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Indicators, Measures and Methods for Monitoring Climate Resilient WASH – Indicator Metadata

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BACKGROUND

MONITORING CLIMATE-RESILIENT WASH

Climate-related hazards, shocks, and stresses present a growing threat to drinking water, sanitation and hygiene (WASH) services, leading to increased risk of disease outbreaks and other negative impacts. To address this, WHO and UNICEF have developed draft indicators for climate-resilient WASH monitoring based on a collaborative effort between a secretariat, consortium, working groups, and stakeholders to support harmonization and standardization of monitoring at subnational, national and global levels. The initiative aims to strengthen existing frameworks for national and global monitoring, informing WASH monitoring through 2030 and beyond as well as informing the Global Goal on Adaptation and monitoring of the Belém Adaptation Indicators. For more information on the process followed visit <https://www.who.int/teams/environment-climate-change-and-health/water-sanitation-and-health/monitoring-and-evidence/monitoring-of-climate-resilience>.

OBJECTIVE OF METADATA

This document aims to assist countries to assess their progress towards climate-resilient WASH systems. The target audience includes a range of actors at the national level that are responsible for climate or WASH data collection and reporting, and potentially local level actors or service providers that contribute to national data. Although the indicators are primarily designed with a national focus, they are equally applicable to subnational jurisdictions at different levels.

The metadata aims to provide adequate detail on each indicator to enable identification of existing data sources or collection of new data for national monitoring of climate-resilient WASH. This document aims to

- i. clarify the purpose of the indicators and define key terms,
- ii. detail the method of computation and data required, and
- iii. suggest potential data sources or data collection methods.

Given this scope, this document does not yet include methods or responsibilities for compilation, validation, aggregation and reporting at regional and global levels.

OVERARCHING METADATA INFORMATION

INTRODUCTION TO THE MONITORING CLIMATE-RESILIENT WASH FRAMEWORK

Monitoring the resilience of the WASH services and systems requires an integrated approach that considers that services are influenced by adaptation actions by actors involved in WASH, and attributes of the infrastructure and associated environment. The resilience of the service can be assessed both through the outputs of a functioning service and the outcomes of user experience of those systems. Each candidate indicator has been mapped to one of the following areas:

- **Adaptation actions** by national government and subnational governments; by water service and sanitation service providers, supply chain actors, hygiene promoters; by users; adaptation actions

related to water resources and land management; adaptation actions related to coordination between sanitation, solid waste management and storm water drainage,

- **Attributes** of WASH infrastructure and of water resources and receiving waters,
- **Service functioning** of water and sanitation, hygiene facility functioning and availability of materials, and
- **User experiences** of water and sanitation services and of practicing hygiene behaviours.

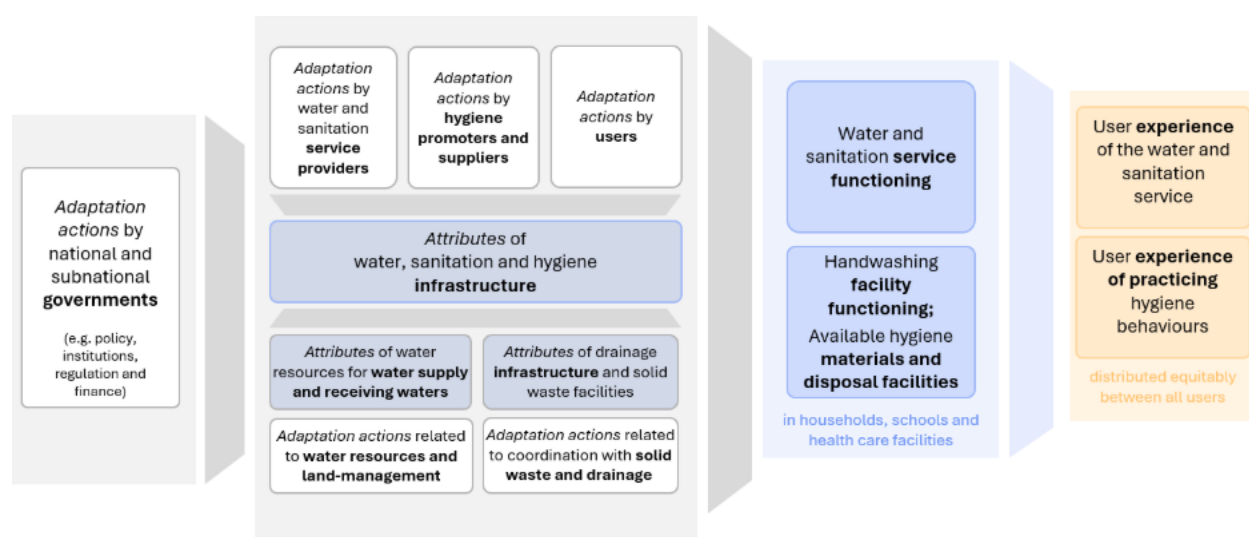


Figure 1: Conceptual framework for monitoring climate-resilient WASH

SUMMARY OF INDICATORS

The set of indicators presented below was the outcome of a multistage process to identify indicators based on review of evidence, refinement through technical expert reviews, and finally a public consultation resulting in a prioritized shortlist ([version 5.4](#)). The shortlist includes 45 draft indicators to be piloted in diverse country contexts to assess their potential for integration into the WHO/UNICEF Joint Monitoring Programme (JMP) and the UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS). For further information on the evidence reviews that informed these indicators, please refer to the [climate-resilient WASH monitoring webpage](#).

Table 1. Mapping of the 45 indicators across the climate-resilient WASH framework

Framework component	Water	Sanitation	Hygiene
Adaptation actions by national and subnational government			
– Policy	5		
– Institutions	4		
– Regulation	3		
– Finance	2		
Adaptation actions by service providers or supply chain actors	3	3	1
Adaptation actions related to water resources and land management	2		
Adaptation actions related to coordination with solid waste management and drainage	1		
Attributes of water resources for water supply and receiving waters	3		
Attributes of infrastructure	1	1	1
Service functioning	3	3	3
User experience	2	2	2
TOTAL	45		

OVERVIEW OF METADATA STRUCTURE

For each indicator the following information is provided:

- **Overview of indicator:** Indicator name, description, rationale and related indicators
- **Concepts and definitions:** Specific definitions of terms and key concepts
- **Methodology:** Overarching computation including units of measure, estimation and measurement methods, included and additional disaggregation
- **Data sources:** Data sources, data provider and limitations

The metadata are presented for the group of indicator sub-categories, such as a) households, b) schools and c) health care facilities, or a) water supply and b) sanitation in one table. While these will be reported separately, many of the definitions and methods are similar, with each table just noting the differences in data source or analysis where relevant.

Several terms and concepts used throughout this document require clarification. Working definitions are provided in the Glossary in Annex 1.

1: ADAPTATION ACTIONS BY NATIONAL AND SUBNATIONAL GOVERNMENT - POLICY

101 WASH POLICIES AND PLANS INTEGRATE CLIMATE

About the indicator	
Indicator Name	WASH policies and plans integrate climate adaptation measures for households, schools and health care facilities and (a) identify current and future climate risks to WASH, (b) identify populations vulnerable to climate events, (c) include costed climate adaptation measures, (d) mandate build-back-better principles for post climate-event recovery, (e) align with national adaptation plans, and (f) are regularly revised using updated climate projections
Framework component	Adaptation actions by national and subnational government – Policy
Description	This indicator assesses whether national and subnational WASH policies and plans address climate adaptation, and how comprehensively. Assessment covers two components: first, whether a relevant policy and a relevant plan/strategy exist; second, the extent to which they identify current and future climate risks to WASH, identify at-risk populations, include costed adaptation measures, and mandate build-back-better principles for post climate-event recovery, scored as a composite across these criteria. A separate composite score assesses whether existing policies and plans align with the National Adaptation Plan and are regularly revised using updated climate projections. Each component is assessed separately for households, schools and health care facilities.
Rationale	The aim of this indicator is to measure how current and future climate risk is incorporated into WASH policies and planning. Policies and plans provide coherent guidance and coordination of efforts and financing for the development of climate-resilient WASH services. They also provide a means of holding service authorities accountable for the development of services.
Concepts and definitions	
Specific definitions of key concepts	Adaptation: See Glossary. Build-back-better: The principle that when infrastructure or services are damaged or destroyed by a climate event, they should be restored to a higher standard than before reducing the probability of a similar failure under a comparable event in the future. Climate projections: See Glossary. Current and future climate: See Glossary. Policy: See Glossary. Plan: See Glossary. National Adaptation Plans: See Glossary. Population vulnerable to climate events: See Glossary. Recovery: See Glossary.
Methodology	
Overarching computation	The indicator is calculated as a composite score from 0 to 6, based on the presence of climate-adaptation criteria in WASH policies and plans/strategies, computed separately for households, schools, and health care facilities, and for water, sanitation, and hygiene sub-sectors (nine sub-sector–households/schools/health care facilities combinations in total). 1. Current and future climate risks to water, sanitation, hygiene identified: 1 Point 2. At-risk populations identified: 1 Point 3. Climate adaptation measures costed: 1 Point 4. Build-back-better principles mandated for post-climate-event recovery: 1 Point 5. Policy/plan aligned with National Adaptation Plan: 1 Point 6. Policy/plan regularly revised using updated climate projections: 1 Point Computed separately for households / schools / health care facilities and water, sanitation, and hygiene sub-sectors.

	Score = Sum of component scores present for each sub-sector–hh/school/hcf combination (0–6) Interpretation (applied to each of the nine scores independently): - 0 = None of the assessed criteria present - 1–3 = Limited inclusion of climate adaptation criteria - 4–5 = Partial inclusion of climate adaptation criteria - 6 = Full inclusion of all climate adaptation criteria - Scores can be presented separately for water, sanitation, and hygiene sub-sectors or summed to give total score for all WASH.
Variable type	Composite
Units of Measurement	points, range 0 to 6 across sub-sector and HH/school/HCF
Estimation method	NA
Data Collection and Measurement method	International questionnaire filled out by relevant government ministry/authority following a desk review of policies and plans. - Existence is confirmed through the desk-reviewed policy/plan document, verified with the responsible ministry/authority. - Climate risk identification, at-risk population identification, costed adaptation measures, and build-back-better mandates are each assessed by qualitative review of the policy/plan text for explicit statements addressing that criterion. - Alignment with the National Adaptation Plan (NAP) is assessed by comparing the policy/plan against the NAP for consistent goals and objectives, shared or compatible targets, cross-referencing, consistent climate data and risk assumptions, and matching timelines. - Regular revision using updated climate projections is confirmed by asking the relevant ministry/authority directly, since this is a practice rather than something visible in the document itself. - Relevant ministries/authorities with knowledge of the WASH policies and plans should be asked whether the relevant policies and plans are regularly revised using updated climate projections.
Included disaggregation	Households, schools and health care facilities; Water supply, sanitation and hygiene
Additional disaggregation	None
Data sources	
Preferred data sources	Government policies and plans
Data providers	Ministries of water, environment, infrastructure, planning; ministries of health (where WASH in health care facilities is concerned)
Limitations	The assessment is inherently subjective. Judging how climate considerations are integrated can vary widely. Additional guidance, or checklists may be necessary.

1: ADAPTATION ACTIONS BY NATIONAL AND SUBNATIONAL GOVERNMENT - POLICY

102 WASH POLICIES OR PLANS MANDATE RISK-BASED APPROACHES

About the indicator	
Indicator Name	WASH policies or plans mandate the use of risk-based management approaches that take into account current and future climate for (a) water supply; (b) sanitation and wastewater
Framework component	Adaptation actions by national and subnational government – Policy
Description	Measures whether national and subnational WASH policies and plans exist that mandate the use of risk-based management approaches that take into account current and future climate for (a) water supply; (b) sanitation and wastewater.
Rationale	The aim of this indicator is to measure the extent to which management is appropriate to ensure and advance climate resilience. Policy and plans are authoritative documents that can compel service providers and authorities to use risk-based management approaches. These approaches can be effective in supporting preparation, response, and recovery regarding specific priority climate risks.
Concepts and definitions	
Specific definitions of key concepts	Policy: See Glossary. Plan: See Glossary. Risk-based management (i.e. risk management): The preparation and active use of risk management plans. Risk Management Plans: See Glossary. Current and future climate: See Glossary.
Methodology	
Overarching computation	1 if the policy/plan/strategy mandates a risk-based management approach for water supply / sanitation and/or wastewater accounting for current and future climate; 0 if it does not.
Variable type	Binary
Units of Measurement	Categorical assessment: yes/no
Estimation method	NA
Data Collection and Measurement method	For each sub-sector, apply the following assessment question to the relevant policy/plan/strategy: Water supply Does the relevant water supply policy/plan/strategy mandate a risk-based management approach for water supply, accounting for current and future climate? - Yes - No Sanitation and wastewater Does the relevant sanitation and wastewater policy/plan/strategy mandate a risk-based management approach for sanitation and wastewater, accounting for current and future climate? - Yes - No
Included disaggregation	Water supply, sanitation and wastewater

Additional disaggregation	None
Data sources	
Preferred data sources	Government policies and plans
Data providers	Ministries of water, environment, infrastructure, planning
Limitations	The assessment is inherently subjective. Judging how climate considerations are integrated can vary widely. Additional guidance or checklists may be necessary.

1: ADAPTATION ACTIONS BY NATIONAL AND SUBNATIONAL GOVERNMENT - POLICY

103 NATIONAL ADAPTATION PLANS INCLUDE WASH

About the indicator	
Indicator Name	National Adaptation Plans include: (a) targeted WASH objectives for households, schools and health care facilities; (b) a strategy for WASH adaptation for households, schools and health care facilities; and (c) a costed strategy for WASH adaptation for households, schools and health care facilities
Framework component	Adaptation actions by national and subnational government – Policy
Description	Measures whether the most recent National Adaptation Plan includes: (a) targeted WASH objectives for households, schools and health care facilities; (b) a strategy for WASH adaptation for households, schools and health care facilities; and (c) a costed strategy for WASH adaptation for households, schools and health care facilities. Each of the indicator components will be assessed separately for households, schools, and health care facilities.
Rationale	The aim of this indicator is to measure the extent in which national climate resilience planning incorporates climate-resilient WASH. National Adaptation Plans (NAPs), as strategic frameworks for identifying climate adaptation needs and prioritising actions, are authoritative documents that guide national climate adaptation priorities and investments. Inclusion of WASH in NAPs raises the likelihood that WASH, and its interconnections with other sectors, will be addressed by climate adaptation programming and financing.
Concepts and definitions	
Specific definitions of key concepts	National Adaptation Plan: See Glossary. Adaptation: See Glossary. This indicator distinguishes between objective (e.g. water supply should not be interrupted for more than a designated period during an event) and the strategy (means to achieve the objective).
Methodology	
Overarching computation	The indicator is calculated as a score from 0 to 4, based on the presence of a National Adaptation Plan (NAP) and three WASH adaptation components. 1. National Adaptation Plan exists: 1 Point 2. Targeted WASH objectives for households /schools / health care facilities included: 1 Point 3. Strategy for WASH adaptation for households / schools / health care facilities included: 1 Point 4. Costed strategy for WASH adaptation for households / schools / health care facilities included: 1 Point Computed separately for households / schools / health care facilities and water, sanitation, and hygiene sub-sectors. Total Score = Sum of component scores (0-4) Interpretation: • 0 = No National Adaptation Plan • 1 = National Adaptation Plan exists but includes none of the assessed WASH adaptation components • 2 = National Adaptation Plan exists and includes one WASH adaptation component • 3 = National Adaptation Plan exists and includes two WASH adaptation components

	• 4 = National Adaptation Plan exists and includes all three WASH adaptation components Final Score - No National Adaptation Plan (score = 0) - Limited inclusion (score = 1-2) - Partial inclusion (score = 3) - Full inclusion (score = 4) Scores can be presented separately for water, sanitation, and hygiene sub-sectors or summed to give total score for all WASH.
Variable type	Composite
Units of Measurement	Points, range 0 to 4
Estimation method	NA
Data Collection and Measurement method	International questionnaire filled out by relevant government ministry/authority. The National Adaptation Plan should be qualitatively reviewed to consider whether it: 1. Exists 2. Includes targeted WASH objectives for each of households, schools and health care facilities 3. Includes an overall strategy for WASH adaptation for each of households, schools, and health care facilities 4. Includes a costed strategy for WASH adaptation for each of households, schools, and health care facilities
Included disaggregation	Households, schools and health care facilities
Additional disaggregation	None
Data sources	
Preferred data sources	National Adaptation Plan developed following the agreed UNFCCC NAP process
Data providers	Ministries responsible for climate change and/or environment, ministries responsible for water and sanitation, national adaptation planning authorities, and other government agencies responsible for the development, implementation, or monitoring of National Adaptation Plans; ministries of health (where WASH in health care facilities is concerned)
Limitations	Assessment of climate integration may be subjective and vary between reviewers, particularly where adaptation objectives, strategies, or implementation measures are not clearly defined. Standardized guidance or checklists may be necessary to support consistent application and comparison across assessments. The indicator also does not assess the quality, effectiveness, or implementation of adaptation measures, only their inclusion within planning documents.

1: ADAPTATION ACTIONS BY NATIONAL AND SUBNATIONAL GOVERNMENT - POLICY

104 CLIMATE-RESILIENT WASH PLANS ARE EQUITABLE

About the indicator	
Indicator Name	WASH plans include measures to ensure climate-resilient WASH investments are focused on populations vulnerable to [and disproportionately affected by] climate events
Framework component	Adaptation actions by national and subnational government – Policy
Description	This indicator measures whether national and subnational WASH plans include measures to ensure climate-resilient WASH investments are focused on populations vulnerable to [and disproportionately affected by] climate events.
Rationale	The aim of this indicator is to measure if climate-resilient WASH investments are included in WASH plans. The Human Rights to Water and Sanitation framework obliges States to progressively realise the human rights to water and sanitation through deliberate steps to reduce gaps in WASH access. Further, traditionally disadvantaged groups are likely to be most affected by the impacts of climate events. Hence, climate-resilient WASH plans should explicitly account for issues of equity.
Concepts and definitions	
Specific definitions of key concepts	Plan: See Glossary. Populations vulnerable to climate events: See Glossary.
Methodology	
Overarching computation	The indicator is calculated as a score from 0 to 3, based on the inclusion of equity in climate-resilient WASH investments in WASH plans 1. A relevant WASH plan exists and includes investments for climate-resilient WASH: 1 Point 2. A relevant WASH plan identifies populations vulnerable to, and disproportionately affected by, climate events, but does not include measures to ensure climate-resilient WASH investments are focused on those populations: 1 Point 3. A relevant WASH plan includes explicit measures, criteria, or mechanisms to ensure climate-resilient WASH investments are focused on populations vulnerable to, and disproportionately affected by, climate events: 1 Point Computed separately for water, sanitation, and hygiene sub-sectors. Total Score = Sum of component scores (0-3) Interpretation: - 0 = No WASH Plan / Plan does not include climate-resilient investment strategy - 1= WASH Plan exists and includes climate-resilient investment strategy or identification of vulnerable populations - 2= WASH Plan exists and includes climate resilient-investment strategy and identification of vulnerable populations - 3 = WASH Plan exists and includes climate-resilient investment strategy, vulnerable populations are identified, and explicit measures, criteria, or mechanisms are targeted to said populations Final Score - No WASH Plan / Plan does not include climate-resilient investment strategy (score = 0) - Limited inclusion (score = 1) - Partial inclusion (score = 2) - Full inclusion (score = 3)

	Scores can be presented separately for water, sanitation, and hygiene sub-sectors or summed to give total score for all WASH.
Variable type	Composite
Units of Measurement	Points range 0 to 3
Estimation method	NA
Data Collection and Measurement method	International questionnaire filled out by relevant government ministry/authority following a desk review of policies and plans. The relevant WASH plan(s) should be qualitatively reviewed to consider the extent to which it (1) exists, (2) identifies vulnerable groups, and (3) explicitly includes measures that provide targeted benefits to climate vulnerable populations. They may include identification of specific groups (e.g. based on geography or socially) that are believed to be disproportionately affected by climate events, and a description of actions, investments strategies or goals that pertain to the particular needs of those vulnerable groups.
Included disaggregation	Water supply, sanitation, hygiene
Additional disaggregation	None
Data sources	
Preferred data sources	Government WASH plans
Data providers	Ministries of water, environment, infrastructure, planning
Limitations	The assessment is inherently subjective. Judging how climate considerations are integrated can vary widely. Additional guidance or checklists may be necessary.

