# Monitoring Climate Resilient WASH services

World Health Organization

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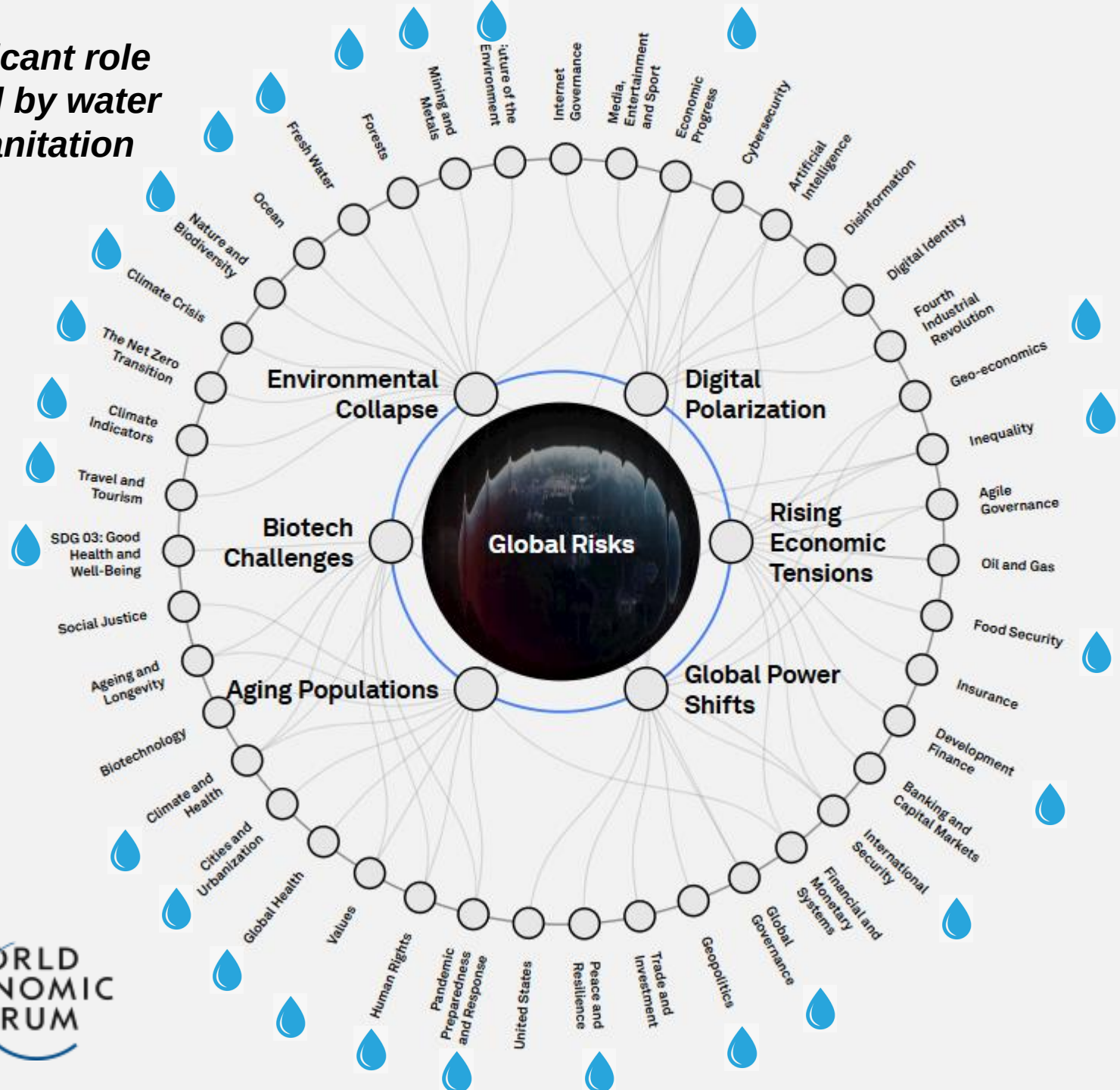
***Significant role played by water and sanitation***

