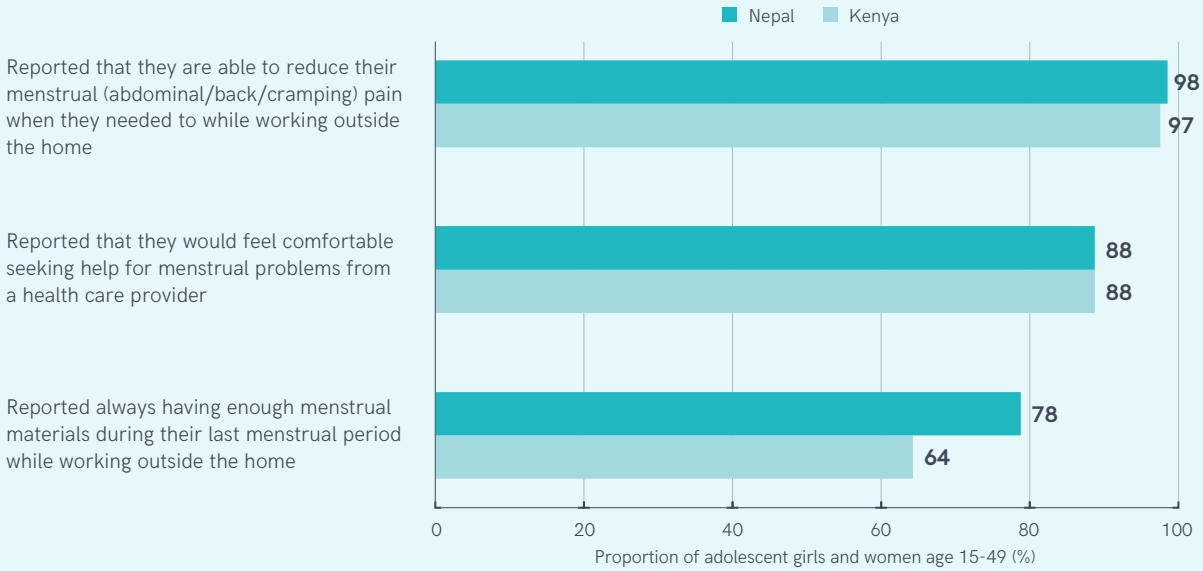


FIGURE 100 Proportion of women able to reduce pain, who felt comfortable seeking help from a health care provider, and always had enough menstrual materials while working outside the home during their last period, USAID workplace surveys in Nepal and Kenya, 2021 (%)

Note: Subnational surveys focused on women in the workplace

KEY MESSAGES

DRINKING WATER

- In 2022, 73% of the global population used safely managed drinking water services, 62% rural and 81% urban.
- 2.2 billion people lacked safely managed drinking water, including 1.5 billion with basic services, 292 million with limited services, 296 million with unimproved and 115 million drinking surface water.
- Estimates for safely managed services were available for 142 countries and six out of eight SDG regions, representing 51% of the global population.
- Achieving universal access to safely managed services by 2030 will require a sixfold increase in current rates of progress (20- fold in least developed countries, 19-fold in fragile contexts).

SANITATION

- In 2022, 57% of the global population used safely managed sanitation services, 46% rural and 65% urban.
- 3.4 billion people lacked safely managed sanitation, including 1.9 billion with basic services, 570 million with limited services, 545 million with unimproved services and 419 million practising open defecation.
- Estimates for safely managed services were available for 135 countries and seven out of eight SDG regions, representing 86% of the global population.
- Achieving universal access to safely managed services by 2030 will require a fivefold increase in current rates of progress (16- fold in least developed countries, 15-fold in fragile contexts).

HYGIENE

- In 2022, 75% of the global population used basic hygiene services, 65% rural and 83% urban.
- 2 billion people lacked basic hygiene services, including 1.3 billion with limited services and 653 million with no facility.
- Estimates for basic services were available for 84 countries and four out of eight SDG regions, representing 69% of the global population.
- Achieving universal access to basic hygiene services by 2030 will require a threefold increase in current rates of progress (12-fold in least developed countries and eightfold in fragile contexts).

MENSTRUAL HEALTH

- 53 countries had data for at least one menstrual health indicator in 2022, and three quarters were low-income or lower-middle-income.
- Adolescent girls and women living in rural areas are more likely to use reusable menstrual materials or no materials at all.
- Adolescent girls and women in the poorest wealth quintile and those with functional difficulties are more likely to lack a private place to wash and change their menstrual materials at home.
- Many adolescent girls and women do not participate in school, work or social activities during menstruation but there is significant variation between and within countries.

JMP website: washdata.org

unicef

WHO UNICEF JMP

World Health Organization