1: ADAPTATION ACTIONS BY NATIONAL AND SUBNATIONAL GOVERNMENT - POLICY

105 EMISSIONS FROM WASH ARE MINIMIZED

About the indicator	
Indicator Name	National mitigation plans include: (a) a national protocol for measuring and reporting emissions from WASH; (b) an estimate of the contribution of WASH to nationally determined contributions (NDCs); (c) a strategy for mitigating emissions from WASH; and (d) a costed strategy for mitigating emissions from WASH
Framework component	Adaptation actions by national and subnational government – Policy
Description	This indicator measures whether national mitigation plans include: (a) a national protocol for measuring and reporting emissions from WASH; (b) an estimate of the contribution of WASH to nationally determined contributions (NDCs); (c) a strategy for mitigating emissions from WASH; and (d) a costed strategy for mitigating emissions from WASH.
Rationale	The aim of this indicator is to measure the minimization of emissions from WASH. WASH systems can be significant contributors to greenhouse gas emissions.
Concepts and definitions	
Specific definitions of key concepts	Plan: See Glossary. Emissions: Emissions of greenhouse gases (GHGs), precursors of GHGs and aerosols caused by human activities. Mitigation: A human intervention to reduce emissions or enhance the sinks of greenhouse gases. Nationally Determined Contributions (NDCs): See Glossary.
Methodology	
Overarching computation	The indicator is calculated as a score from 0 to 5, based on the presence of a National Mitigation Plan and three WASH mitigation components. 1. National Mitigation Plan exists: 1 Point 2. Description of a national protocol for measuring and reporting emissions from WASH: 1 Point 3. Estimation of the contribution of WASH to the country's overall emissions: 1 Point 4. Description of a strategy for mitigating emissions from WASH: 1 Point 5. Description of a costed strategy for mitigating emissions from WASH: 1 Point Computed separately for water, sanitation, and hygiene sub-sectors. Total Score = Sum of component scores (0-4) Interpretation: - 0 = No National Mitigation Plan - 1 = National Mitigation Plan but includes none of the assessed WASH mitigation components - 2 = National Mitigation Plan exists and includes one WASH mitigation components - 3 = National Mitigation Plan exists and includes two WASH mitigation components - 4 = National Mitigation Plan exists and includes three WASH mitigation components - 5 = National Mitigation Plan exists and includes all WASH mitigation components Final Score - No mitigation plan (score = 0) - Limited inclusion (score = 1-2) - Partial inclusion (score = 3-4) - Full inclusion (score = 5)

	Scores can be presented separately for water, sanitation, and hygiene sub-sectors or summed to give total score for all WASH.
Variable type	Composite
Units of Measurement	Points, range 0 to 5
Estimation method	NA
Data Collection and Measurement method	International questionnaire filled out by relevant government ministry/authority following a desk review of the National Mitigation Plan. The National Mitigation Plan should be qualitatively reviewed to consider whether it: 1. Exists 2. Describes a national protocol for measuring and reporting emissions from WASH 3. Estimates the contribution of WASH to the country's overall emissions 4. Describes a strategy for mitigating emissions from WASH 5. Describes a costed strategy for mitigating emissions from WASH
Included disaggregation	NA
Additional disaggregation	NA
Data sources	
Preferred data sources	National mitigation plans
Data providers	Ministries of water, environment, infrastructure, planning
Limitations	The assessment is inherently subjective. Judging how climate considerations are integrated can vary widely. Additional guidance or checklists may be necessary.

2: ADAPTATION ACTIONS BY NATIONAL AND SUBNATIONAL GOVERNMENT – INSTITUTIONS

201 DATA ARE AVAILABLE AND USED FOR CLIMATE-RESILIENT WASH PLANNING

About the indicator	
Indicator Name	Climate data relevant for WASH service delivery are: (a) downscaled to a scale relevant for WASH service delivery; (b) accessible to WASH sector stakeholders; (c) reviewed and updated regularly; and (d) used to inform updates to WASH policies and plans
Framework component	Adaptation actions by national and subnational government – Institutions
Description	Measures whether climate data relevant for WASH service delivery are downscaled to a scale relevant for WASH service delivery, accessible to WASH sector stakeholders, reviewed and updated regularly, and used to inform updates to WASH policies and plans. The four components (a) to (d) are assessed together to give an overall picture of whether usable climate data are available to the WASH sector.
Rationale	This indicator measures the extent to which data are available and used for climate-resilient WASH planning. Effective adaptation of WASH systems depends on access to robust, locally relevant climate information. National hydrometeorological data, climate projections and risk assessments allow WASH planners, regulators and service providers to identify hazards, anticipate future risks, prioritize investments, and design interventions that consider current and future climate.
Concepts and definitions	
Specific definitions of key concepts	Climate data: Observed and projected information on climate variables relevant to WASH, including precipitation, temperature, extreme events, drought indices and sea level rise. Downscaling: The process of translating coarse global or regional climate data into finer spatial and temporal scales relevant to local WASH service delivery, such as a district, catchment or utility service area. WASH sector stakeholders: See Glossary.
Methodology	
Overarching computation	Composite score, calculated by summing points independently awarded for each of the following criteria (criteria are not cumulative or sequential): - Climate data relevant to WASH service delivery have been downscaled to an appropriate spatial scale: 1 point - Downscaled climate data are accessible to WASH sector stakeholders: 1 Point - Downscaled climate data reviewed and updated regularly: 1 Point - Downscaled climate data used to inform updates to WASH policies and plans: 1 Point Scoring guidance If climate data do not exist or exist but have not been downscaled to a scale relevant for WASH service delivery, score 0 points for criterion (a). Each criterion is scored independently as either 0 (No) or 1 (Yes). Score range: 0-4
Variable type	Composite
Units of Measurement	points, range 0 to 4
Estimation method	NA

Data Collection and Measurement method	International questionnaire completed by the relevant government ministry/authority following a review of climate data availability and use. National WASH ministries/authorities should be consulted to determine, for each criterion: - Whether downscaled climate data at spatial and temporal scales relevant for WASH service delivery are accessible to WASH sector stakeholders, including documented data-sharing arrangements, portals and access procedures - Whether the climate data and projections are reviewed and updated on a defined cycle, and the date of the most recent update - Whether there is documented evidence that climate data have been used to inform updates to WASH policies and plans
Included disaggregation	NA
Additional disaggregation	National / Subnational; by climate hazard
Data sources	
Preferred data sources	National meteorological and hydrological services; ministries of environment and climate change; ministries of water and sanitation; ministries of health (where WASH in health care facilities is concerned); national disaster management agencies; UNFCCC NAP focal point
Data providers	Government authorities (national meteorological/hydrological services, ministries of environment, health) and, where data-sharing agreements exist, WASH sector regulators and utilities
Limitations	Climate data may exist but not translated into a form that can be used by WASH service providers or may be held by agencies outside the WASH sector with limited data-sharing arrangements. Assessing “use” of data in policy updates can be inherently subjective, and documented evidence of use may not always exist. Countries may rely on regional or global climate products rather than national downscaling.

2: ADAPTATION ACTIONS BY NATIONAL AND SUBNATIONAL GOVERNMENT – INSTITUTIONS

202 MULTI-HAZARD EARLY WARNING SYSTEMS ARE USED

About the indicator	
Indicator Name	Multi-hazard early warning systems: (a) are accessible to WASH sector stakeholders; (b) include information directly relevant to the delivery of WASH services; (c) are used to trigger preparations as outlined in the WASH preparedness plan; (d) are used to inform response
Framework component	Adaptation actions by national and subnational government – Institutions
Description	This indicator measures the extent to which multi-hazard early warning systems support preparedness and response for climate-resilient WASH service delivery. It captures both the availability of relevant early warning information and its operational use within the WASH sector. Operational aspects include preparedness e.g. pre-positioning supplies, activating contingency measures, or increasing monitoring, and response e.g. deploying emergency services, targeting assistance, or issuing public advisories.
Rationale	The aim of this indicator is to measure the extent to which early warning systems are in place to support actions to reduce the impact of climate events. Multi-hazard early warning systems provide timely information that enables WASH service providers, regulators and users to prepare for and respond to climate-related shocks, including pre-positioning and distribution of supplies.
Concepts and definitions	
Specific definitions of key concepts	Multi-hazard early warning system (MHEWS): An integrated system that monitors multiple hazards, forecasts their likely impacts and communicates timely warnings to enable preparedness and response. Early warning: Timely and actionable information that allows individuals and organisations to prepare for and reduce the impact of a hazard before it occurs. WASH sector stakeholders: See Glossary. Climate events: See Glossary.
Methodology	
Overarching computation	Composite score, calculated separately for each WASH sub-sector (water supply; sanitation; hygiene), by summing points independently awarded for each of the following criteria present for the multi-hazard early warning system (MHEWS) relevant to that sub-sector (criteria are not cumulative or sequential): - No MHEWS in place: 0 Points - MHEWS accessible to WASH sector stakeholders for that sub-sector: 1 Point - MHEWS includes information directly relevant to the delivery of that sub-sector's WASH services: 1 Point - MHEWS used to trigger preparations in the WASH preparedness plan: 1 Point - MHEWS outputs used to inform response: 1 Point Score range: 0 to 4, for water supply, sanitation and hygiene separately.
Variable type	Composite
Units of Measurement	points, range 0 to 4
Estimation method	NA
Data Collection and Measurement method	International questionnaire completed by the relevant government ministry/authority following a desk review of multi-hazard early warning systems. National meteorological/hydrological services, disaster management agencies and WASH

	ministries/authorities should be consulted, and relevant documents reviewed, to consider, for each WASH sub-sector (water supply, sanitation, hygiene): - Whether formal arrangements (e.g. MOU, data-sharing agreements, standard operating procedures) exist between MHEWS operators and WASH sector stakeholders for that sub-sector - Whether the MHEWS includes hazards and information products relevant to that sub-sector's WASH services (e.g. flood forecasts in catchments serving water intakes, drought indices used by water utilities, storm warnings triggering sanitation pre-positioning) - Whether the MHEWS is reviewed and updated on a defined cycle, including review of hazards covered, thresholds, lead times and communication channels [per sub-sector, if this varies] - Whether there is documented evidence of MHEWS outputs being used to inform updates to WASH policies, plans, contingency arrangements or service-level standards
Included disaggregation	By WASH sub-sector; National or subnational
Additional disaggregation	NA
Data sources	
Preferred data sources	National meteorological and hydrological services; national disaster management agencies; ministries of water, environment and health; WASH regulators and utilities; UNDRR national focal point
Data providers	Government authorities (meteorological/hydrological services, disaster management, environment, health ministries) and WASH sector regulators and service providers
Limitations	MHEWS coverage and quality vary substantially between hazards and within countries. Information may be technically available but not be explicitly packaged for WASH actors. Documented evidence that MHEWS outputs have been used to update WASH policies and plans may be limited.

2: ADAPTATION ACTIONS BY NATIONAL AND SUBNATIONAL GOVERNMENT – INSTITUTIONS

203 IMPACTS OF CLIMATE ON WASH SERVICES ARE MONITORED

About the indicator	
Indicator Name	WASH monitoring systems collect data on the impact of climate on WASH services in households / schools / health care facilities
Framework component	Adaptation actions by national and subnational government – Institutions
Description	This indicator measures whether WASH monitoring systems collect data on the impact of climate on WASH services in households, schools and health care facilities.
Rationale	The aim of this indicator is to measure WASH monitoring systems' ability to collect information on the impacts of climate on WASH services. Robust national WASH monitoring that captures the impacts of climate variability and climate events on services is essential for evidence-based adaptation planning, prioritization of investments, and transformational change over time.
Concepts and definitions	
Specific definitions of key concepts	WASH monitoring system: National systems and instruments used to collect, report and use data on WASH services.
Methodology	
Overarching computation	The indicator is calculated as a score from 0 to 3 for each setting 1. Data on service disruption due to climate events: 1 Point 2. Data on damage to WASH infrastructure due to climate events: 1 Point 3. Data on user-experienced impacts (access, quality or time) due to climate events: 1 Point Computed separately for households, schools, and healthcare facilities. Total Score = Sum of component scores (0-3) for each setting Interpretation: - 0 = WASH monitoring systems do not collect information on any of the elements of assessing impacts of climate on WASH services. - 1 = WASH monitoring systems collect information on one of the elements of assessing impacts of climate on WASH services. - 2 = WASH monitoring systems collect information on two of the elements of assessing impacts of climate on WASH services. - 3 = WASH monitoring systems collect information on three of the elements of assessing impacts of climate on WASH services. Final Score = Total Score for each setting, reported separately for households, schools, and healthcare facilities (0-3) - No monitoring of climate impacts on WASH services (score = 0) - Limited monitoring of climate impacts on WASH services (score = 1) - Partial monitoring of climate impacts on WASH services (score = 2) - Full monitoring of climate impacts on WASH services (score = 3) Scores can be presented separately for water, sanitation, and hygiene sub-sectors or summed to give total score for all WASH.
Variable type	Composite

Units of Measurement	points, range 0 to 3 across sub-sector and households/schools/health care facilities
Estimation method	NA
Data Collection and Measurement method	Relevant ministries and statistics office should be consulted, and the questionnaires, codebooks and reporting templates of national WASH monitoring instruments should be reviewed separately for households, schools, and health care facilities to consider: (a) Which national monitoring instruments collect WASH data for the setting (for example, household surveys and censuses for households, education management information systems for schools, and health management information systems or facility assessments for health care facilities); (b) Whether these instruments include questions on service disruption due to climate events in the setting; (c) Whether these instruments include questions on damage to WASH infrastructure due to climate events in the setting; (d) Whether these instruments include questions on user-experienced impacts (access, quality or time) due to climate events in the setting. A component is scored for a setting if at least one national monitoring instrument for that setting covers it. To be scored, a question must explicitly link the impact to a climate event. A score is assigned to each setting and reported separately.
Included disaggregation	NA
Additional disaggregation	NA
Data sources	
Preferred data sources	National statistics offices, national health monitoring systems, national education monitoring systems, service providers; ministries of health (where WASH in health care facilities is concerned)
Data providers	Government authorities responsible for WASH monitoring (national statistics offices, sector ministries, regulators) and the agencies operating major household, school and health care facility surveys
Limitations	National WASH monitoring may be spread across multiple agencies and actors. National monitoring instruments may not currently include climate-impact modules, or modules may be inconsistent across settings and surveys. Attribution of service disruption to climate may be difficult, particularly for slow-onset impacts. Periodic surveys may miss short-duration climate events.

2: ADAPTATION ACTIONS BY NATIONAL AND SUBNATIONAL GOVERNMENT – INSTITUTIONS

204 HUMAN RESOURCES

About the indicator	
Indicator Name	Human resources in place to design, implement, and monitor adaptation plans for the WASH sector to meet national targets
Framework component	Adaptation actions by national and subnational government – Institutions
Description	This indicator measures whether human resources are in place to design, implement and monitor adaptation plans for the WASH sector to meet national targets.
Rationale	The aim of this indicator is to measure the adequacy of the workforce for climate-resilient WASH systems. The availability of adequately skilled personnel is a prerequisite for translating adaptation policies and plans into action. Measuring human resource capacity helps identify whether institutions have the expertise and staffing required to design, implement, and monitor adaptation measures, and highlights workforce gaps that may constrain progress towards national WASH adaptation targets.
Concepts and definitions	
Specific definitions of key concepts	Human resources or workforce: The people employed across government, regulators and service providers who design, implement, monitor and evaluate WASH services and adaptation plans. Adaptation: See Glossary.
Methodology	
Overarching computation	Point system based on the perceived adequacy of each element of the indicator ((1) designing, (2) implementing, and (3) monitoring adaptation plans) - Score 1: Less than 50% of required human resources in place - Score 2: 50-74% of required human resources in place - Score 3: 75-94% of required human resources in place - Score 4: 95-100% of required human resources in place For reporting and comparison purposes, scores may also be expressed as, for each element of the indicator: - Very low workforce adequacy (Score 1) - Moderate workforce adequacy (Score 2) - Substantial workforce adequacy (Score 3) - Near-complete workforce adequacy (Score 4) Separate computations for each of water, sanitation, and hygiene.
Variable type	Ordinal
Units of Measurement	Workforce adequacy category (score 1-4)
Estimation method	NA
Data Collection and Measurement method	International questionnaire where respondents are asked to indicate their perception of the adequacy of WASH workforce for the following elements. Human resources in place to (1) design, (2) implement, and (3) monitor adaptation plans for the WASH sector to meet national targets. The respondents will have the following options for each element: 1. Less than 50% of what is needed; 2. Between 50% and 74% of what is needed; 3. Between 75% and 94% of what is needed; and 4. Between 95% and 100% of what is needed.
Included disaggregation	National/Subnational

Additional disaggregation	NA
Data sources	
Preferred data sources	National meteorological and hydrological services; ministries of environment and climate change; ministries of water and sanitation; ministries of health (where WASH in health care facilities is concerned); national disaster management agencies; UNFCCC NAP focal point
Data providers	Government authorities (national meteorological/hydrological services, ministries of environment, health); WASH sector regulators and utilities
Limitations	Workforce data for the WASH sector are often fragmented across multiple ministries, regulators and service providers, and may not separately identify staff working on adaptation plans. Training records may not distinguish climate-specific content from general WASH or DRR training. Estimating workforce “adequacy” is subjective and difficult to assess especially since training measures whether people have the right skills, but adequacy in the objective also implies enough people, appropriately distributed.

3: ADAPTATION ACTIONS BY NATIONAL AND SUBNATIONAL GOVERNMENT - REGULATION

301 DESIGN AND CONSTRUCTION STANDARDS AND REGULATIONS

About the indicator	
Indicator Name	Standards and regulations that take into account current and future climate are available to support the design and construction of resilient infrastructure for • water supply; • sanitation and wastewater
Framework component	Adaptation actions by national and subnational government – Regulation
Description	This indicator measures whether national or subnational standards and regulations account for current and future climate to support the design and construction of resilient infrastructure for (a) water supply; (b) sanitation and wastewater.
Rationale	The indicator aims to measure the extent to which design and construction standards and guidance exist for climate-resilient WASH. Climate-resilient infrastructure requires regulatory frameworks that ensure systems are designed for both current and future climate hazards (e.g. floods, droughts). Resilience of water and sanitation services are strengthened if the infrastructure is designed, situated and built considering locally relevant climate hazards, including under current and predicted climate scenarios.
Concepts and definitions	
Specific definitions of key concepts	Standard: See Glossary. Design standard: See Glossary. Regulations (or regulatory instruments): See Glossary. Climate variability: See Glossary. Climate projections: See Glossary. Infrastructure: See Glossary.
Methodology	
Overarching computation	Score calculated separately for each sub-sector (water supply; sanitation and wastewater): - No - Standards/regulations do not exist to support design and construction of infrastructure / Standards/regulations exist but do not address current and future climate hazards and risks - Yes - Standards/regulations exist to support design and construction of infrastructure and explicitly address current and future climate hazards and risks
Variable type	Binary
Units of Measurement	Yes/No
Estimation method	NA
Data Collection and Measurement method	International questionnaire completed by the relevant government ministry/authority following a desk review of regulations and standards. Regulatory documents should be reviewed to consider a) Water supply: i) Are there standards and regulations available to support the design and construction of water supply infrastructure? ii) Do they mention / include / consider the hazards and risks posed to the infrastructure by current and future climate (e.g. changes in water resources, impacts from climate events, etc.)? b) Sanitation and wastewater: i) Are there standards and regulations available to support the design and construction of sanitation and wastewater infrastructure?

	ii) Do they mention / include / consider the hazards and risks posed to the infrastructure by current and future climate (e.g. protecting infrastructure from climate events, discharge standards that consider climate variations and hazards, etc.)?
Included disaggregation	NA
Additional disaggregation	NA
Data sources	
Preferred data sources	Government regulatory documents
Data providers	Ministries of water, environment, infrastructure, planning
Limitations	The assessment is inherently subjective and typically requires a technical review, as relevant data are unlikely to already exist and standards may be dispersed across multiple ministries. Judging how climate considerations are integrated can vary widely. Additional guidance or checklists may be necessary.