World Health Organization




WORLD ECONOMIC FORUM

# Climate extremes drive an increase in humanitarian needs

FIG. 1.9 **Numbers of people in IPC/CH Phase 3 or above or equivalent by primary driver, 2018–2023**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| Conflict/ insecurity | 73.9M 21 countries | 77.1M 22 countries | 99.1M 23 countries | 139.1M 24 countries | 117.1M 19 countries | 134.5M 20 countries |
| Weather extremes | 28.8M 26 countries | 33.8M 25 countries | 15.7M 15 countries | 23.5M 8 countries | 56.8M 12 countries | 71.9M 18 countries |
| Economic shocks | 10.2M 6 countries | 24.0M 8 countries | 40.5M 17 countries | 30.2M 21 countries | 83.9M 27 countries | 75.2M 21 countries |

Economic shocks include the indirect impact of COVID-19 in 2020 and 2021 and the effects of the war in Ukraine in 2022. Food crises are the result of multiple drivers. The GRFC has based this infographic on the predominant driver in each country/territory.

- **37 % of UN–coordinated humanitarian appeals** driven by extreme weather
- **3 times more people affected** by climate impacts in fragile and conflict-affected states

## Hazards

Climate-related hazards with significant impact on children:

- Extreme heat
- Droughts
- Wildfires
- Floods and storms
- Ecosystem changes
- Air pollution

## Multipliers

Factors made worse by climate change:

- Water scarcity and contamination
- Food insecurity and contamination
- Infrastructural damage
- Service disruption
- Displacement

## Vulnerabilities

Inequities and factors that determine the severity of the impact:

- Socio-economic status
- Gender
- Location
- Existing health status
- Country context and capacity

Unique vulnerabilities across the life-course

## Impacts

Health outcomes contributing to child mortality and morbidity

Pregnancy complications and adverse birth outcomes

Malnutrition

Infectious diseases

Injuries

Non-communicable diseases

Impacts on neurodevelopment and mental health

Effects on well-being

unicef

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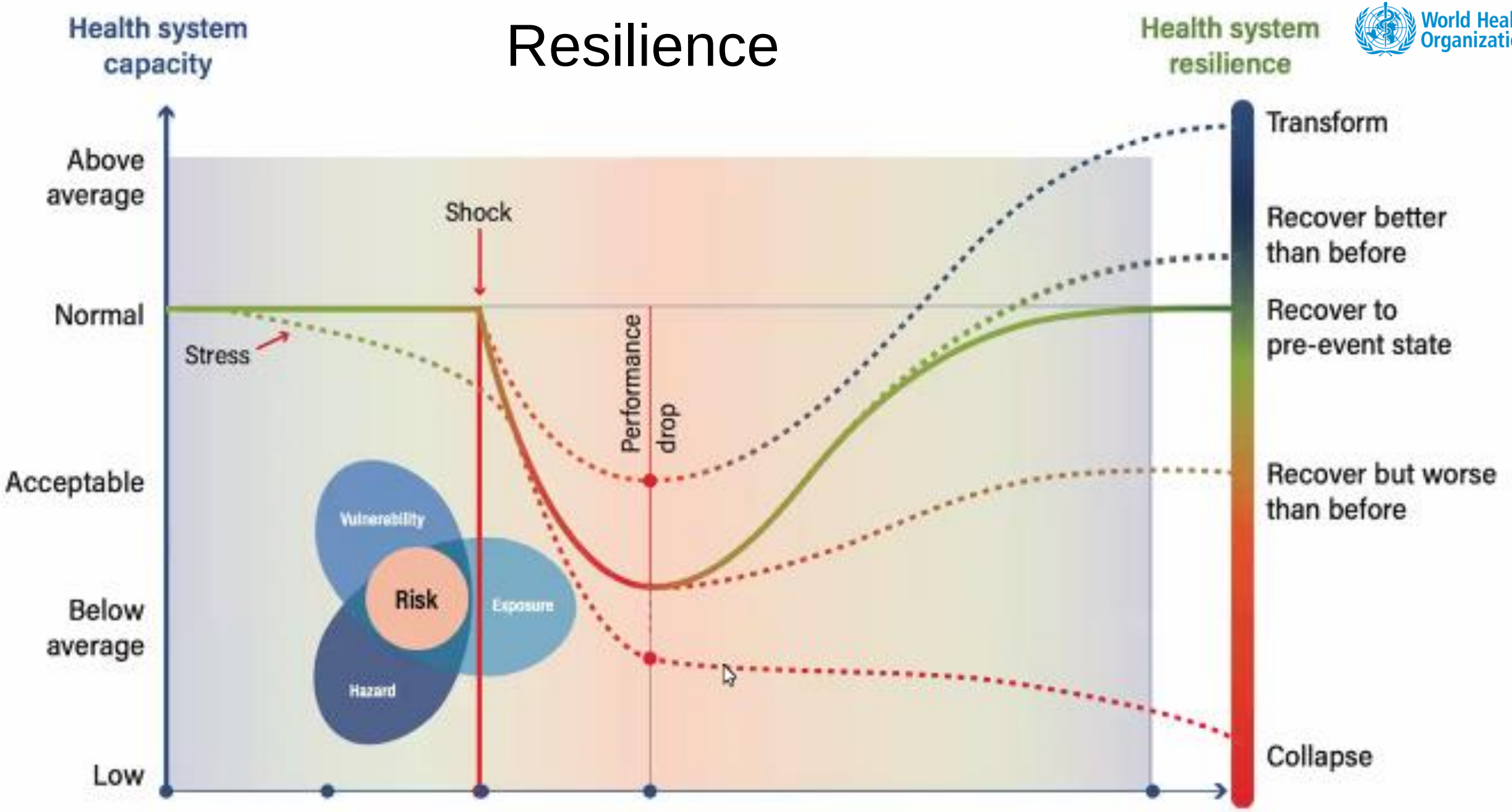
Injuries