3: ADAPTATION ACTIONS BY NATIONAL AND SUBNATIONAL GOVERNMENT - REGULATION

302 OPERATIONS AND MAINTENANCE STANDARDS AND REGULATIONS

About the indicator	
Indicator Name	Standards and regulations that take into account current and future climate are available to support the operations and maintenance of resilient infrastructure for • water supply; • sanitation and wastewater
Framework component	Adaptation actions by national and subnational government – Regulation
Description	This indicator measures whether national or subnational standards and regulations account for current and future climate to support the operations and maintenance of resilient infrastructure for (a) water supply; (b) sanitation and wastewater.
Rationale	The indicator aims to measure the extent to which operations and maintenance standards and guidance exist for climate-resilient WASH. Climate-resilient infrastructure and services require regulatory frameworks that ensure systems are operated and maintained to effectively respond to climate variability and extremes. Resilience of water and sanitation services are strengthened if the infrastructure is operated and maintained in ways that enable continuity of services in the presence of variable and extreme climatic conditions.
Concepts and definitions	
Specific definitions of key concepts	Climate projections: See Glossary. Climate variability: See Glossary. Current and future climate: See Glossary. Design standard: See Glossary. Operations and maintenance (O&M): See Glossary. Standard: See Glossary. Regulations (or regulatory instruments): See Glossary.
Methodology	
Overarching computation	Score calculated separately for each sub-sector (water supply; sanitation and wastewater): - No - Standards/regulations do not exist to support operations and maintenance of infrastructure / Standards/regulations exist but do not address current and future climate hazards and risks - Yes - Standards/regulations exist to support operations and maintenance of infrastructure and explicitly address current and future climate hazards and risks
Variable type	Binary
Units of Measurement	Yes/No
Estimation method	NA
Data Collection and Measurement method	International questionnaire completed by the relevant government ministry/authority following a desk review of regulations and standards. Regulatory documents should be reviewed to consider, for each sub-sector: Water supply: i) Do standards and regulations exist to support the operations and maintenance of water supply infrastructure? ii) If so, do they make provisions for climate variability and climate projections in operations and maintenance practice (e.g. adjusted maintenance schedules or operating rules in response to changing water resources, provisions for responding to climate events)? Sanitation and wastewater:

	i) Do standards and regulations exist to support the operations and maintenance of sanitation and wastewater infrastructure? ii) If so, do they make provisions for climate variability and climate projections in operations and maintenance practice (e.g. provisions for protecting infrastructure during climate events, discharge standards adjusted for climate variations and hazards)?
Included disaggregation	Water supply and sanitation and wastewater
Additional disaggregation	NA
Data sources	
Preferred data sources	Government regulatory documents
Data providers	Ministries of water, environment, infrastructure, planning
Limitations	The assessment is inherently subjective and typically requires a technical review, as relevant data are unlikely to already exist and standards may be dispersed across multiple ministries. Judging how climate considerations are integrated can vary widely. Additional guidance or checklists may be necessary.

3: ADAPTATION ACTIONS BY NATIONAL AND SUBNATIONAL GOVERNMENT - REGULATION

303 STANDARDS AND REGULATIONS FOR RESTORATION OF SERVICES

About the indicator	
Indicator Name	Standards and regulations exist for restoration of services during and following a climate event for • water supply; • sanitation and wastewater
Framework component	Adaptation actions by national and subnational government – Regulation
Description	This indicator measures whether national or subnational standards and regulations exist for restoration of services during and following a climate event for (a) water supply; (b) sanitation and wastewater.
Rationale	The indicator aims to measure the extent to which standards and regulations for restoration of services exist for climate-resilient WASH. Climate-resilient infrastructure and services require regulatory frameworks that ensure systems are restored following a disruption due to a climate event in a timely way. It is not realistic to expect that services will always remain continuous during and after climate events, hence mechanisms for timely restoration are prudent.
Concepts and definitions	
Specific definitions of key concepts	Climate event: See Glossary. Design standards: See Glossary. Regulations (or regulatory instruments): See Glossary. Restoration: The process of returning a disrupted system, infrastructure, or service to a functional, operational state after a failure, outage, or disaster. Standard: See Glossary.
Methodology	
Overarching computation	Score calculated separately for each sub-sector (water supply; sanitation and wastewater): - No - Standards/regulations do not exist to support restoration of services / Standards/regulations exist but do not address current and future climate hazards and risks - Yes - Standards/regulations exist to support restoration of services and explicitly address current and future climate hazards and risks
Variable type	Binary
Units of Measurement	Yes / No
Estimation method	NA
Data Collection and Measurement method	Data are collected through an international questionnaire completed by the relevant government ministry or authority, following a desk review of national and subnational regulations and standards. Only current, approved versions of each document should be reviewed (not draft or superseded versions). Regulatory documents should be reviewed to consider: a) Water supply: Do approved water supply standards and regulations set requirements for the restoration of water supply services during and following a climate event? b) Sanitation and wastewater: Do approved sanitation and wastewater standards and regulations set requirements for the restoration of sanitation and wastewater services during and following a climate event?
Included disaggregation	Water supply and sanitation and wastewater

Additional disaggregation	NA
Data sources	
Preferred data sources	Ministries of water, environment, infrastructure, planning
Data providers	Government authorities (may differ for water and sanitation and wastewater)
Limitations	The assessment is inherently subjective and typically requires a technical review, as relevant data are unlikely to already exist and standards may be dispersed across multiple ministries. Judging how climate considerations are integrated can vary widely. Additional guidance or checklists may be necessary.

4: ADAPTATION ACTIONS BY NATIONAL AND SUBNATIONAL GOVERNMENT - FINANCE

401 WASH CLIMATE ADAPTATION BUDGET

About the indicator	
Indicator Name	Ratio of annual government spending on WASH climate adaptation to total annual government spending on WASH
Framework component	Adaptation actions by national and subnational government – Finance
Description	This indicator measures the ratio of annual government spending on WASH climate adaptation to total annual government spending on WASH. It captures government spending on climate adaptation relative to overall WASH spending and provides a measure of the prioritization of climate adaptation within public WASH investment.
Rationale	This indicator measures the extent to which governments are prioritizing climate adaptation within WASH sector finance. Tracking the share of WASH expenditure allocated to climate adaptation provides insight into the extent to which resources are being directed towards reducing climate-related risks, strengthening resilience, and supporting the implementation of adaptation commitments in the sector.
Concepts and definitions	
Specific definitions of key concepts	Adaptation: See Glossary.
Methodology	
Overarching computation	Numerator: Total annual government spending on WASH climate adaptation Denominator: Total annual government spending on WASH
Variable type	Continuous
Units of Measurement	Ratio
Estimation method	NA
Data Collection and Measurement method	WASH accounts (where available), government and service-provider financial databases, and national budgetary documents should be reviewed by the relevant ministries (finance, water, environment, infrastructure, planning) to identify annual government spending on WASH climate adaptation and the total annual government spending on WASH for the same financial year. Divide the total annual government spending on WASH climate adaptation by the total annual government spending on WASH for that year.
Included disaggregation	Water supply, sanitation and wastewater, and hygiene
Additional disaggregation	National/sub-national
Data sources	
Preferred data sources	WASH accounts (where available), government financial databases, service provider financial databases, national budgetary documents (if these include information on expenditures)
Data providers	Ministries of finance, water, environment, infrastructure, planning
Limitations	Budgets and expenditure for WASH are often spread across multiple ministries. Guidance on delineating what is included as WASH spending (e.g. spending on water resource management) may be needed. Budgets and expenditure may not identify costs for adaptation as separate budget lines, and disaggregating spending for adaptation from existing budget

	and expenditure lines may be difficult. Determining the costs of WASH adaptation is difficult and open to different interpretations (e.g. are investments in reducing non-revenue water part of WASH adaptation costs or a cost of normal water service delivery?). It is likely that few countries have yet developed a costed roadmap for WASH adaptation.
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4: ADAPTATION ACTIONS BY NATIONAL AND SUBNATIONAL GOVERNMENT - FINANCE

402 WASH CLIMATE ADAPTATION EXPENDITURE

About the indicator	
Indicator Name	Ratio of annual government spending on WASH climate adaptation to annual government budget for WASH climate adaptation
Framework component	Adaptation actions by national and subnational government – Finance
Description	This indicator measures the ratio of total government expenditure on WASH climate adaptation to total annual budget identified for WASH climate adaptation.
Rationale	This indicator measures the extent to which allocated funds for WASH climate adaptation are translated into actual spending. Tracking the proportion of budgeted adaptation resources that are spent provides insight into the capacity of governments to implement planned adaptation actions and identifies potential constraints in budget execution.
Concepts and definitions	
Specific definitions of key concepts	Adaptation: See Glossary. Total annual government expenditure: Total national and/or subnational public expenditures for adaptation of water supply, sanitation and wastewater, and hygiene infrastructure and services for the most recent financial year where data are available. Total annual government budget for WASH climate adaptation: Taken from an annualised costed roadmap for achieving climate adaptation goals for WASH, inclusive of upfront capital costs, ongoing operation, maintenance, and rehabilitation costs, and direct and indirect support costs, at a national and/or subnational level. WASH expenditures (e.g. expenditures on water resource management): Financial resources actually spent on the planning, construction, operation, maintenance and delivery of water, sanitation and hygiene goods and services.
Methodology	
Overarching computation	Numerator: Total annual government expenditure for adaptation of WASH infrastructure and services Denominator: Total annual government budget identified for WASH climate adaptation
Variable type	Continuous
Units of Measurement	Ratio
Estimation method	NA
Data Collection and Measurement method	WASH accounts (where available), government and service-provider financial databases, and national budgetary documents should be reviewed by the relevant ministries (finance, water, environment, infrastructure, planning) to identify annual government spending on WASH climate adaptation and the annual government budget for WASH climate adaptation for the same financial year. Divide the total annual government spending on WASH climate adaptation by the annual government budget for WASH climate adaptation that year.
Included disaggregation	Water supply, sanitation and wastewater, and hygiene
Additional disaggregation	National/sub-national
Data sources	
Preferred data sources	Government financial databases, service provider financial databases, national budgetary documents
Data providers	Ministries of finance, water, environment, infrastructure, planning

Limitations	Expenditures for WASH are often spread across multiple ministries. Guidance on delineating what is included as WASH expenditure (e.g. expenditure on water resource management) may be needed. Determining the costs of WASH adaptation is difficult and open to different interpretations (e.g. are investments in reducing non-revenue water part of WASH adaptation costs or a cost of normal water service delivery?). It is likely that few countries have yet developed a costed roadmap for WASH adaptation.
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5: ADAPTATION ACTIONS BY SERVICE PROVIDERS OR SUPPLY CHAIN ACTORS

501 SERVICE PROVIDER PREPAREDNESS PLANS

About the indicator	
Indicator Name	Proportion of population covered by event-specific preparedness plans which include hygiene measures: (a) education/messaging on hygiene behaviour; (b) stockpiling; (c) storing, and distribution of hygiene products
Framework component	Adaptation actions by service providers or supply chain actors
Description	This indicator measures the proportion of the population covered by climate hazard-specific preparedness plans that include hygiene measures. Preparedness plans set out actions to reduce the impacts of climate-related hazards before, during, and after an event. The indicator focuses on whether these plans explicitly include: (a) education and messaging on hygiene behaviours; (b) stockpiling of hygiene products; and (c) the storage and distribution of hygiene products. It captures whether a preparedness plan exists and whether these hygiene measures are included within the plan.
Rationale	This indicator measures the extent to which preparedness planning for climate-related hazards incorporates hygiene measures that help reduce health risks during and following climate events. Tracking the inclusion of hygiene education and messaging, stockpiling, and the storage and distribution of hygiene products provides insight into the preparedness of institutions and authorities to support the continuity of essential hygiene practices and protect vulnerable populations during climate-related emergencies.
Concepts and definitions	
Specific definitions of key concepts	Preparedness plans: See Glossary. Stockpiling: See Glossary. Hygiene Products: See Glossary.
Methodology	
Overarching computation	The indicator is calculated as a score from 0 to 4, based on the presence of a preparedness plan and three hygiene measures 1. Preparedness Plan exists: 1 Point 2. Includes measures relating to education / messaging on hygiene behaviour: 1 Point 3. Includes measures relating to stockpiling: 1 Point 4. Includes measures relating to storing and distribution of hygiene products: 1 Point Total Score = Sum of component scores (0-4) Interpretation: - 0 = No Preparedness Plan / preparedness plan does not address all relevant climate hazard(s) - 1 = Preparedness Plan exists, addresses all relevant climate hazard(s) but includes none of the hygiene measures - 2 = Preparedness Plan exists, addresses all relevant climate hazard(s) and includes one of the hygiene measures - 3 = Preparedness Plan exists, addresses all relevant climate hazard(s) and includes two of the hygiene measures - 4 = Preparedness Plan exists and includes all three of the hygiene measures Final Score - No Preparedness Plan (score = 0) - Limited inclusion (score = 1-2) - Partial inclusion (score = 3)

	- Full inclusion (score = 4)
Variable type	Composite
Units of Measurement	Points, range 0 to 4
Estimation method	NA
Data Collection and Measurement method	For each responding agency: Total population (integer) Total population covered by plan (integer) Which of these hazards is your area exposed to: Floods Changing Precipitation Sea Level Rise Fire Weather Severe Wind Droughts Changing air temperature None Other Do you have a plan? Does your plan include the following measures specific to all climate hazards identified above 1. Education/messaging on hygiene behaviour during and following a climate event 2. Stockpiling 3. Storing and distribution of hygiene products
Included disaggregation	Urban/rural; type of climate event
Additional disaggregation	The results may be disaggregated at the country-level by: handwashing/menstrual hygiene
Data sources	
Preferred data sources	Service provider questionnaire
Data providers	Local government; utilities; emergency response providers i.e. army, Red Cross/Crescent, NGO etc.
Limitations	Often responsibility is shared by multiple actors, collating and processing responses is labour and time intensive. Quality or level of implementation is not tested by this indicator. Only covers areas that are actively managed – misses self serving population.

6: ADAPTATION ACTIONS BY WATER SUPPLY SERVICE PROVIDERS

601 WATER SUPPLY SERVICE PROVIDER RISK MANAGEMENT PLANS

About the indicator	
Indicator Name	Proportion of population / schools / health care facilities served by water supply service providers that implement risk management plans which consider current and future climate (for example climate-resilient water safety plans)
Framework component	Adaptation actions by water supply service providers
Description	This indicator measures the proportion of the population, schools, and health care facilities served by water supply providers that implement risk management plans considering current and future climate. Risk management plans such as climate-resilient water safety plans set out a systematic process for identifying, assessing and managing risks across the water supply chain. The indicator focuses on whether these plans explicitly incorporate current climate variability and projected climate change into risk assessment and the selection of control measures. It captures whether a plan exists and is being implemented.
Rationale	This indicator measures the extent to which water service providers are proactively managing climate-related risks. Tracking the implementation of climate-informed risk management plans helps identify whether providers are considering risks to infrastructure, service delivery, and vulnerable populations, and are prepared to maintain safe and reliable water services during and after climate-related events.
Concepts and definitions	
Specific definitions of key concepts	Risk management plans: See Glossary. Current and future climate: See Glossary.
Methodology	
Overarching computation	Population Numerator: Population served by water supply services that implement risk management plans which consider climate variability and climate projections Denominator: Total population Schools Numerator: Schools served by water supply services that implement risk management plans which consider climate variability and climate projections Denominator: Total schools served by water supply services Health care facilities Numerator: Health care facilities served by water supply services that implement risk management plans which consider climate variability and climate projections Denominator: Total health care facilities served by water supply services
Variable type	Continuous
Units of Measurement	Proportion of [population/school/health care facility]
Estimation method	NA
Data Collection and Measurement method	Data collected via regulatory reporting, service provider audits or self-assessment, review of plan documentation, and administrative data. Data to be collected: For each water supply service or population served, apply a binary or categorical assessment of whether a climate-resilient risk management plan is implemented: - Yes. A risk management plan is implemented that considers current and future climate.

	- No. No risk management plan is implemented / Plan not defined or not applicable / A plan exists but does not fully consider future climate / is not fully implemented.
Included disaggregation	Separate analysis for households/schools/health care facilities.
Additional disaggregation	The results may be disaggregated at the country-level by: Type of service provider (public, private, community-managed); Type of water system (pipied, non-pipied); Urban / rural; Level of service (basic, safely managed)
Data sources	
Preferred data sources	National regulatory authority reports, service provider monitoring systems, infrastructure and asset management records; ministries of health (where WASH in health care facilities is concerned)
Data providers	Ministries responsible for water and environment, regulatory authorities, water service providers and utilities
Limitations	The level of detail and consistency of risk management plans may vary across countries. The existence of a plan does not guarantee implementation. Implementation is difficult to verify and often relies on self-reported or administrative data. What counts as adequate consideration of climate variability and projections may be applied inconsistently across providers. For non-pipied water supply, responsibility for risk management plans may be fragmented or absent, which makes coverage harder to measure.

6: ADAPTATION ACTIONS BY WATER SUPPLY SERVICE PROVIDERS

602 WATER SUPPLY SERVICE PROVIDERS USE NATIONAL STANDARDS FOR OPERATIONS AND MAINTENANCE

About the indicator	
Indicator Name	Proportion of population / schools / health care facilities served by water supply services that conform to national regulations and standards for operations and maintenance that take into account current and future climate
Framework component	Adaptation actions by water supply service providers
Description	This indicator measures the proportion of the population, schools, and health care facilities that are served by water supply services which comply with national regulations and standards for operations and maintenance (O&M) that explicitly consider current and projected climate conditions. It focuses on whether water service providers implement O&M practices that enhance resilience to climate-related risks. These practices may include preventive maintenance, climate-informed asset management, contingency planning, and adaptive service delivery approaches. The indicator captures the extent to which water services are managed in accordance with regulatory frameworks that incorporate climate resilience principles, ensuring that infrastructure and services are maintained to function effectively under changing climatic conditions. It measures the proportion of users or facilities served by water systems that meet these standards, reflecting the institutional and operational capacity to sustain reliable water services in the face of climate stress.
Rationale	This indicator measures whether climate considerations are being incorporated into the routine operation and maintenance of water supply services. Tracking compliance with climate-responsive standards helps identify implementation gaps and provides insight into the preparedness of service providers to maintain reliable services under changing conditions.
Concepts and definitions	
Specific definitions of key concepts	Service conformity: See Glossary. Operations and maintenance (O&M): See Glossary. Current and future climate: See Glossary.
Methodology	
Overarching computation	Population Numerator: Population served by water supply services that conform to national climate-resilient O&M standards Denominator: Total population Schools Numerator: Schools served by water supply services that conform to national climate-resilient O&M standards Denominator: Total schools served by water supply services Health care facilities Numerator: Health care facilities served by water supply services that conform to national climate-resilient O&M standards Denominator: Total health care facilities served by water supply services
Variable type	Continuous
Units of Measurement	Proportion of [population/school/health care facility]

Estimation method	NA
Data Collection and Measurement method	Data collected via regulatory reporting, service provider audits or self-assessment, review of plan documentation, and administrative data. Data to be collected: - Yes, service conforms to climate-resilient O&M standards - No, service does not conform / Standards not defined / not applicable
Included disaggregation	Separate analysis for households/schools/health care facilities
Additional disaggregation	The results may be disaggregated at the country-level by: Type of service provider (public, private, community-managed); Type of water system (piped, non-piped); Urban / rural; Level of service (basic, safely managed)
Data sources	
Preferred data sources	National regulatory authority reports, service provider monitoring systems, infrastructure and asset management records, sector performance reviews
Data providers	Ministries responsible for water and environment, regulatory authorities, water service providers and utilities; ministries of health (where WASH in health care facilities is concerned)
Limitations	Availability and consistency of national standards for climate-resilient O&M may vary across countries. Implementation is difficult to verify and often relies on self-reported or administrative data. What counts as adequate consideration of climate variability and projections may be applied inconsistently across providers. For non-piped water supply, responsibility for risk management plans may be fragmented or absent, which makes coverage harder to measure.

6: ADAPTATION ACTIONS BY WATER SUPPLY SERVICE PROVIDERS

603 DRINKING WATER CUSTOMER COMPLAINTS

About the indicator	
Indicator Name	Total complaints per 1000 customers during and following a climate event (a) received by drinking water service providers or regulators; (b) received and acted upon by water supply service providers or regulators
Framework component	Adaptation actions by water supply service providers
Description	This indicator measures the effectiveness of customer feedback and complaint management systems during and following climate-related events. By tracking complaints received, analysed and acted upon, it provides insight into the ability of water service providers and regulators to identify climate-related service disruptions, respond to customer concerns, and implement corrective actions to maintain and restore reliable water services.
Rationale	This indicator measures whether mechanisms are in place to capture, assess and respond to customer experiences of water service disruptions during and following climate-related events. Monitoring the progression of complaints from receipt to analysis and action provides insight into the responsiveness of service providers and regulators, supports the identification of recurring service challenges, and helps ensure that lessons from climate-related disruptions are used to improve service resilience and performance.
Concepts and definitions	
Specific definitions of key concepts	Complaints: Reports, grievances, concerns, or feedback submitted by service users regarding the quality, availability, accessibility, reliability, safety, or management of water supply services through formal or informal mechanisms. During and following a climate event: See Glossary.
Methodology	
Overarching computation	Numerator: Number of complaints received or received and acted upon within a defined timeframe Denominator: Total population served by assessed service providers divided by 1000
Variable type	Numeric
Units of Measurement	Number of complaints (received; analysed; acted upon) per 1000 customers
Estimation method	NA
Data Collection and Measurement method	Information is collected and aggregated from service provider records, customer service systems, complaints registers, regulatory reporting mechanisms, or audits. Assessment should verify both the existence of a complaints management process and evidence that complaints are addressed within an established timeframe. Data to be collected: For each water supply/service: - Has this service provider recently been impacted by a climate event? - Total number of complaints received - Total number of complaints acted upon
Included disaggregation	None
Additional disaggregation	The results may be disaggregated at the country-level by: Type of service provider (public, private, community-managed); Type of water system (piped, non-piped); Urban / rural; Level of service (basic, safely managed); Type of climate event

Data sources	
Preferred data sources	Service provider administrative records and customer complaint registers, regulatory monitoring and reporting systems, management information systems (MIS), service provider performance reports, independent audits or inspections, where available
Data providers	Water service providers, national and sub-national regulatory authorities, ministries responsible for water, utilities and local government authorities
Limitations	Complaint data may be affected by under-reporting where users lack awareness of complaint mechanisms or face barriers to submitting complaints. Differences in complaint management systems, definitions of resolution, and prescribed response times may also limit comparability across service providers and countries.

7: ADAPTATION ACTIONS BY SANITATION SERVICE PROVIDERS

701 SANITATION SERVICE PROVIDER RISK MANAGEMENT PLANNING

About the indicator	
Indicator Name	Proportion of population / schools / health care facilities served by sanitation service providers that implement risk management plans which consider climate variability and climate projections (for example flood and drought preparedness plans)
Framework component	Adaptation actions by sanitation service providers
Description	This indicator measures the proportion of the population, schools, and health care facilities served by sanitation providers that implement risk management plans considering current and future climate. Risk management plans, such as climate-resilient sanitation safety plans and other preparedness plans, set out a systematic process for identifying, assessing, and managing risks across the sanitation chain. The indicator focuses on whether these plans explicitly incorporate current climate variability and projected climate change into risk assessment and the selection of control measures. It captures whether a plan exists and is being implemented.
Rationale	This indicator measures the extent to which sanitation service providers are proactively managing climate-related risks. Tracking the implementation of climate-informed risk management plans helps identify whether providers are considering risks to infrastructure, service delivery and vulnerable populations, and are prepared to maintain safe and reliable sanitation services during and after climate-related events while minimising the likelihood and consequences of service failures.
Concepts and definitions	
Specific definitions of key concepts	Risk management plans: See Glossary. Climate variability: See Glossary. Climate projections: See Glossary.
Methodology	
Overarching computation	Population Numerator: Population served by sanitation services that implement risk management plans which consider climate variability and climate projections Denominator: Total population Schools Numerator: Schools served by sanitation services that implement risk management plans which consider climate variability and climate projections Denominator: Total schools served by sanitation services Health care facilities Numerator: Health care facilities served by sanitation services that implement risk management plans which consider climate variability and climate projections Denominator: Total health care facilities served by sanitation services
Variable type	Continuous
Units of Measurement	Proportion of population / schools / health care facilities
Estimation method	NA
Data Collection and	Data collected via regulatory reporting, service provider audits or self-assessment, review of plan documentation, and administrative data Data to be collected:

Measurement method	For each sanitation service or population served, apply a binary or categorical assessment of whether a climate-resilient risk management plan is implemented: - Yes. A risk management plan is implemented that considers current and future climate. - No. No risk management plan is implemented / Plan not defined or not applicable / A plan exists but does not fully consider future climate / is not fully implemented.
Included disaggregation	Separate analysis for households/schools/health care facilities
Additional disaggregation	The results may be disaggregated at the country-level by: Type of service provider (public, private, community-managed); Type of sanitation system (sewered, non-sewered); Urban / rural; Level of service (basic, safely managed)
Data sources	
Preferred data sources	National regulatory authority reports, service provider monitoring systems, infrastructure and asset management records, sector performance reviews; ministries of health (where WASH in health care facilities is concerned)
Data providers	Ministries responsible for water and environment, regulatory authorities, sanitation service providers and utilities
Limitations	The level of detail and consistency of risk management plans may vary across countries. The existence of a plan does not guarantee implementation. Implementation is difficult to verify and often relies on self-reported or administrative data. What counts as adequate consideration of climate variability and projections may be applied inconsistently across providers. For non-sewered or on-site sanitation, responsibility for risk management plans may be fragmented or absent, which makes coverage harder to measure.

7: ADAPTATION ACTIONS BY SANITATION SERVICE PROVIDERS

702 SANITATION SERVICE PROVIDERS USE NATIONAL STANDARDS FOR OPERATIONS AND MAINTENANCE

About the indicator	
Indicator Name	Proportion of population/ schools/ health care facilities served by sanitation service providers that conform to national regulations and standards for operations and maintenance that take into account current and future climate
Framework component	Adaptation actions by sanitation service providers
Description	This indicator measures the proportion of the population, schools, and health care facilities that are served by sanitation services which comply with national regulations and standards for operations and maintenance (O&M) that explicitly consider current and projected climate conditions. It focuses on whether sanitation service providers implement O&M practices that enhance resilience to climate-related risks. These practices may include preventive maintenance, climate-informed asset management, contingency planning, and adaptive service delivery approaches. The indicator captures the extent to which sanitation services are managed in accordance with regulatory frameworks that incorporate climate resilience principles, ensuring that infrastructure and services are maintained to function effectively under changing climatic conditions. It measures the proportion of users or facilities served by sanitation systems that meet these standards, reflecting the institutional and operational capacity to sustain reliable water services in the face of climate stress.
Rationale	This indicator measures whether climate considerations are being incorporated into the routine operations and maintenance of sanitation services. Tracking compliance with climate-responsive standards helps identify implementation gaps and provides insight into the preparedness of service providers to maintain reliable services under changing conditions.
Concepts and definitions	
Specific definitions of key concepts	Service conformity: See Glossary. Operations and maintenance (O&M): See Glossary. Current and future climate: See Glossary.
Methodology	
Overarching computation	Population Numerator: Population served by sanitation services that conform to national climate-resilient O&M standards Denominator: Total population Schools Numerator: Schools served by sanitation services that conform to national climate-resilient O&M standards Denominator: Total schools served by sanitation services Health care facilities Numerator: Health care facilities served by sanitation services that conform to national climate-resilient O&M standards Denominator: Total health care facilities served by sanitation services
Variable type	Continuous
Units of Measurement	Proportion of population / schools / health care facilities

Estimation method	NA
Data Collection and Measurement method	Data collected via regulatory reporting, service provider audits or self-assessment, review of plan documentation, and administrative data Data to be collected: - Yes, service conforms to climate-resilient O&M standards - No, service does not conform / Standards not defined / not applicable
Included disaggregation	Separate analysis for households/schools/health care facilities
Additional disaggregation	The results may be disaggregated at the country-level by: Type of service provider (public, private, community-managed); Type of sanitation system (sewered, non-sewered); Urban / rural; Level of service (basic, safely managed)
Data sources	
Preferred data sources	National regulatory authority reports, service provider monitoring systems, infrastructure and asset management records, sector performance reviews; ministries of health (where WASH in health care facilities is concerned)
Data providers	Ministries responsible for water and environment, regulatory authorities, sanitation service providers and utilities
Limitations	Availability and consistency of national standards for climate-resilient O&M may vary across countries. Implementation is difficult to verify and often relies on self-reported or administrative data. What counts as adequate consideration of climate variability and projections may be applied inconsistently across providers. For non-sewered or on-site sanitation responsibility for risk management plans may be fragmented or absent, which makes coverage harder to measure.

7: ADAPTATION ACTIONS BY SANITATION SERVICE PROVIDERS

703 SANITATION CUSTOMER COMPLAINTS

About the indicator	
Indicator Name	Total complaints per 1000 customers during and following a climate event (a) received by sanitation service providers or regulators (b) received and acted upon by sanitation service providers or regulators
Framework component	Adaptation actions by sanitation service providers
Description	This indicator measures the effectiveness of customer feedback and complaint management systems during and following climate-related events. By tracking complaints received, analysed and acted upon, it provides insight into the ability of sanitation service providers and regulators to identify climate-related service disruptions, respond to customer concerns, and implement corrective actions to maintain and restore reliable sanitation services.
Rationale	This indicator measures whether mechanisms are in place to capture, assess and respond to customer experiences of sanitation service disruptions during and following climate-related events. Monitoring the progression of complaints from receipt to analysis and action provides insight into the responsiveness of service providers and regulators, supports the identification of recurring service challenges, and helps ensure that lessons from climate-related disruptions are used to improve service resilience and performance.
Concepts and definitions	
Specific definitions of key concepts	Complaints: Reports, grievances, concerns, or feedback submitted by service users regarding the quality, availability, accessibility, reliability, safety, or management of sanitation services through formal or informal mechanisms.
Methodology	
Overarching computation	Numerator: Number of complaints received or received and acted upon within a defined timeframe Denominator: Total population served by assessed service providers divided by 1000
Variable type	Numeric
Units of Measurement	Number of complaints (received; analysed; acted upon) per 1000 customers
Estimation method	NA
Data Collection and Measurement method	Information is collected and aggregated from service provider records, customer service systems, complaints registers, regulatory reporting mechanisms, or audits. Assessment should verify both the existence of a complaints management process and evidence that complaints are addressed within an established timeframe. Data to be collected: For each sanitation service: - Has this service provider recently been impacted by a climate event? - Total number of complaints received - Total number of complaints acted upon
Included disaggregation	None
Additional disaggregation	The results may be disaggregated at the country-level by: Type of service provider (public, private, community-managed); Type of water system (piped, non-piped); Urban / rural; Level of service (basic, safely managed); Type of climate event

Data sources	
Preferred data sources	Service provider administrative records and customer complaint registers, regulatory monitoring and reporting systems, management information systems (MIS), service provider performance reports, independent audits or inspections, where available
Data providers	Sanitation service providers, national and sub-national regulatory authorities, ministries responsible for water, utilities and local government authorities
Limitations	Complaint data may be affected by under-reporting where users lack awareness of complaint mechanisms or face barriers to submitting complaints. Differences in complaint management systems, definitions of resolution, and prescribed response times may also limit comparability across service providers and countries.

11: ADAPTATION ACTIONS RELATED TO WATER RESOURCES AND LAND MANAGEMENT

1101 PLANNING FOR WASH CONSIDERS WATER RESOURCES ISSUES

About the indicator	
Indicator Name	Investment and operational plans for water resources management are referenced in investment and operational plans for (a) water supply; (b) sanitation and wastewater
Framework component	Adaptation actions related to water resources and land management
Description	The indicator assesses the coherence between water resources management and planning for (a) water supply and (b) sanitation and wastewater at a national level. It measures if WASH sector plans include consideration of water resources management plans.
Rationale	The aim of this indicator is to measure coherence and cooperation among agencies to deliver climate-resilient WASH. Managing climate resilience in water supplies and in sanitation and wastewater requires awareness of how water resources are managed and will be managed under climate events. This approach enables all climate hazards to be considered, depending on what has been identified to be of local importance. For the purposes of global monitoring, this indicator will focus on the national scale. There is potential for the same information to be analysed on a subnational level.
Concepts and definitions	
Specific definitions of key concepts	Investment and operational plans for water resources management: These may include a wide variety of instruments at the national level: national investment frameworks or plans (including for bulk water transfers, and recharge planning), demand management measures (e.g. technical measures, financial incentives, education and awareness raising to reduce water use and/or improve water-use efficiency, conservation, recycling and re-use), monitoring and regulating water use (including the ability to disaggregate by sector), and mechanisms for allocating water between sectors (including environmental considerations). Additionally, instruments might include those designed to reduce impacts of water-related disasters include understanding disaster risk; strengthening disaster risk governance; investing in disaster risk reduction; and enhancing disaster preparedness. At the subnational level, these may include operational plans for dam releases, regulated abstractions, or aquifer recharge. Investment and operational plans for water supply and sanitation: See Glossary. Plan/strategy: See Glossary. Policy: See Glossary.
Methodology	
Overarching computation	Presence of national WASH investment plans that reference investment and operational plans for water resources management. Binary (Yes/No)
Variable type	Binary
Units of Measurement	Yes/No
Estimation method	NA
Data Collection and	International questionnaire filled out by relevant government ministry/authority following a desk review of policies and plans. Self-assessment of WASH national investment/strategic plans for mention of WRM investment and operational plans.

Measurement method	
Included disaggregation	For (1) water supply and (2) sanitation and wastewater
Additional disaggregation	There is potential for disaggregation, in alignment with the current GLAAS approach – urban and rural; water, sanitation, and hygiene plans.
Data sources	
Preferred data sources	Ministries of water, environment, infrastructure, planning
Data providers	Government authorities (may differ for water and sanitation)
Limitations	There are no established definitions for investment and operational plans, with potential for many plans across the different scales. This will limit how systematic and comparable the results will be between countries. Operational plans are likely to only be available at a sub-national level, although more strategic plans may be available and appropriate at the national level. The reference to WRM instruments in WASH sector plans is necessary but is not sufficient for climate-resilient WASH. At best this is a proxy indicator. Assessing the extent to which WRM is referenced is subjective and qualitative. Some guidance on interpreting ‘reference’ is needed.

11: ADAPTATION ACTIONS RELATED TO WATER RESOURCES AND LAND MANAGEMENT

1102 WATER RESOURCES PLANNING TAKES WASH INTO ACCOUNT

About the indicator	
Indicator Name	Proportion of population in catchments where water resource management plans address climate risks to (a) water supply; (b) sanitation and wastewater
Framework component	Adaptation actions related to water resources and land management
Description	Measures how much of the national population resides in areas where water resources plans include consideration of climate risks to water supply and sanitation and wastewater. This assesses the coherence between water resources management and WASH planning at a national level.
Rationale	This indicator is linked to the following objective identified during the review: Coherence and cooperation between agencies to deliver climate-resilient WASH. Managing climate resilience in water supplies and in sanitation and wastewater requires cooperation with water resources management.
Concepts and definitions	
Specific definitions of key concepts	Water resources management plans: Water resources management plans typically comprise policies and laws, institutional arrangements, management instruments, and financing relating to the development and management of water resources. WRM plans include catchment level strategic and/or operational plans. Current and Future Climate: See Glossary. Catchment: A catchment is a hydrologically defined area within which all surface water drains to a common outlet, such as a river, lake, wetland, reservoir, or coastal discharge point. For reporting purposes, catchments should be assessed at a nationally agreed hydrological unit level (e.g. HydroBASINS Level 6-8 or equivalent national river-basin/sub-basin classification).
Methodology	
Overarching computation	For each country, computation would require (1) Complete list of catchments, and populations for each, (2) Compilation of WRM plans for each catchment, (3) Assessment of if plans address climate risks for (1) water supply and (2) sanitation and wastewater Calculation: Numerator: Population residing in catchments with water resources management plans that include objectives to maintain minimum standards quality and continuity of (1) water supply and (2) sanitation and wastewater services under current and future climate conditions Denominator: Total national population
Variable type	Proportion
Units of Measurement	Proportion of population in catchment areas
Estimation method	NA
Data Collection and Measurement method	International questionnaire filled out by relevant government ministry/authority following a desk review of policies and plans. Self-assessment by countries to report if WRM plans exist, and if they consider climate risks to (1) water supply and (2) sanitation and wastewater. Qualitative assessment would be needed to further understand if they address the risks, i.e. propose solutions, and consider if the breadth of climate risks are considered. Method to

	estimate population by catchment based on geographic boundaries and alignment to administrative areas.
Included disaggregation	For (1) water supply and (2) sanitation and wastewater
Additional disaggregation	Disaggregation of large/small systems and or urban/rural would be useful to differentiate climate risks to reflect different types of risks.
Data sources	
Preferred data sources	Ministries of water, environment, infrastructure, planning
Data providers	Government authorities
Limitations	Location: the population served by water supply may not equate to the population living in catchment, e.g. cities may be served by catchments they are not located in, with large disconnect between population served by WRM plans that consider WASH (e.g. WRM plans for rural Wales provide climate resilience for 7 million people around Merseyside). However, it is only feasible to measure people based on residence. The focus of the delineation is surface water catchments. Groundwater resources management may be overlooked. Scale: The scale of the catchment may need to be more specified. Countries wholly within a large basin may be better measured on the sub-basin scale. Data are likely to be inconsistent across scales, with smaller catchments potentially lacking data. The indicator is only readily measurable in a way that assesses if WRM plans acknowledge climate risks for water and sanitation. It does not assess if there is a plan to address the risks, nor does it assess implementation. The breadth or appropriateness of climate risks would not be assessed without detailed qualitative analysis.