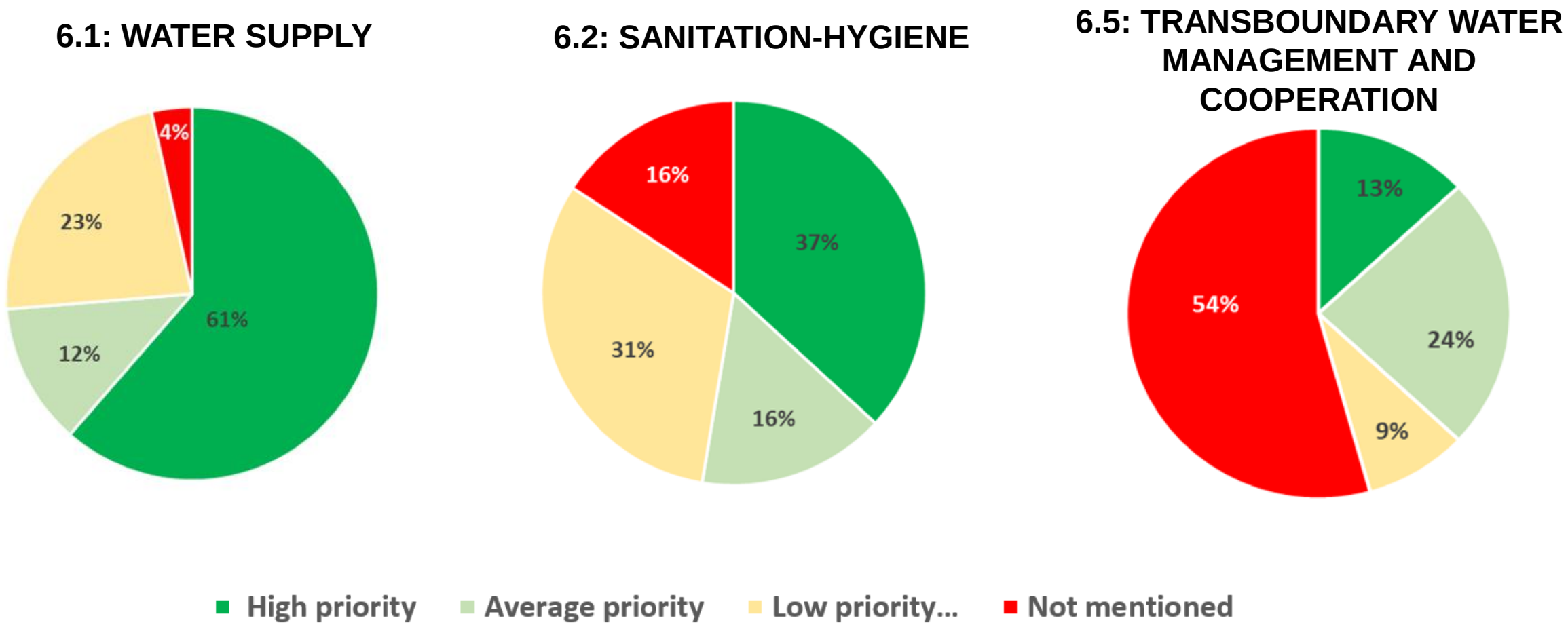
*Climate extremes are expected to cause an additional 250 000 deaths per year between 2030 and 2050 from heat stress, undernutrition, and diarrhoeal disease alone*

unicef

# Resilience


Health system capacity
Above average
Normal
Acceptable
Below average
Low
Shock
Stress
Performance drop
Vulnerability
Risk
Exposure
Hazard
Health system resilience
Transform
Recover better than before
Recover to pre-event state
Recover but worse than before
Collapse