12: ADAPTATION ACTIONS RELATED TO COORDINATION WITH SOLID WASTE MANAGEMENT AND DRAINAGE

1201 WASH PLANNING TAKES DRAINAGE INTO ACCOUNT

About the indicator	
Indicator Name	Investment and operational plans for water and sanitation reference drainage investment and operational plans for (a) water supply (b) sanitation and wastewater
Framework component	Adaptation actions related to coordination with solid waste management and drainage
Description	The indicator assesses the coherence between investment and operational plans for (a) water supply and (b) sanitation and wastewater with those related to drainage at a national level. It measures if water supply, sanitation and wastewater sector plans include consideration of drainage management plans.
Rationale	This indicator is linked to the following objective(s) identified during the review: Coherence and cooperation between agencies to deliver climate-resilient WASH. Managing climate resilience in water supplies and in sanitation and wastewater requires awareness of how drainage systems are managed and will be managed under climate events. This approach enables all climate hazards to be considered, depending on what has been identified to be of local importance. For the purposes of global monitoring, this indicator will focus on the national scale. There is potential for the same information to be analysed on a subnational level.
Concepts and definitions	
Specific definitions of key concepts	Investment and operational plans for drainage: These may include a wide range of nationally defined policies, strategies or frameworks that guide the planning, financing, implementation and management of stormwater and flood management systems, including both structural and non-structural measures. These plans may include investment priorities for drainage and flood risk reduction infrastructure, mechanisms to assess and manage flood risk, and responsibilities for operation, maintenance, monitoring and regulation. They may include mechanisms to coordinate across sectors (i.e. planning, land and water resource management) as well as measures to reduce impacts of water related disasters include understanding disaster risk; strengthening disaster risk governance; investing in disaster risk reduction; and enhancing disaster preparedness. Investment and operational plans for water supply and sanitation: See Glossary. Plan/strategy: See Glossary. Policy: See Glossary.
Methodology	
Overarching computation	Presence of national WASH investment and operational plans that reference investment and operational plans for drainage. Binary (Yes/No)
Variable type	Binary
Units of Measurement	Yes/No
Estimation method	NA
Data Collection and Measurement method	International questionnaire filled out by relevant government ministry/authority following a desk review of policies and plans. Self-assessment of WASH national investment/strategic plans for mention of WRM investment and operational plans

Included disaggregation	For (1) water supply and (2) sanitation and wastewater
Additional disaggregation	There is potential for disaggregation, in alignment with the current GLAAS approach – urban and rural; water and sanitation plans.
Data sources	
Preferred data sources	Ministries of water, environment, infrastructure, planning
Data providers	Government authorities (may differ for water and sanitation)
Limitations	There are no established definitions for investment and operational plans, with potential for many plans across the different scales. This will limit how systematic and comparable the results will be between countries. Operational plans are likely to only be available at a sub-national level, although more strategic plans may be available and appropriate at the national level. There is no established definition of drainage and aspects of drainage may be considered in different investment plans (i.e. urban planning, disaster risk management, water resource management). In some countries drainage and wastewater terms may be grouped or integrated in planning and investment instruments. The reference to drainage instruments in WASH sector plans is necessary but is not sufficient for climate-resilient WASH. At best this is a proxy indicator.

13: ATTRIBUTES OF WATER RESOURCES FOR WATER SUPPLY AND RECEIVING WATERS

1301 WATER SOURCES PRODUCTION

About the indicator	
Indicator Name	Proportion of raw water intakes / boreholes which meet design production rates, disaggregated by groundwater / surface water
Framework component	Attributes of water resources for water supply and receiving waters
Description	The indicator tracks how commonly water sources are capable of meeting their intended water production rates. The indicator is not intended to capture the cases where water production falls below design production rates because demand reduces, only where the water source is the limiting factor. The indicator should capture cases where the water supply remains functional due to other sources, but water availability from an individual source was restricted. Climate resilience is tracked via time series, and cannot be inferred from one time period.
Rationale	The indicator is linked to the objective identified during the review: Water quantity is maintained. Water production rates may fall below design levels if there are changes in water availability due to slow-onset events, such as drought or longer-term changes in rainfall or water resources. These may range from marginal cases where production is reduced by a small amount or a short period of time, or more substantial cases where production is completely stopped. Water availability may be exacerbated by competing water uses abstracting more water.
Concepts and definitions	
Specific definitions of key concepts	Raw water intake/boreholes: See Glossary. Design production rates: The volume of water that the water system is designed to abstract from an individual raw water intake or borehole. For a water system that draws water from multiple sources, the design production rate is specific to the individual source. For smaller systems, such as boreholes with handpumps, the design production rate may be interpreted as having a functional water supply. Groundwater / surface water sources: See Glossary.
Methodology	
Overarching computation	For raw water intakes: Numerator: Number of raw water intakes which are meeting or exceeding the design production rate for a given population within a given time period Denominator: Number of raw water intakes for a given population For boreholes: Numerator: Number of boreholes which are meeting or exceeding the design production rate for a given population within a given time period Denominator: Number of boreholes for a given population
Variable type	Binary
Units of Measurement	Proportion of population / schools / health care facilities
Estimation method	Regulator data

Data Collection and Measurement method	Time period: the period that a water source falls below the design production rate may vary, as may the recurrence interval. For national monitoring, an annual estimate is recommended to track changes over time. Hence, the indicator becomes the proportion of raw water intakes / boreholes which met design production rates for the year. Data sources, types and availability will vary by system type. For utilities, which may have multiple sources, service providers are likely to hold information on design values which would be relevant for the population served. For small systems, they are less likely to have 'design' values. In this case design can be interpreted as functionality (functioning as intended). With data more likely to be held by service/local government authorities and be relevant at the administrative levels. Data are likely to come from multiple sources: Utility data on the number of sources and design production values per water source, and operational data on if water production has been constrained by availability for any source in the past year. Government /local authority data on the number of sources for smaller water supplies, and operational data on if water production has been constrained by availability in the past year.
Included disaggregation	For (1) groundwater and (2) surface water
Additional disaggregation	The results may be disaggregated at the country-level to the different types of data. It may be appropriate to disaggregate to reflect these e.g. piped and non-piped or large and small.
Data sources	
Preferred data sources	Regulator, service provider (utility), service authority (local government)
Data providers	Government authorities: regulator, local government, or service providers
Limitations	Different data sources and data availability are likely to challenge the meaningful interpretation of the overall indicator.

13: ATTRIBUTES OF WATER RESOURCES FOR WATER SUPPLY AND RECEIVING WATERS

1302 WATER SOURCES QUALITY

About the indicator	
Indicator Name	Proportion of raw water intakes / boreholes which meet design quality standards, disaggregated by groundwater / surface water
Framework component	Attributes of water resources for water supply and receiving waters
Description	The indicator tracks how common it is for water quality at the source to meet the design quality standards. This related to water at the source, prior to treatment. Climate resilience is tracked via time series, and cannot be inferred from one time period.
Rationale	This indicator is linked to the objective identified during the review: Water quality is maintained. The indicator seeks to assess the proportion of sources that failed to meet any of the specific design water quality criteria for that water supply during a defined reference period. Source water quality will be impacted by both slow and rapid onset events: - Slow onset events: changes in water resource with sea-level rise (e.g. saline intrusion), concentrations in chemical concentrations with reductions in water availability (e.g. arsenic), and shifts in population increasing pollution around functional water sources (e.g. vibrio cholera). - Rapid onset events: intense rainfall washing more contamination into water sources (e.g. turbidity during heavy rainfall or a flood), flooding around groundwater infrastructure (e.g. pathogens), wildfires (e.g. fire retardants in water). Any water quality issue that causes the water source to not meet design quality standards is appropriate to include, where that water quality issues has been identified in design standards. These may include smell and taste, which may be listed in standards for drinking water, and which affect use. Where more sophisticated treatment systems are in place, systems may be designed for a wider range of intake water quality, and water quality may be actively managed through planned shutdowns under certain conditions. The design quality standards for the intake are expected to reflect the treatment system design and operation. Note: in UK some water utilities have planned operational approaches that stop production when turbidity spikes in groundwater due to the known pesticide risk. This would be included as failing to meet the design criteria, helping to understand if this is becoming more frequent.
Concepts and definitions	
Specific definitions of key concepts	Raw water intake/boreholes: See Glossary. Design quality standards: The nationally or locally appropriate standards applying to source water quality that were included in the design. These may include quality standards that relate to the performance of the treatment processes. For drinking water systems with no treatment, the design standards may be assumed to include no faecal contamination. Groundwater: See Glossary Surface water: See Glossary
Methodology	
Overarching computation	For raw water intakes: Numerator: Number of raw water intakes which meet or exceed all relevant design water quality standards for a given population within the past 12 months

	Denominator: Number of raw water intakes with data available on compliance with design water quality standards for a given population within the past 12 months For boreholes: Numerator: Number of boreholes which meet or exceed all relevant design water quality standards for a given population within the past 12 months Denominator: Number of boreholes with data available on compliance with design water quality standards for a given population within the past 12 months
Variable type	Continuous
Units of Measurement	Proportion
Estimation method	NA
Data Collection and Measurement method	Time period: a 12-month time period is suggested to track climate influenced changes over time. However, time can be longer. Data sources, types and availability will vary by system type. For utilities, which may have multiple sources, service providers are likely to hold information on design values which would be relevant for the population served. For small systems, they are likely to be national standards they are confirmed to meet after construction, however with limited data on subsequent changes in water quality. Data are likely to come from multiple sources: Utility data on the number of sources and design quality standards per water source, and water quality results that demonstrate compliance with standards. Government /local authority data on the number of sources for smaller water supplies, and water quality results that demonstrate compliance with standards. Where national drinking water standards are the appropriate measure, the nationally representative water quality monitoring in MICS survey may be used. Alternatively, a single question integrated into regulator/government survey that asks if any tests have indicated the water quality has not met standards, and/or that the water system has had to be closed due to water quality concerns.
Included disaggregation	For (1) raw water intake and (2) boreholes
Additional disaggregation	The results may be disaggregated at the global-level by: Water quality concern e.g. salinity vs turbidity, systems with treatment or without treatment
Data sources	
Preferred data sources	Regulator, service provider (utility), service authority (local government)
Data providers	Government authorities
Limitations	There is a risk that small systems/rural populations are invisible due to low availability of data.

13: ATTRIBUTES OF WATER RESOURCES FOR WATER SUPPLY AND RECEIVING WATERS

1303 IMPACTS ON DOWNSTREAM RECEIVING WATER

About the indicator	
Indicator Name	Number of incidents of water quality non-compliance downstream of a wastewater treatment plant
Framework component	Attributes of water resources for water supply and receiving waters
Description	This indicator measures the frequency of water quality non-compliance incidents detected downstream of wastewater treatment plants during a defined reporting period. It assesses the extent to which treated wastewater discharges affect the quality of receiving waters and whether wastewater treatment systems are effectively protecting downstream water resources.
Rationale	The aim of this indicator is to measure that water quality is maintained. Non-compliance incidents are associated with extreme events through: - An excess of water caused by heavy rainfall, floods or storms which affects the ability of the wastewater treatment works to adequately treat the wastewater before discharge; - Damage to the wastewater treatment plant infrastructure or surrounds that affect operation of the plant; and - Changes in the quality wastewater, such as increased solids concentrations during drought, that compromises the ability of the wastewater treatment works to adequately treat the wastewater before discharge.
Concepts and definitions	
Specific definitions of key concepts	Incident of water quality non-compliance: A single event, of any duration, where the local standards related to the quality of wastewater treatment plant discharges are exceeded. This can include storm water overflows or similar where water quality is not measured but impact is inferred based on discharge of wastewater that does not receive adequate treatment.
Methodology	
Overarching computation	Number of incidents of water quality non-compliance downstream of a wastewater treatment plant weighted by number of plants or by population served, or population served
Variable type	Count
Units of Measurement	Number of water quality non-compliance incidents downstream of a wastewater treatment plant during the reporting period
Estimation method	NA
Data Collection and Measurement method	Review administrative records and monitoring data from utilities, service providers, regulators, and government authorities on raw water intakes and boreholes, including design specifications, source type (groundwater/surface water), and water quality monitoring results. Where available, nationally representative water quality monitoring datasets (e.g., MICS) may be used. Data may be supplemented through regulator or government surveys asking whether water quality testing has identified non-compliance with design quality standards or resulted in source closure due to water quality concerns.
Included disaggregation	NA
Additional disaggregation	The results may be disaggregated by scale to allow calculations to focus on where data are available. This would include a focus on (1) large wastewater treatment plants where data are more likely to be available and (2) faecal sludge treatment plants.

Data sources	
Preferred data sources	Reporting by service provider, service authority, complaints/third party spot checks downstream, regulatory checks
Data providers	Government authorities (may differ for water and sanitation)
Limitations	The indicator relies on self-reported incidents of non-compliance. It does not take into account the scale or severity of the incident or risk to human health or ecosystems.

14: ATTRIBUTES OF WATER SUPPLY INFRASTRUCTURE

1401 WATER SUPPLY CONFORMS TO NATIONAL DESIGN AND CONSTRUCTION STANDARDS

About the indicator	
Indicator Name	Proportion of population / schools / health care facilities served by water supplies that conform to national regulations and standards for design and construction that take into account current and future climate (a) water supply source; (b) water treatment; (c) storage and distribution
Framework component	Attributes of water supply infrastructure
Description	This indicator assesses the proportion of population served by water supplies that conform to design and construction regulations and standards accounting for current and future climate risks from source to consumers. It applies to households, schools and health care facilities and should be measured separately.
Rationale	The aim of this indicator is to measure the construction and design standards for climate resilient WASH are implemented. Water supply infrastructure must conform to regulatory standards for design and construction that consider current and future climate risks to ensure that services are able to respond to and cope with climate-related events and access to safe services is maintained.
Concepts and definitions	
Specific definitions of key concepts	Water supply services: See Glossary. Water supply source: See Glossary. Water treatment: See glossary Water supply storage and distribution: See Glossary. Current and future climate: See Glossary. Service provider: See Glossary. Standards: See Glossary. Regulations: See Glossary.
Methodology	
Overarching computation	Households Numerator: Population (number of people) served by a water supply conforming to design and construction regulations and standards that take into account current and future climate (as identified in indicator 0301) Denominator: Total population Schools Numerator: Number of schools served by a water supply conforming to design and construction regulations and standards that take into account current and future climate (as identified in indicator 0301) Denominator: Total number of schools Health care facilities Numerator: Number of health care facilities served by a water supply conforming to design and construction regulations and standards that take into account current and future climate (as identified in indicator 0301) Denominator: Total number of health care facilities
Variable type	Binary

Units of Measurement	Proportion of population / schools / health care facilities
Estimation method	Baseline set based on most recent data and tracking change over time, where comparable datasets are available Computation for households: Look for information on households that use different types of water supplies, which of those are compliant with standards, multiply them to get the numerator. Data may come from different sources, information might come from household surveys but compliance levels come from service authority data which may not be comprehensive; estimates to be developed for water supplies where data are available above a certain threshold. Computation for schools: Look for information on schools that use different types of water supplies, which of those are compliant with standards, multiply them to get the numerator. Data may come from different sources, information might come from school surveys but compliance levels come from service authority data which may not be comprehensive; estimates to be developed for water supplies where data are available above a certain threshold. Computation for health care facilities: Look for information on health care facilities that use different types of water supplies, which of those are compliant with standards, multiply them to get the numerator. Data may come from different sources, information might come from surveys but compliance levels come from service authority data which may not be comprehensive; estimates to be developed for water supplies where data are available above a certain threshold.
Data Collection and Measurement method	Identify the population, schools and/or health care facilities served by water supplies within the reporting area. Determine whether the water supply systems serving these users conform to national regulations, standards, codes or guidelines for the design and construction of water supply infrastructure. Confirm that the applicable regulations and standards explicitly consider current and future climate risks. Calculate the proportion of the population, schools and/or health care facilities served by water supplies that meet these climate-informed design and construction requirements.
Included disaggregation	Disaggregated where possible with separate analysis for source, treatment works, and storage and distribution
Additional disaggregation	By water supply technology type, surface and groundwater, urban/rural, type of school and health care facility
Data sources	
Preferred data sources	Local authority aggregating data self-reported by service providers, school and health care facility managers, community managers and utilities; independent surveillance by service authorities for households, schools and health care facilities; service providers may have these data but would apply to larger piped supplies and exclude community supplies that do not have a formal management system; for these a regulator or service provider may do sanitary inspections; self-reporting by school and health care facility managers, and by community managers through household surveys (but not as reliable as an inspection); certification at commissioning for newly constructed supplies
Data providers	Self-reporting by managers in health care facilities and schools; water suppliers; local/regional authority, regulatory agency
Limitations	Challenges in aggregating information for community supplies; national regulations accounting for current and future climate for the whole country covering all geographies, and for all types of water supplies (smaller, informally managed water supplies might not have regulations and be absent from regulatory checks) may not cover the full water supply chain.

15: ATTRIBUTES OF SANITATION INFRASTRUCTURE

1501 SANITATION CONFORMS TO NATIONAL DESIGN AND CONSTRUCTION STANDARDS

About the indicator	
Indicator Name	Proportion of population / schools / health care facilities served by sanitation services that conform to national regulations and standards for design and construction that take into account current and future climate (a) capture and containment; (b) conveyance; (c) treatment
Framework component	Attributes of sanitation infrastructure
Description	This indicator assesses the proportion of population served by sanitation services that conform to design and construction regulations and standards accounting for current and future climate risks from capture to treatment. It applies to households, schools and health care facilities and should be measured separately.
Rationale	The aim of this indicator is to measure the construction and design standards for climate resilient WASH are implemented. Sanitation service infrastructure must conform to regulatory standards for design and construction that consider current and future climate risks to ensure that services are able to respond to and cope with climate-related events and access to safe services is maintained.
Concepts and definitions	
Specific definitions of key concepts	Sanitation services: See Glossary. Sewered sanitation: See Glossary. Non-sewered sanitation: See Glossary. Capture and containment: See Glossary. Sewage conveyance: See Glossary. Wastewater and fecal sludge treatment: See Glossary. Current and future climate: See Glossary. Standards: See Glossary. Regulations: See Glossary.
Methodology	
Overarching computation	Households Numerator: Population (number of people) served by a sanitation service conforming to design and construction regulations and standards that take into account current and future climate (as identified in indicator 0301) Denominator: Total population Schools Numerator: Number of schools served by a sanitation service conforming to design and construction regulations and standards that take into account current and future climate (as identified in indicator 0301) Denominator: Total number of schools Health care facilities Numerator: Number of health care facilities served by a sanitation service conforming to design and construction regulations and standards that take into account current and future climate (as identified in indicator 0301) Denominator: Total number of health care facilities
Variable type	Binary

Units of Measurement	Proportion of population / schools / health care facilities
Estimation method	Baseline set based on most recent data and tracking change over time, where comparable datasets are available. Computation for households: Look for information on households that use different types of sanitation services, which of those are compliant with standards, multiply them to get the numerator. Data may come from different sources, information might come from household surveys but compliance levels come from service authority data which may not be comprehensive; estimates to be developed for sanitation services where data are available above a certain threshold (in many countries, the majority of the population uses non-sewered sanitation) Computation for schools: Look for information on schools that use different types of sanitation services, which of those are compliant with standards, multiply them to get the numerator. Data may come from different sources, information might come from school surveys but compliance levels come from service authority data which may not be comprehensive; estimates to be developed for sanitation services where data are available above a certain threshold Computation for health care facilities: Look for information on health care facilities that use different types of sanitation services, which of those are compliant with standards, multiply them to get the numerator. Data may come from different sources, information might come from surveys but compliance levels come from service authority data which may not be comprehensive; estimates to be developed for sanitation services where data are available above a certain threshold
Data Collection and Measurement method	Identify the population, schools and/or health care facilities served by sanitation services within the reporting area. Determine whether the sanitation systems serving these users conform to national regulations, standards, codes or guidelines for the design and construction of sanitation infrastructure. Confirm that the applicable regulations and standards explicitly consider current and future climate risks. Calculate the proportion of the population, schools and/or health care facilities served by sanitation services that meet these climate-informed design and construction requirements.
Included disaggregation	Disaggregated by sewerage and non-sewered sanitation
Additional disaggregation	By technology type (pit latrine, septic tank), urban/rural, type of school and health care facility
Data sources	
Preferred data sources	Local authorities aggregating data self-reported by sanitation service providers, school and health care facility managers, community-based sanitation managers, and utilities; independent surveillance and inspections undertaken by service authorities for households, schools, and health care facilities. Service providers may hold these data for larger sewerage and formally managed sanitation systems, but coverage may exclude on-site and community-managed systems that lack formal management arrangements. In these cases, regulators, local authorities, or designated service authorities may undertake inspections or compliance assessments. Data may also be obtained through self-reporting by school and health care facility managers and community managers, although these approaches may be less reliable than direct inspection. For newly constructed sanitation and wastewater infrastructure, certification or compliance assessment at commissioning may provide evidence of conformity with relevant standards.
Data providers	Self-reporting by managers in health care facilities and schools; service providers; local/regional authority, regulatory agency

Limitations	Challenges in aggregating information for community service providers; national regulations accounting for current and future climate for the whole country covering all geographies, and for all types of sanitation services (non-sewered sanitation might not have regulations and be absent from regulatory checks) may not cover the full sanitation chain.
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16: ATTRIBUTES OF HYGIENE INFRASTRUCTURE

1601 HYGIENE SERVICES CONFORM TO NATIONAL DESIGN AND CONSTRUCTION STANDARDS

About the indicator	
Indicator Name	Proportion of schools / health care facilities where hygiene services conform to national regulations and standards for design and construction that take into account current and future climate (a) hand hygiene; (b) menstrual hygiene
Framework component	Attributes of hygiene infrastructure
Description	This indicator assesses the proportion of schools and health care facilities with hygiene services that conform to design and construction regulations and standards accounting for current and future climate risks at all points of use. It applies to schools and health care facilities and should be measured separately.
Rationale	The aim of this indicator is to measure construction and design standards for climate-resilient WASH are implemented. Hygiene service infrastructure must conform to regulatory standards for design and construction that consider current and future climate risks to ensure that services are able to respond to and cope with climate-related events and access to safe services is maintained. This is of concern in context of water shortage, especially in health care facilities where lack of hygiene can disrupt safe health care provision and infection prevention and control.
Concepts and definitions	
Specific definitions of key concepts	Hygiene: See Glossary. Hygiene services: See Glossary. Hand hygiene/handwash facility: See Glossary. Points of care: See Glossary. Menstrual hygiene facility: See Glossary. Current and future climate: See Glossary.
Methodology	
Overarching computation	Schools Numerator: Number of schools with hygiene services conforming to design and construction regulations and standards that take into account current and future climate Denominator: Total number of schools Health care facilities Numerator: Number of health care facilities with hygiene services conforming to design and construction regulations and standards that take into account current and future climate Denominator: Total number of health care facilities
Variable type	Binary
Units of Measurement	Proportion of schools / health care facilities
Estimation method	Baseline set based on most recent data and tracking change over time, where comparable datasets are available. Hand hygiene Computation for schools: Look for information on schools that use different types of hand hygiene facilities, which of those are compliant with standards, multiply them to get the numerator. Data may come from different sources, information might come from school

	surveys but compliance levels come from service authority data which may not be comprehensive Computation for health care facilities: Look for information on health care facilities that use different types of hand hygiene facilities (separately considered at points of care and toilets), which of those are compliant with standards, multiply them to get the numerator. Data may come from different sources, information might come from facility surveys but compliance levels come from service authority data which may not be comprehensive Menstrual hygiene (MHM) Computation for schools: Look for information on schools that use different types of menstrual hygiene facilities, which of those are compliant with standards, multiply them to get the numerator. Data may come from different sources, information might come from school surveys but compliance levels come from service authority data which may not be comprehensive MHM is currently not in the scope of basic hygiene for health care facilities, as such MHM is not included in the numerator for health care facilities.
Data Collection and Measurement method	Identify schools and/or health care facilities served by hygiene services within the reporting area. Determine whether the hygiene systems serving these users conform to national regulations, standards, codes or guidelines for the design and construction of hygiene infrastructure. Confirm that the applicable regulations and standards explicitly consider current and future climate risks. Calculate the proportion of schools and/or health care facilities served by hygiene services that meet these climate-informed design and construction requirements.
Included disaggregation	Hand hygiene facilities for health care facilities in toilets and at points of care
Additional disaggregation	urban/rural, type of school and health care facility
Data sources	
Preferred data sources	Local authorities aggregating data self-reported by public health authorities, emergency management agencies, WASH service providers, school managers, health care facility managers, and community-based organizations responsible for preparedness planning. Independent reviews of preparedness plans and emergency response arrangements may be undertaken by relevant authorities for households, schools, and health care facilities. National and subnational preparedness plans may contain information on hygiene promotion activities, stockpiling of hygiene products, and arrangements for the storage and distribution of hygiene products, although implementation responsibility may be distributed across multiple sectors and agencies. Data may also be obtained through self-reporting by school and health care facility managers and community organizations.
Data providers	Self-reporting by managers in health care facilities and schools; service providers; local/regional authority, regulatory agency
Limitations	The indicator does not specify how compliance should be assessed (e.g., all facilities versus a sample of facilities) or whether partial compliance should be recognised. Differences in interpretation may reduce comparability between assessments.

17: WATER SUPPLY SERVICE FUNCTIONING

1701 DAMAGE TO WATER SUPPLY INFRASTRUCTURE

About the indicator	
Indicator Name	Proportion of population / schools / health care facilities whose drinking water supply infrastructure has been damaged attributed to a climate event in the last 12 months
Framework component	Water Service Functioning
Description	The indicator applies to water supply services for households, schools and health care facilities, and measures whether water supply infrastructure has been damaged at any point in the past 12 months due to a climate event. It measures the proportion of the population, schools, and health care facilities whose water supply infrastructure has experienced damage attributable to a climate event during the previous 12 months. Damage may affect any part of the water supply system and result in reduced service levels, loss of functionality, or increased risks to public health and the environment.
Rationale	This indicator measures the extent to which climate-related events disrupt access to water services for households, schools, and health care facilities. Monitoring the occurrence of service disruptions helps identify populations most affected by climate hazards, assess the resilience of water supply services, and inform actions to reduce the frequency and impacts of future disruptions.
Concepts and definitions	
Specific definitions of key concepts	Drinking water: See Glossary. Infrastructure: See Glossary. Damaged: See Glossary.
Methodology	
Overarching computation	Households Numerator: Population with drinking water supply infrastructure that has been damaged due attributed to a climate event in the last 12 months Denominator: Total population Schools Numerator: Schools with drinking water supply infrastructure that has been damaged due attributed to a climate event in the last 12 months Denominator: Total number of schools Health care facilities Numerator: Health care facilities with drinking water supply infrastructure that has been damaged due attributed to a climate event in the last 12 months Denominator: Total number of health care facilities
Variable type	Binary
Units of Measurement	Proportion of households/schools/health care facilities with drinking water supply infrastructure that has been damaged due attributed to a climate event in the last 12 months
Estimation method	NA
Data Collection and Measurement method	Binary (Yes/No) response to the following: In the last 12 months, was your water supply service damaged due to a climate event? Separate computation for households / schools/ health care facilities.
Included disaggregation	NA

Additional disaggregation	NA
Data sources	
Preferred data sources	Household surveys or censuses. Structured sector surveys of service providers, for piped/centralised supplies.
Data providers	Ministry or authority responsible for water supply, disaster response, or other relevant body
Limitations	The indicator depends on respondents correctly attributing damage to a climate hazard rather than other causes.

17: WATER SUPPLY SERVICE FUNCTIONING

1702 DISRUPTION TO WATER SUPPLY

About the indicator	
Indicator Name	Proportion of population / schools / health care facilities reporting at least one period of disruption to access to water supply services attributed to a climate event in the last 12 months
Framework component	Water Service Functioning
Description	The indicator applies to water supplies for households, schools and health care facilities, and measures whether the current primary supply was disrupted at any point in the past 12 months due to a climate event. It tracks disruption to existing service levels and identifies populations/schools/health care facilities falling below the defined minimum. Specifically, it measures the proportion of population/schools/health care facilities with a basic or higher level of drinking water service who report at least one period in the past 12 months when they were unable to maintain that level due to a climate event.
Rationale	The indicator measures whether a minimum water service level is maintained following a climate event. Households, schools and health care facilities are the focus because most governments already collect this data routinely, and maintaining supply in these settings after a climate event is a priority for health, welfare and productivity. The 12-month reference period captures recent events and allows disruption to be tracked over time. The indicator builds on established international indicators of basic water service already used for national and global WASH monitoring; where a country's own minimum service level is higher than the global standard, disruption may be reported against that national standard instead.
Concepts and definitions	
Specific definitions of key concepts	Water supply services: See Glossary. At least one period: See Glossary. Disruption to water supply services: See Glossary. Improved drinking water source: See Glossary. Attributed to a climate event: See Glossary. Basic water service: See Glossary.
Methodology	
Overarching computation	Households Numerator: Population with basic + safely managed* that reported a disruption attributed to a climate-related event Denominator: Total population with at least basic service Schools Numerator: Schools with at least a basic service that reported a disruption attributed to a climate-related event Denominator: Total schools with at least basic service Health care facilities Numerator: Health care facilities with at least basic services that reported a disruption attributed to a climate-related event Denominator: Total number of health care facilities with at least basic service *where safely managed cannot be obtained, basic can be reported
Variable type	Binary
Units of Measurement	Proportion of population

Estimation method	NA
Data Collection and Measurement method	Households with safely managed water supply: In the last 12 months, was your water supply disrupted due to a climate event in any of the following ways: (1) no longer accessible on premises; (2) not available when needed; (3) contaminated? Households with basic water supply: In the last 12 months, was your water supply disrupted due to a climate event in the following way: (1) Did you have to spend more than 30 minutes collecting water? Schools: In the last 12 months, was your water supply disrupted due to a climate event in any of the following ways: (1) water became unavailable; (2) switched from an improved source to a non-improved source; (3) switched from on-premises to off-premises? Health care facilities: In the last 12, months was your water supply disrupted due to a climate event in any of the following ways: (1) water became unavailable; (2) switched from an improved source to a non-improved source; (3) switched from on-premises to off-premises?
Included disaggregation	Separate analysis for households/school/health care facilities
Additional disaggregation	The results may be disaggregated at the country-level by: water source (supply type or piped/non-piped) or geographic level (services in urban, rural, or both areas)
Data sources	
Preferred data sources	Household surveys or censuses. Structured sector surveys of service providers, for piped/centralised supplies.
Data providers	Ministry or authority responsible for water supply, disaster response, other
Limitations	The indicator depends on respondents correctly attributing disruption to a climate hazard rather than other causes, and on well-defined criteria for disruption (duration, severity, service level) and an appropriate recall period. Results may vary across countries due to differing national standards for acceptable service levels and disruption duration. The binary response also cannot distinguish a short disruption (hours) from a long one (months), both count the same way; this is worth testing in piloting, to see if disruption length or severity can be captured without making recall too difficult.

17: WATER SUPPLY SERVICE FUNCTIONING

1703 MAINTENANCE OF WATER SUPPLIES IN CLIMATE HAZARD ZONES

About the indicator	
Indicator Name	Proportion of population / schools/ health care facilities within nationally determined climate hazard zones using basic / safely managed drinking water services
Framework component	Water Service Functioning
Description	This indicator assesses whether populations in certain geographic regions that are prone to climate hazards are lagging in use of safely managed water services compared with the general population. For schools and health care facilities the use of basic services is assessed. Results from this indicator can be compared with rates of access in the country as a whole.
Rationale	The aim of this indicator is to measure the extent to which access to safely managed services or basic water supply facilities are maintained. Safely managed services are the primary focus of the SDGs and this indicator aims to identify status and progress of populations in areas at increased risk of climate hazards.
Concepts and definitions	
Specific definitions of key concepts	Nationally determined climate hazard zones: See Glossary. Basic drinking water services: See Glossary. Safely managed drinking water services: See Glossary.
Methodology	
Overarching computation	Households Numerator: Population in climate hazard zone using safely managed drinking water services Denominator: Population in climate hazard zones Schools Numerator: Schools in climate hazard zone using basic drinking water services Denominator: Schools in climate hazard zones Health care facilities Numerator: Health care facilities in climate hazard zone using basic drinking water services Denominator: Health care facilities in climate hazard zones
Variable type	Binary
Units of Measurement	Proportion of population/schools/health care facilities in climate hazard zone using safely managed/basic services of the total population in climate hazard zones.
Estimation method	NA
Data Collection and Measurement method	If a national database of levels of drinking water services does not exist: - Reference JMP method to identify appropriate instruments to collect data on access to drinking water services by household/school/health care facility, - Once data are collected, follow the steps below. If a national database of levels of drinking water services service exists: - Align administrative areas of the drinking water services data with the administrative areas/units of national climate hazard zones, - Extract relevant subset of data that fall within the national climate hazard zone, - Re-calculate overall access to safely managed/basic drinking water services within that area.

Included disaggregation	Separate analysis for households / schools / health care facilities
Additional disaggregation	The results may be disaggregated at the country-level by type of climate hazard zone.
Data sources	
Preferred data sources	Existing WASH access database
Data providers	National statistic agencies, ministries responsible for water could include health, environment, or water. Climate, environment or planning ministries may have spatial data on climate hazard zones.
Limitations	This indicator cannot be populated in the absence of nationally determined climate hazard zones.

18: SANITATION SERVICE FUNCTIONING

1801 DAMAGE TO SANITATION INFRASTRUCTURE

About the indicator	
Indicator Name	Proportion of population / schools / health care facilities whose sanitation infrastructure has been damaged attributed to a climate event in the last 12 months
Framework component	Sanitation Service Functioning
Description	The indicator applies to sanitation services for households, schools and health care facilities, and measures whether sanitation infrastructure has been damaged at any point in the past 12 months due to a climate event. It measures the proportion of the population, schools, and health care facilities whose sanitation infrastructure has experienced damage attributable to a climate event during the previous 12 months. Damage may affect any part of the sanitation chain and result in reduced service levels, loss of functionality, or increased risks to public health and the environment.
Rationale	This indicator measures the extent to which climate-related events disrupt access to sanitation services for households, schools, and health care facilities. Monitoring the occurrence of service disruptions helps identify populations most affected by climate hazards, assess the resilience of sanitation services, and inform actions to reduce the frequency and impacts of future disruptions.
Concepts and definitions	
Specific definitions of key concepts	Infrastructure: See Glossary. Damaged: See Glossary. Attributed to a climate event: See Glossary. Basic sanitation service: See Glossary. Safely managed sanitation service: See Glossary.
Methodology	
Overarching computation	Households Numerator: Individuals that reported damage to their sanitation infrastructure due to a climate-related event Denominator: Total population Schools Numerator: Schools that reported damage to their sanitation infrastructure due to a climate-related event Denominator: Total number of schools Health care facilities Numerator: Health care facilities that reported damage to their sanitation infrastructure due to a climate-related event Denominator: Total number of health care facilities
Variable type	Binary
Units of Measurement	Proportion
Estimation method	NA
Data Collection and Measurement method	Binary (Yes/No) response to the following: In the last 12 months, was your sanitation service damaged due to a climate event? Separate computation for households / schools / health care facilities

Included disaggregation	households / schools / health care facilities
Additional disaggregation	NA
Data sources	
Preferred data sources	Household surveys or censuses. Structured sector surveys of service providers, for piped/centralised supplies.
Data providers	Ministry or authority responsible for sanitation, disaster response, or other relevant body
Limitations	The indicator depends on respondents correctly attributing damage to a climate hazard rather than other causes.

18: SANITATION SERVICE FUNCTIONING

1802 DISRUPTION TO SANITATION SERVICE

About the indicator	
Indicator Name	Proportion of population / schools / health care facilities reporting at least one period of disruption to access to sanitation services attributed to a climate event in the last 12 months
Framework component	Sanitation Service Functioning
Description	The indicator applies to sanitation services for households, schools and health care facilities, and measures whether the current primary facility was disrupted at any point in the past 12 months due to a climate event. It measures the proportion of population/schools/health care facilities with a basic or higher level of sanitation service who report at least one period in the past 12 months when they were unable to maintain that level due to a climate event.
Rationale	This indicator measures the extent to which climate-related events affect the continuity of sanitation services for households, schools, and health care facilities. Tracking reported service disruptions provides insight into the resilience of sanitation services, helps identify populations most affected by climate hazards, and supports the prioritization of investments and actions to reduce the risk and impacts of future disruptions.
Concepts and definitions	
Specific definitions of key concepts	At least one period: See Glossary. Attributed to a climate event: See Glossary. Basic sanitation service: See Glossary. Safely managed sanitation service: See Glossary.
Methodology	
Overarching computation	Household Numerator: Individuals with basic service that reported a disruption due to a climate-related event + safely managed that reported disruption Denominator: Total population with at least basic service Schools Numerator: Schools with at least a basic service that reported a disruption due to a climate-related event Denominator: Total schools with at least basic service Health care facilities: Numerator: Health care facilities with at least basic services that reported a disruption due to a climate-related event Denominator: Total number of health care facilities with at least basic service
Variable type	Binary
Units of Measurement	Proportion
Estimation method	NA
Data Collection and Measurement method	Binary (Yes/No) response to the following: Households with safely managed sanitation: In the last 12 months, was your sanitation service disrupted due to a climate event in any of the following ways: (1) on-premises private facility to a shared facility; (2) excreta is not safely stored or emptied for treatment?

	Households with basic sanitation: In the last 12 months, was your sanitation service disrupted due to a climate event in the following way: (1) on-premises private facility to a shared facility? Schools: In the last 12 months, was your sanitation service disrupted due to a climate event in the following way (1) single sex improved sanitation is no-longer available or non-functional? Health care facilities: In the last 12 months, was your sanitation service disrupted due to a climate event in any of the following ways: (1) separate toilet unavailable to staff; (2) sex-separated toilet with menstrual hygiene facilities not available; (3) sex-separated toilet accessible for users with limited mobility not available?
Included disaggregation	Separate analysis for households/school/health care facilities
Additional disaggregation	NA
Data sources	
Preferred data sources	Household surveys or censuses. Structured sector surveys of service providers
Data providers	Ministry or authority responsible for sanitation, disaster response, or other relevant body
Limitations	The indicator depends on respondents correctly attributing disruption to a climate hazard rather than other causes, and on well-defined criteria for disruption (duration, severity, service level) and an appropriate recall period. Results may vary across countries due to differing national standards for acceptable service levels and disruption duration. The binary response also cannot distinguish a short disruption (hours) from a long one (months), both count the same way; this is worth testing in piloting, to see if disruption length or severity can be captured without making recall too difficult.

18: SANITATION SERVICE FUNCTIONING

1803 MAINTENANCE OF BASIC SANITATION SERVICES IN CLIMATE HAZARD ZONES.

About the indicator	
Indicator Name	Proportion of population / schools / health care facilities within nationally determined climate hazard zones using basic / safely managed sanitation services
Framework component	Sanitation Service Functioning
Description	This indicator assesses whether populations in certain geographic regions that are prone to climate hazards are lagging in use of safely managed sanitation services compared with the general population. For schools and health care facilities the use of basic services is assessed. Results from this indicator can be compared with rates of access in the country as a whole.
Rationale	The aim of this indicator is to measure the extent to which access to safely managed services or basic sanitation facilities are maintained. Safely managed services are the primary focus of the SDGs and this indicator aims to identify status and progress of populations in areas at increased risk of climate hazards.
Concepts and definitions	
Specific definitions of key concepts	At least one period: See Glossary. Attributed to a climate event: See Glossary. Basic sanitation service: See Glossary. Safely managed sanitation service: See Glossary.
Methodology	
Overarching computation	Households Numerator: Population in climate hazard zone using safely managed sanitation services Denominator: Population in climate hazard zones Schools Numerator: Schools in climate hazard zone using basic sanitation services Denominator: Schools in climate hazard zones Health care facilities Numerator: Health care facilities in climate hazard zone using basic sanitation services Denominator: Health care facilities in climate hazard zones
Variable type	Binary
Units of Measurement	Proportion of population/schools/health care facilities in climate hazard zone using safely managed/basic services of the total population in climate hazard zones.
Estimation method	NA
Data Collection and Measurement method	If a national database of levels of sanitation service does not exist: - Reference JMP method to identify appropriate instruments to collect data on access to sanitation by household/school/health care facility, - Once data are collected, follow the steps below. If a national database of levels of sanitation service exists: - Align administrative areas of the sanitation service data with the administrative areas/units of national climate hazard zones, - Extract relevant subset of data that fall within the national climate hazard zone, - Re-calculate overall access to safely managed/basic sanitation service within that area.

Included disaggregation	Separate analysis for households / schools / health care facilities
Additional disaggregation	The results may be disaggregated at the country-level by type of climate hazard zone.
Data sources	
Preferred data sources	Existing WASH access database
Data providers	National statistic agencies, ministries responsible for sanitation could include health, environment, or water. Climate, environment or planning ministries may have spatial data on climate hazard zones.
Limitations	This indicator cannot be populated in the absence of nationally determined climate hazard zones.

19: HYGIENE SERVICE FUNCTIONING

1901 DISRUPTION TO HANDWASHING SERVICES

About the indicator	
Indicator Name	Proportion of population / schools / health care facilities reporting at least one period of disruption to access to a handwashing facility with soap and water on premises attributed to a climate event in the last 12 months
Framework component	Hygiene Service Functioning
Description	The indicator can be applied to handwashing services for households, schools and health care facilities. It focuses on whether access to a handwashing facility with soap and water has been disrupted for any length of time during the past year due to a climate event. It aims to measure disruptions to existing levels of service in each setting. The indicator measures the proportion of population, schools and health care facilities with a basic hygiene service who report being unable to maintain existing service levels during the past 12 months due to a climate event. Because water is the primary pathway by which a climate event causes disruption to the handwashing service, a follow-up question on water is included in the measurement.
Rationale	The aim of this indicator is to measure the extent to which access to a minimum service level is maintained. The indicator focuses on handwashing services in households, schools and health care facilities, where governments routinely collect this information through national systems for WASH monitoring. Maintaining hygiene services during and following a climate event is of primary concern for health, particularly for preventing the spread of infectious disease. The 12-month reference period aims to capture both discrete rapid-onset events and ongoing or recurrent disruption from slow-onset events. The indicator builds on established international indicators of basic hygiene services in households, schools and health care facilities that are already used for national and global monitoring of progress on WASH.
Concepts and definitions	
Specific definitions of key concepts	At least one period: See Glossary. Disruption: See Glossary. Handwashing facility with soap and water: See Glossary. Basic hygiene service: See Glossary. Attributed to a climate event: See Glossary.
Methodology	
Overarching computation	Households Numerator: Population with at least a basic hygiene service that reported a disruption due to a climate-related event Denominator: Total population with at least a basic hygiene service Schools Numerator: Schools with at least basic hygiene service that reported a disruption due to a climate-related event Denominator: Total number of schools with at least a basic hygiene service Health care facilities Numerator: Health care facilities with at least basic hand hygiene service that reported a disruption due to a climate-related event Denominator: Total number of health care facilities with at least a basic hygiene service
Variable type	Binary

Units of Measurement	Proportion of population / schools / health care facilities
Estimation method	NA
Data Collection and Measurement method	For each household, school or health care facility: Binary response: In the last 12 months was access to your handwashing facility disrupted due to a climate event? 1\ Yes, the handwashing facility was disrupted due to a climate event; 2\ No, the handwashing facility was not disrupted due to a climate event
Included disaggregation	Separate analysis for households / schools / health care facilities
Additional disaggregation	NA
Data sources	
Preferred data sources	Existing national household survey / educational monitoring system / health care monitoring system
Data providers	National statistics office, ministries responsible for education and health
Limitations	Respondents need to correctly attribute service disruptions to climate hazards rather than to non-climate factors.

19: HYGIENE SERVICE FUNCTIONING

1902 DISRUPTION TO MENSTRUAL HYGIENE SERVICES

About the indicator	
Indicator Name	Proportion of women, girls, and menstruators reporting at least one period of disruption in access to facilities to practice menstrual hygiene in the home / school / health care facility attributed to a climate event in the last 12 months
Framework component	Hygiene Service Functioning
Description	The indicator can be applied to facilities used to practice menstrual hygiene in households, schools and health care facilities, which are typically sanitation facilities with privacy, bins and soap and water available. It focuses on whether women, girls and menstruators were able to access these facilities to manage their menstruation during the past year, or whether access was disrupted due to a climate event. The indicator captures the gendered experience of climate-related disruption to sanitation and hygiene. The same facility disruption may be experienced more acutely by women, girls and menstruators due to the additional needs of menstrual hygiene, including more frequent visits, water needed for washing, and greater privacy needs. The indicator measures the proportion of women, girls and menstruators who report at least one period of disruption during the past 12 months when they were unable to access facilities to practice menstrual hygiene due to a climate event. Each setting is analysed separately.
Rationale	The aim of this indicator is to measure the extent to which access to a minimum service level is maintained. The ability to manage menstruation safely, hygienically and with privacy is fundamental to the health, education, work and social participation of women, girls and menstruators. The indicator focuses on the home, schools and health care facilities, with sanitation facilities being the primary place where menstrual hygiene is practiced in each setting. Maintaining access during and following a climate event is of primary concern. Climate events often introduce situations such as displacement, shelter sharing, household crowding or blocked access that reduce privacy and safety, with greater consequences for menstruators. The 12-month reference period aims to capture both discrete rapid-onset events and ongoing or recurrent disruption from slow-onset events. The indicator builds on JMP and MICS menstrual health indicators, in particular access to a private place to change.
Concepts and definitions	
Specific definitions of key concepts	At least one period: See Glossary. Disruption: See Glossary. Facilities to practice menstrual hygiene: See Glossary. Attributed to a climate event: See Glossary.
Methodology	
Overarching computation	Households Numerator: Women, girls, and menstruators who reported a disruption in access to menstrual hygiene facilities attributed to a climate-related event in last 12 months Denominator: Total number households with facilities for menstrual hygiene Schools Numerator: Schools that reported a disruption in access to menstrual hygiene facilities attributed to a climate-related event in last 12 months Denominator: Total number of schools with facilities for menstrual hygiene Health care facilities

	Numerator: Health care facilities that reported a disruption in access to menstrual hygiene facilities attributed to a climate-related event in last 12 months Denominator: Total number of health care facilities with facilities for menstrual hygiene
Variable type	Binary
Units of Measurement	Proportion of women+girls+menstruators/schools/health care facilities who experienced a disruption in access to facilities to practice menstrual hygiene attributed to a climate event
Estimation method	NA
Data Collection and Measurement method	Households In the last 12 months, was access to your normal facilities for practicing menstrual hygiene disrupted due to a climate event? Schools In the last 12 months, was access to facilities for practicing menstrual hygiene disrupted due to a climate event? Healthcare Facilities In the last 12 months, was access to facilities for practicing menstrual hygiene disrupted due to a climate event?
Included disaggregation	Separate analysis for households / schools / healthcare facilities
Additional disaggregation	NA
Data sources	
Preferred data sources	Existing household, school, health care facility surveys
Data providers	National statistics office, ministries responsible for education and health
Limitations	The MICS menstrual hygiene module is currently triggered by confirmation that the respondent menstruated in the past 12 months, and subsequent questions in the module refer specifically to the respondent's last menstrual period which may or may not coincide with climate events.

19: HYGIENE SERVICE FUNCTIONING

1904 ACCESS TO BASIC HYGIENE SERVICES IN NATIONALLY DETERMINED CLIMATE HAZARD ZONES

About the indicator	
Indicator Name	Proportion of population / schools / health care facilities with access to soap and water at a handwashing facility within nationally determined climate hazard zones
Framework component	Hygiene Service Functioning
Description	The indicator assesses whether populations, schools and health care facilities in geographic areas that are prone to climate hazards have access to a handwashing facility with soap and water.
Rationale	The aim of this indicator is to measure the extent to which access to a minimum service level is maintained. The indicator identifies the status and progress of populations and institutions in areas at increased risk of climate hazards. Populations in hazard zones may face more frequent or severe disruption when climate events occur and ensuring that handwashing services are in place in these areas is of primary concern for health, particularly for preventing the spread of infectious disease, during and after a climate event. This indicator could be used to compare coverage in nationally determined climate hazard zones with coverage in the general population to identify gaps in hygiene services in areas at increased risk of climate hazards.
Concepts and definitions	
Specific definitions of key concepts	Basic hygiene service: See Glossary. Nationally determined climate hazard zones: See Glossary.
Methodology	
Overarching computation	Households Numerator: Population in climate hazard zones with access to a basic hygiene service Denominator: Total population in climate hazard zones Schools Numerator: Schools in climate hazard zones with access to basic hygiene services Denominator: Total schools in climate hazard zones Health care facilities Numerator: Health care facilities in climate hazard zones with access to basic hygiene services Denominator: Total health care facilities in climate hazard zones
Variable type	Binary
Units of Measurement	Proportion of population/schools/health care facilities in climate hazard zones with basic hygiene facilities
Estimation method	NA
Data Collection and Measurement method	If a national database of levels of hygiene services does not exist: - Reference JMP method to identify appropriate instruments to collect data on access to hygiene services by household/school/health care facility, - Once data are collected, follow the steps below. If a national database of levels of drinking water services service exists:

	- Align administrative areas of the hygiene services data with the administrative areas/units of national climate hazard zones, - Extract relevant subset of data that fall within the national climate hazard zone, - Re-calculate overall access to basic hygiene services within that area.
Included disaggregation	Separate analysis for households / schools / health care facilities
Additional disaggregation	The results may be disaggregated at the country-level by type of climate hazard zone.
Data sources	
Preferred data sources	Existing WASH access database
Data providers	National statistics offices, Ministries responsible health and education
Limitations	This indicator cannot be populated in the absence of nationally determined climate hazard zones.

20: USER EXPERIENCE OF WATER SUPPLY

2001 WORRY RELATING TO WATER SUPPLY DURING A CLIMATE EVENT

About the indicator	
Indicator Name	Proportion of population reporting that they worried about not having enough water for all household needs attributed to a climate event
Framework component	User experience of water supply
Description	This indicator measures the proportion of the population who report experiencing concern or worry about insufficient water to meet all household needs due to a climate event. It focuses on subjective user experience of water security, capturing psychological stress linked to disruptions in water availability, whether from direct impacts (e.g. drought reducing supply) or indirect impacts (e.g. infrastructure damage or service interruptions) on domestic uses such as drinking, cooking, hygiene, and cleaning.
Rationale	The aim of this indicator is to measure the extent to which users are protected from distress related to water service disruptions. Experiencing worry about water availability is a key dimension of water insecurity and reflects the lived experience of service disruption. Even when minimum service levels are technically maintained, persistent or anticipated interruptions may cause concern, influencing behaviour, well-being, and household coping strategies. By measuring reported worry, the indicator complements objective service indicators and helps assess whether systems are effectively protecting populations from distress under climate stress.
Concepts and definitions	
Specific definitions of key concepts	Household needs: Water required for drinking, cooking, personal hygiene, sanitation, and other domestic purposes. Attributed to a climate event: See Glossary.
Methodology	
Overarching computation	Numerator: Number of individuals reporting each frequency category (Always / Often / Sometimes / Rarely / Never) of worrying about not having enough water for household needs during and following a climate event Denominator: Total individuals who experienced a climate event
Variable type	Ordinal
Units of Measurement	Proportion of population distributed across the five frequency categories among those who experienced a climate event
Estimation method	NA
Data Collection and Measurement method	Administered as part of an in-person or phone household questionnaire, asked of eligible individuals within surveyed households. Question: During the climate event and in the period following it, how often did you worry about not having enough water for your household needs? Response categories: - Always - Often - Sometimes - Rarely - Never
Included disaggregation	NA
Additional disaggregation	NA

Data sources	
Preferred data sources	National household surveys; Water insecurity experience modules (e.g., HWISE or similar tools); Specialised climate and WASH survey
Data providers	National statistics office
Limitations	Subjective responses may vary based on perception and cultural context. Attribution to climate events may be imprecise or based on perception rather than verified data. Recall bias may affect reporting, especially over longer reference periods. The indicator does not directly measure actual water availability or service levels.

20: USER EXPERIENCE OF WATER SUPPLY

2002 ALTERNATIVE WATER SUPPLIES DURING A CLIMATE EVENT

About the indicator	
Indicator Name	Proportion of population/ schools/ health care facilities who report easy access to alternative water supply facilities that meet minimum national/local standards of service when needed during and following a climate event
Framework component	Water Service Functioning
Description	This indicator measures the proportion of households, schools, and health care facilities that report having easy access to alternative water supply that meet minimum service standards during periods of disruption caused by climate events. Alternative facilities may include backup water systems, emergency supply points, tanker deliveries, or nearby functioning sources that comply with national or local standards for water service levels. The indicator measures the proportion of respondents or facilities that report easy access to compliant alternative water supply during a disruption.
Rationale	The aim of this indicator is to measure the extent to which access to a minimum water service level is maintained during climate-related disruption. Maintaining at least a basic level of water service during and following climate events is critical for health, hygiene, and overall well-being. This indicator assesses whether contingency measures, including backup systems, emergency supply points, or alternative sources, are both available and accessible, and whether they meet required quality and quantity standards, when primary water systems are damaged or interrupted by floods, droughts, or other climate-related disruption.
Concepts and definitions	
Specific definitions of key concepts	Easy access: See Glossary. Alternative water supply facilities: See Glossary. Minimum national/local standards of service: See Glossary. During and following a climate event: See Glossary.
Methodology	
Overarching computation	Households Numerator: Individuals who report easy access to alternative water supply facilities meeting minimum standards during a climate-related disruption Denominator: Total individuals who required an alternative Schools Numerator: Schools reporting easy access to alternative water supply facilities meeting minimum standards during a climate-related disruption Denominator: Total schools that required an alternative Health care facilities Numerator: Health care facilities reporting easy access to alternative water supply facilities meeting minimum standards during a climate-related disruption Denominator: Total health care facilities that required an alternative
Variable type	Binary
Units of Measurement	Proportion of population/school/health care facility who required alternative water supply facilities during and following a climate event
Estimation method	NA
Data Collection and	Administered as an in-person or phone household questionnaire for households; administrative reporting for schools; facility reporting or facility assessment for health care facilities. Eligible respondents/units: households (individuals), schools, health care facilities.

Measurement method	When administered, appropriate text reflecting national standards and regulations should be inserted in place of square bracketed text. Questions: Households: During a period of disruption attributed to a climate event, did your household have easy access to alternative water supply facilities that met [descriptor of minimum standard facility] when needed? Schools: During a period of disruption attributed to a climate event, did the school have easy access to alternative water supply facilities that met [descriptor of minimum standard facility] when needed? Health care facilities: During a period of disruption attributed to a climate event, did the facility have easy access to alternative water supply facilities that met [descriptor of minimum standard facility] when needed? Responses Categories: - Yes, had easy access to acceptable alternative water supply facilities, that at least match the description provided during the disruption. - No, did not have access / did not have easy access to acceptable alternative water supply facilities during the disruption.
Included disaggregation	Separate analysis for households / schools / health care facilities
Additional disaggregation	NA
Data sources	
Preferred data sources	Household surveys, administrative data through school reporting, and facility reporting or facility assessments for health care facilities
Data providers	National statistics office, ministries responsible for water supply, education and health
Limitations	Self-reported “easy access” may vary depending on perception and context. Definitions of minimum service standards may differ across countries or not exist at all.

21: USER EXPERIENCE OF SANITATION

2101 SANITATION REMAINS SAFE DURING A CLIMATE EVENT

About the indicator	
Indicator Name	Proportion of population who felt safe at the sanitation locations they used most during or following a climate event
Framework component	User experience of sanitation services
Description	This indicator measures the proportion of the population who report feeling safe when using the sanitation facilities most used during and after a climate event. It focuses on the user experience of sanitation services, particularly perceptions of safety, which may be affected by service disruption, environmental conditions, or changes in access during climate-related events. These may include flooding, infrastructure damage, loss of lighting, increased distance to facilities, or the need to use shared or unfamiliar sanitation facilities. Safety considerations may include privacy, protection from violence or harassment, structural integrity, and safe access routes.
Rationale	The aim of this indicator is to measure the extent to which users are protected from distress related to sanitation service interruptions. Feeling safe when using sanitation facilities is a fundamental aspect of adequate sanitation service and is closely linked to dignity, health, and well-being. Climate events can disrupt sanitation systems, damage infrastructure, or alter access conditions, potentially exposing users to increased safety risks and distress. This indicator captures the experiential dimension of sanitation service disruptions by focusing on perceived safety, during, and after climate events. Changes in safety perception may reflect broader issues such as reduced privacy, increased exposure to hazards, or the need to use alternative or shared facilities.
Concepts and definitions	
Specific definitions of key concepts	Felt safe: A subjective assessment by the respondent that using the sanitation facility did not expose them to risks such as harm, harassment, lack of privacy, or unsafe physical conditions. Sanitation locations used most: The sanitation facility or location regularly used by the respondent during and/or following a climate event. This may be their regular sanitation facility/location or an alternative. During and following a climate event: See Glossary.
Methodology	
Overarching computation	Numerator: Number of individuals reporting feeling safe (Always / Often / Sometimes / Rarely / Never) at the sanitation location that they used most during and following a climate event Denominator: Total individuals who experienced a climate event
Variable type	Ordinal
Units of Measurement	Proportion of population distributed across the five frequency categories
Estimation method	SanQol study found respondents better understood questions of this type when framed negatively. The indicator is recorded in the positive framing i.e. "felt safe", the question will be asked in the negative i.e. "felt unsafe". Answers will be calculated as follows: Always felt unsafe = Never felt safe Often felt unsafe = Rarely felt safe Sometimes felt unsafe = Sometimes felt safe Rarely felt unsafe = Often felt safe Never felt unsafe = Always felt safe

Data Collection and Measurement method	Administered as part of an in-person or phone household questionnaire, asked of eligible individuals within surveyed households. Question: During a climate event and in the period following it, how often did you feel unsafe at the sanitation location you used most? Response Categories: - Always - Often - Sometimes - Rarely - Never - Not applicable / did not experience a climate event in the reference period
Included disaggregation	NA
Additional disaggregation	NA
Data sources	
Preferred data sources	National household surveys; Sanitation insecurity experience modules (e.g., HWISE or similar tools); Specialised climate and WASH survey
Data providers	National statistics office
Limitations	Perception of safety is subjective and may vary across individuals and contexts. Recall bias when reporting across multiple time periods (during, after) may affect reporting. The indicator does not objectively verify safety conditions of sanitation facilities. Attribution of changes in safety specifically to climate events may be uncertain

21: USER EXPERIENCE OF SANITATION

2102 ALTERNATIVE SANITATION SERVICES DURING A CLIMATE EVENT

About the indicator	
Indicator Name	Proportion of population / schools / health care facilities who report easy access to alternative sanitation facilities that meet minimum national/local standards of service when needed during and following a climate event
Framework component	Access to a minimum service level is maintained
Description	This indicator measures the proportion of households, schools, and health care facilities that report having easy access to alternative sanitation facilities meeting minimum service standards during periods of disruption caused by climate events. It focuses on continuity of service and whether users can access safe, acceptable, and functional sanitation facilities when their primary facilities are unavailable or unusable due to a climate-related disruption. Alternative sanitation facilities may include nearby functioning toilets, emergency or temporary sanitation solutions, or shared facilities that meet national or local service standards. The indicator measures the proportion of respondents or facilities that report easy access to compliant alternative sanitation facilities during a disruption.
Rationale	The aim of this indicator is to measure the extent to which access to a minimum sanitation service level is maintained during climate-related disruption. Maintaining at least basic sanitation services during and following climate events is essential to protect health, dignity, and environmental safety. This indicator assesses whether contingency measures, including alternative or emergency facilities, are both available and accessible, and whether they meet requirements for safe, private, and hygienic use, when primary facilities are damaged or rendered unusable by flooding, storms, or other climate-related disruption.
Concepts and definitions	
Specific definitions of key concepts	Easy access: See Glossary. Alternative sanitation facilities: See Glossary. Minimum national/local standards of service: See Glossary. During and following a climate event: See Glossary.
Methodology	
Overarching computation	Population Numerator: Individuals who report easy access to alternative sanitation facilities meeting minimum standards during a climate-related disruption Denominator: Total individuals who required an alternative sanitation facility Schools Numerator: Schools reporting easy access to alternative sanitation facilities meeting minimum standards during a climate-related disruption Denominator: Total schools that required an alternative sanitation facility Health care facilities Numerator: Health care facilities reporting easy access to alternative sanitation facilities meeting minimum standards during a climate-related disruption Denominator: Total health care facilities that required an alternative sanitation facility
Variable type	Binary
Units of Measurement	Proportion of population/school/health care facility who required alternative sanitation facilities during and following a climate event
Estimation method	NA

Data Collection and Measurement method	Administered as an in-person or phone household questionnaire for households; administrative reporting for schools; facility reporting or facility assessment for health care facilities. Eligible respondents/units: households (individuals), schools, health care facilities. When administered, appropriate text reflecting national standards and regulations should be inserted in place of square bracketed text. Questions: Households: During a period of disruption attributed to a climate event, did your household have easy access to alternative sanitation facilities that met [descriptor of minimum standard facility] when needed? Schools: During a period of disruption attributed to a climate event, did the school have easy access to alternative sanitation facilities that met [descriptor of minimum standard facility] when needed? Health care facilities: During a period of disruption attributed to a climate event, did the facility have easy access to alternative sanitation facilities that met [descriptor of minimum standard facility] when needed? Response categories: - Yes, had easy access to acceptable alternative sanitation facilities, that at least match the description provided during the disruption. - No, did not have access / did not have easy access to acceptable alternative sanitation facilities during the disruption.
Included disaggregation	Separate analysis for households / schools / health care facilities
Additional disaggregation	NA
Data sources	
Preferred data sources	Primary data through household surveys; administrative data through school reporting; facility reporting or facility assessments for health care facilities
Data providers	National statistics office, ministries responsible for sanitation, education and health
Limitations	Self-reported “easy access” may vary depending on perception and context. Definitions of minimum service standards may differ across countries or not exist at all. The indicator does not independently verify compliance of alternative facilities with standards

22: USER EXPERIENCE OF PRACTICING HYGIENE BEHAVIOURS

2201 ADEQUATE MENSTRUAL MATERIALS DURING A CLIMATE EVENT

About the indicator	
Indicator Name	Proportion of women, girls, and menstruators that report having enough menstrual materials to change as often as wanted during and following climate events
Framework component	User experience of practicing hygiene behaviours
Description	The indicator measures whether women, girls and menstruators have enough menstrual materials to manage menstruation as they want throughout a climate event and in the period following it. Unlike service-functioning indicators that focus on disruption to provision, this indicator captures the user's own assessment of sufficiency.
Rationale	The aim of this indicator is to measure the extent to which access to sufficient menstrual materials is maintained. Being able to change menstrual materials as often as wanted is a core element of menstrual hygiene management. The ability to do so depends on having materials available and on knowing how to access more if needed. Climate events can compromise this through damage to supply storage, supply chain disruption affecting markets and retailers, loss of income reducing affordability, blocked transport routes preventing access to materials, or displacement disrupting normal supply arrangements.
Concepts and definitions	
Specific definitions of key concepts	Menstrual materials: Materials used to absorb or collect menstrual blood. Includes single-use sanitary pads, reusable sanitary pads, tampons, menstrual cups, cloth, cotton wool, period underwear, and other locally appropriate materials. During and following climate events: See Glossary.
Methodology	
Overarching computation	Numerator: Women, girls and menstruators who experienced a climate event and report having had enough menstrual materials to change as often as wanted during and following the event Denominator: Women, girls and menstruators who menstruated in the past 12 months and experienced a climate event
Variable type	Binary
Units of Measurement	Proportion of women, girls and menstruators, among those who menstruated in the past 12 months and experienced a climate event
Estimation method	NA
Data Collection and Measurement method	Administered privately and individually as part of the menstrual hygiene module within an in-person household questionnaire (Questionnaire for Individual Women). In the case that there is a similar question in an existing survey, this question can be adopted/modified to suit this use case. Question: During or following the climate event, did you have enough menstrual materials to change them as often as you wanted? Response options: - Yes, had enough menstrual materials to change as often as wanted throughout the event and in the period following it. - No, did not have enough menstrual materials during the event or the period following it.
Included disaggregation	NA

Additional disaggregation	NA
Data sources	
Preferred data sources	Household surveys with the menstrual hygiene module in the Questionnaire for Individual Women. The Questionnaire for Individual Women is administered separately and privately to every woman aged 15-49 in the household, with the menstrual hygiene module triggered by confirmation that the respondent menstruated in the past 12 months.
Data providers	National statistics office
Limitations	The MICS menstrual hygiene module is currently built around the respondent's last menstrual period. This indicator would need to be anchored on the climate event rather than the last period. Asking the climate event cycle as a single combined question (rather than separately for during and after) limits phase-level analysis but reduces respondent burden given the scale of the wider indicator set.

22: USER EXPERIENCE OF PRACTICING HYGIENE BEHAVIOURS

2202 ADEQUATE SOAP AND WATER DURING A CLIMATE EVENT

About the indicator	
Indicator Name	Proportion of population that report having enough soap and water to practice hand hygiene behaviours as often as they wanted during and following climate events
Framework component	User experience of practicing hygiene behaviours
Description	The indicator measures whether members of the household have enough soap and water to wash their hands as often as they would want during a climate event and in the period following it. Unlike service-functioning indicators that focus on disruption to handwashing facilities, this indicator captures the household's own assessment of sufficiency. It complements indicators on facility availability by reporting on the lived experience of being able to practice hand hygiene in the context of climate events.
Rationale	The aim of this indicator is to measure the extent to which access to a minimum service level is maintained. Being able to wash hands with soap and water at key times is the most cost-effective hygiene behaviour for preventing infectious disease transmission. Climate events can compromise this through loss or intermittency of water at the handwashing facility, supply chain disruption affecting soap availability, or damage to where supplies are stored.
Concepts and definitions	
Specific definitions of key concepts	Hand hygiene behaviours: See Glossary. During and following climate events: See Glossary.
Methodology	
Overarching computation	Numerator: Population that report having enough soap and water to practice hand hygiene during and following the climate event Denominator: Population that experienced a climate event
Variable type	Binary
Units of Measurement	Proportion of population of those who experienced a climate event
Estimation method	NA
Data Collection and Measurement method	Administered as part of an in-person or phone household questionnaire. Question: During or following the climate event, did your household have enough soap and water to wash hands as often as you wanted? Response Categories: - Always - Often - Sometimes - Rarely - Never
Included disaggregation	NA
Additional disaggregation	NA
Data sources	
Preferred data sources	Household surveys (MICS, DHS) with the hygiene module in the Household Questionnaire

Data providers	National statistics office
Limitations	Current MICS surveys capture conditions at the moment of survey only and are not designed for recall over a climate event cycle. Water is the primary climate pathway disrupting soap and water sufficiency, so this indicator overlaps with broader water supply disruption data.

ANNEX 1: GLOSSARY

Term	Monitoring definition: These terms should only be used for the purposes of global monitoring of climate-resilient WASH services.
Adaptation	The process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities.
Adaptation action	Actions taken to adjust to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities.
Alternative water supply facilities	Water sources used as substitutes when the primary supply is disrupted. These may include wells, springs, boreholes, standpipes, tanker deliveries, rainwater harvesting, surface water, or other emergency or backup systems.
Alternative sanitation facilities	Sanitation facilities used as substitutes when primary facilities are unavailable or unusable. These may include nearby toilets, shared facilities, mobile or temporary latrines, or emergency sanitation solutions.
At least one period	Any length of time when the effect of interest is reported or observed. If national standards or Key Performance Indicators (KPIs) exist which describe acceptable periods (of disruption to a service) they can inform how the question is worded.
Attributed to a climate event	An effect which is directly associated with a climate event and not due to other causes (i.e. poor design, inadequate maintenance).
Basic hygiene service	The following service levels apply: Households with a handwashing facility with soap and water available on-premises; Schools with handwashing facilities with water and soap available; Health care facilities with functional hand hygiene station with water and soap or alcohol-based hand rub available at points of care, and a handwashing facility with water and soap available at toilets.
Basic sanitation service	The following service levels apply: Households with access to a private sanitation facility of an improved type designed to hygienically separate excreta from human contact; Schools with single-sex improved sanitation facilities that are usable (available, functional, private); Health care facilities with improved and usable sanitation facilities, with at least one toilet dedicated for staff, at least one sex-separated toilet with menstrual hygiene facilities, and at least one toilet accessible for users with limited mobility.
Basic drinking water service	The following service levels apply: Households with an improved source, with collection time not exceeding 30 minutes round trip including queuing; Schools with an improved drinking water source with water available at the time of the survey; Health care facilities with water available from an improved source on the premises.
Capture and containment	The infrastructure used to capture excreta at the point of production and safely contain it either until it has stabilised or until it can be conveyed to treatment.
Climate event	The occurrence of a value of a weather or climate variable above (or below) a threshold value near the upper (or lower) ends of the range of observed values of the variable. Examples include periods of unusually heavy or persistent rainfall, low or absent rainfall, or storms.

Climate projections	Modelled estimates of future climate conditions under different scenarios. These cover future change in precipitation, temperature, sea level and the frequency and intensity of climate events and are used to anticipate longer term risks.
Climate-resilient WASH services	Climate-resilient water, sanitation and hygiene services anticipate, respond to, cope with, recover from, adapt to or transform based on climate-related events and trends - all while striving to achieve and maintain universal and equitable access to safely managed services, minimizing emissions where appropriate, and paying special attention to the most exposed and vulnerable groups.
Climate variability	Naturally occurring variations in climate around its long-term average. This includes seasonal and inter-annual fluctuations in rainfall, temperature and the frequency of events such as floods and droughts, based on historical records and current patterns.
Current and future climate	The current climate is the general weather conditions prevailing now and during the preceding 3 decades or more, and the future climate is those conditions as anticipated in the coming three decades and beyond.
Damaged	A state where negative physical impacts on infrastructure including inter alia: breakages, erosion, structural deviations, deterioration of materials and complete destruction, individually or in combination result in a reduction or cessation of services.
Design standards	Legally recognized design codes, technical standards, and guidelines describing how infrastructure is to be built and operated.
Disruption	Absence of a service which was previously available or a reduction in the level of service previously available.
Disruption to water supply services	Any cause of having to switch from primary water supply, change in level of service of the primary supply, relying on a lower level of service of supply or not being able to access safely managed water supply at all (i.e. rely on bottled/surface alternative). Disruption can be both short term or extended disruptions to supply (i.e. due to drought).
During, and following a climate event	This covers the period during and after a climate event. – During – In the response phase, where actions are taken, or conditions occur, while the event is taking place. – Following – The recovery phase, including actions and impacts after the event, such as restoration and adaptation.
Easy access	The absence of barriers to access including distance, time, cost, physical or social barriers or safety concerns.
Facilities to practice menstrual hygiene	The places where women, girls and menstruators wash and change menstrual materials. In all three settings (households, schools, health care facilities) safe, secure and private places to wash and change, with water and soap available, and systems to safely dispose of single-use materials.
Groundwater	Water in underground aquifers.
Hand hygiene behaviours	Washing hands with soap and water at key times, such as after using a toilet, after handling waste or animals, before eating, or before preparing food.

Handwashing facility with soap and water	Any device that contains, transports or regulates the flow of water to enable handwashing. This includes sinks with taps, buckets with taps, tippy taps and portable basins. The facility may be fixed or mobile. Soap includes bar soap, liquid soap, powder detergent and soapy water. Ash, mud and sand are not counted. In households the relevant access is a handwashing facility on premises with soap and water available. In schools, handwashing facilities with water and soap available at the time of the questionnaire or survey. In health care facilities, hand hygiene stations with water and soap or alcohol-based hand rub available at points of care, and a handwashing facility with water and soap available at toilets.
Household needs (water)	Water required for drinking, cooking, personal hygiene, sanitation and other domestic purposes.
Hygiene	Hygiene refers to the conditions and practices that help maintain health and prevent spread of disease including handwashing, bathing, food hygiene, and menstrual hygiene management.
Hygiene products	Materials required for the safe practice of hygiene. This includes inter alia soap for handwashing, and materials for managing menstruation with dignity.
Hygiene services	Hygiene services refer to the provision of fixed or mobile infrastructure and materials required to practice hygiene.
Infrastructure	All of the physical components required for the delivery of water supply, sanitation and hygiene services. This includes built elements and the technical support systems for their operation (for example sensors) to deliver bulk water abstraction, transmission, water treatment, water storage, water distribution, household or community scale taps, user sanitation interface (toilet), containment, conveyance, treatment and reuse.
Investment and operational plans	A costed plan that identifies the amount of money needed to cover capital and operational costs, operational needs, sources of funding and strategies for financing. Note: it may be called a 'strategy' or a 'roadmap'.
Menstrual materials	Materials used to absorb or collect menstrual blood. Includes single-use sanitation pads, reusable sanitation pads, tampons, menstrual cups, cloth, cotton wool, period underwear, and other locally appropriate materials.
Minimum national/local standards of service	Defined criteria for acceptable services. For water supply this will typically include aspects such as supply type (e.g. improved), availability (sufficient quantity), accessibility (reasonable distance/time), quality (safe for intended use), and affordability (cost). For sanitation this will typically include aspects such as type of facility (e.g. improved, safely managed), availability (users per facility), accessibility (distance/time), quality (safe and clean), and affordability (cost).
National Adaptation Plan	A guiding document, established under the United Nations Framework Convention on Climate Change (UNFCCC) as part of the Cancún Adaptation Framework in 2010, to facilitate the integration of climate change adaptation, in a coherent manner, into relevant new and existing policies, programmes and activities, in particular development planning processes and strategies, within all relevant sectors and at different levels, as appropriate.
Nationally determined climate hazard zone	A geographic area identified by national authorities as being exposed to climate events. This may include combined climate hazard zones, disaster zone, or zones at risk of specific hazard that are then combined. This includes current and future climate hazard zones (including but not limited to areas prone to floods, drought, extreme temperatures, sea level rise or wildfires). Terminology may vary. Typically, such zones should be identified as part of national adaptation planning.

Nationally Determined Contributions (NDCs)	National climate action plans by each country under the Paris Agreement. A country's NDC outlines how it plans to reduce greenhouse gas emissions to help meet the global goal of limiting temperature rise to 1.5°C and adapt to the impacts of climate change.
Non-sewered sanitation	A system whereby excreta are either treated near to the point of production onsite (in a small treatment unit) or conveyed offsite for treatment elsewhere by any means other than a foul sewer.
Operations and maintenance (O&M)	Activities required to ensure that systems function effectively over time, including routine maintenance, repairs, monitoring, and management practices.
Plan/strategy	A plan gives effect to decisions based on policy. In some contexts, a plan may be called a 'strategy' or 'road map'. Plans outline implementable actions to achieve policy objectives and provide details on implementing policy. Plans can assign responsibilities and indicate how the responsible entities will respond to requirements set forth by policy, law and regulation, the type of training and development that will be provided, and how financial and human resources will be allocated.
Points of care	Points of care are defined here as any location in the health care facility where care or treatment is delivered (i.e. consultation/exam rooms), with priority given to outpatient departments.
Policy	A key guiding instrument for present and future decisions. Policies are the principal guides to action taken by the government to achieve national, sector and/or industry-wide goals.
Population vulnerable to climate change	Populations residing in nationally-determined climate hazard zones, who lack the means or resources to secure their water supply, sanitation and hygiene facilities and services during and following a climate event.
Preparedness plan	A plan which sets out actions to be taken on a routine basis to ensure that service providers and users have the means and ability to respond to a climate event.
Raw water intake/boreholes	The point of production of water in large quantities to serve drinking water systems. Intakes may include run of the river, spring or reservoir abstraction; boreholes are used to produce groundwater.
Recovery	The process of restoring and upgrading systems including the concept of 'build back better'.
Regulations (or regulatory instruments)	Rules created by an administrative agency or body that typically include tangible measures that are necessary to implement and/or enforce the general requirements prescribed in the broader legislation. Regulations may cover design and construction of infrastructure, water quality standards, service-level/service delivery standards, required monitoring frequencies, requirements for risk management, surveillance requirements and/or audit guidance, etc.
Response	A sub-set of adaptation actions taken in the short term to adjust to actual climate hazards and their effects, in order to moderate or prevent disruption to service delivery or negative impacts on user experience.
Risk management plans	A documented, systematic process used by providers to identify, assess, prioritise and manage risks to the safety and continuity of water supply. This includes water safety plans.
Safely managed drinking water service	An improved water source that is located on premises, available when needed and free from faecal and priority chemical contamination.
Safely managed sanitation service	An improved sanitation facility that is not shared with other households and where excreta are safely disposed of in situ or treated off site.

Sanitation and wastewater	Services that provide and manage sanitation and wastewater for homes, schools and health care facilities. These include services along the sanitation chain, including faecal sludge management services.
Sanitation locations used most	The sanitation facility or location most frequently used by the respondent. This may be their regular sanitation facility/location or an alternative when the question relates to the facility that is used during and/or following a climate event.
Sanitation services	Sanitation services refer to the management of excreta from the facilities used by individuals, through emptying and transport of excreta for treatment and eventual discharge or reuse.
Service conformity	A situation where the service meets the quality and performance standards set out in regulations or design standards.
Service provider	Formal or informal entity responsible for supplying drinking water/sanitation/ hygiene services to the user, including large utilities, small private operators and community organisations.
Sewage conveyance	The removal of excreta from the point of production in a network of pipes.
Sewered sanitation	A system whereby excreta are transported through a network of pipes away from the point of production.
Standard	Commonly used to describe a mandatory numerical value in a table of parameters and limits (such as 10 µg/L of arsenic). However, it is also used to describe technical standards and policy documents designed to help achieve improved water quality.
Stockpiling	The purchasing or manufacture, and safe storage, of sufficient quantities of appropriate equipment and materials, in such a way that they are ready to be deployed and used when required to meet demand.
Surface water	Water from a river, dam, lakes, pond, stream, canal or irrigation canal and reservoirs.
WASH sector stakeholders	Government ministries, regulators, service providers and other actors responsible for planning, delivering or overseeing water, sanitation and hygiene services, alongside citizens and service users.
Wastewater and faecal sludge treatment	Chemical, physical or biological processes to remove solids and chemicals from wastewater or faecal sludge to make it suitable for reuse or discharge into the environment.
Water supply services	Drinking water services refers to the accessibility, availability and quality of the main source used by households for drinking, cooking, personal hygiene and other domestic uses
Water supply source	The facilities used to deliver drinking water to users, including piped water, boreholes or tubewells, protected wells, protected springs, rainwater and packaged or delivered water. The origin of the water supplied may vary and could be surface or groundwater.
Water treatment	Chemical, physical or biological processes to remove unwanted substances (contaminants) from water to make it safe for drinking.
Water supply storage and distribution	The infrastructure used for safely storing and moving water from one point to another, generally from the source or treatments works to users.