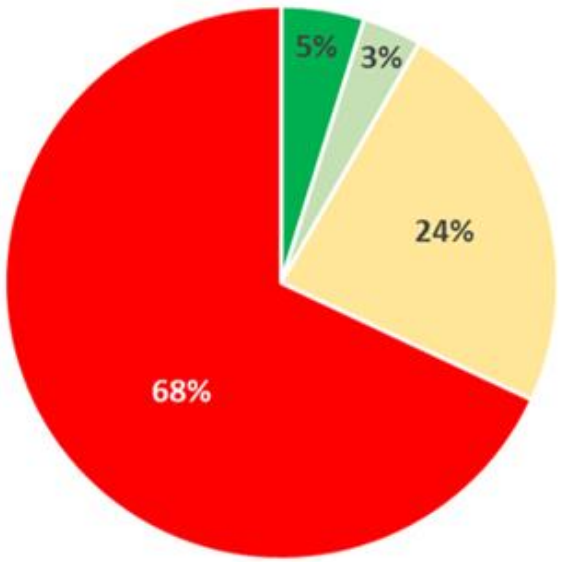
# Current integration of WASH and transboundary water management in National Adaptation Plans (NAPs)



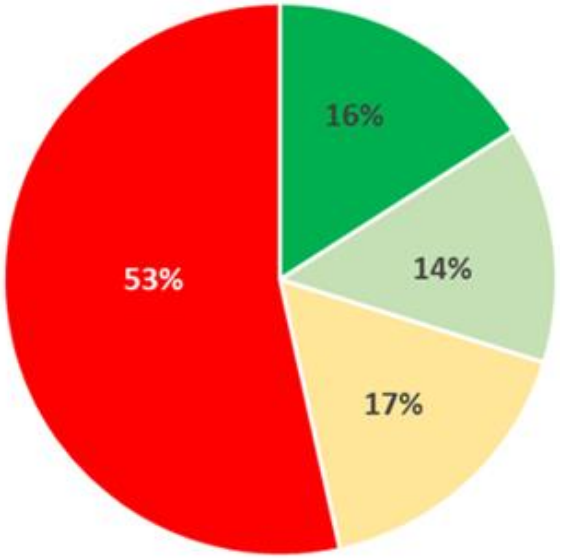

Source: Upcoming "Mainstreaming water supply, sanitation, transboundary water management and cooperation into NDCs and NAPs" (UNECE, 2025)

# Current integration of WASH and transboundary water management in Nationally Determined Contributions (NDCs)

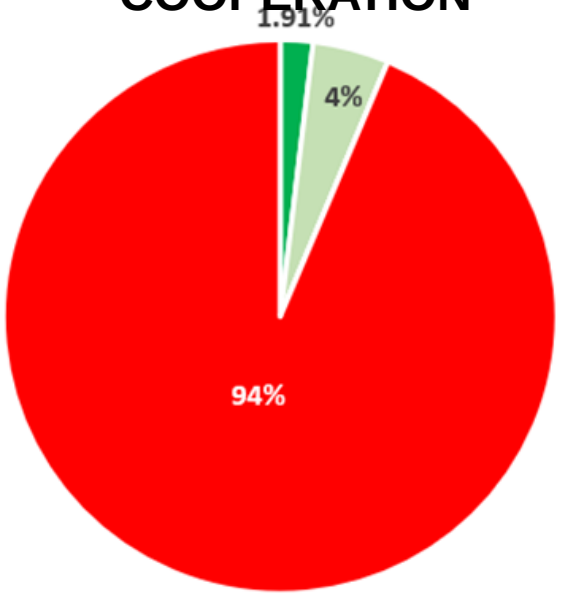
### 6.1: WATER SUPPLY




### 6.2: SANITATION-HYGIENE

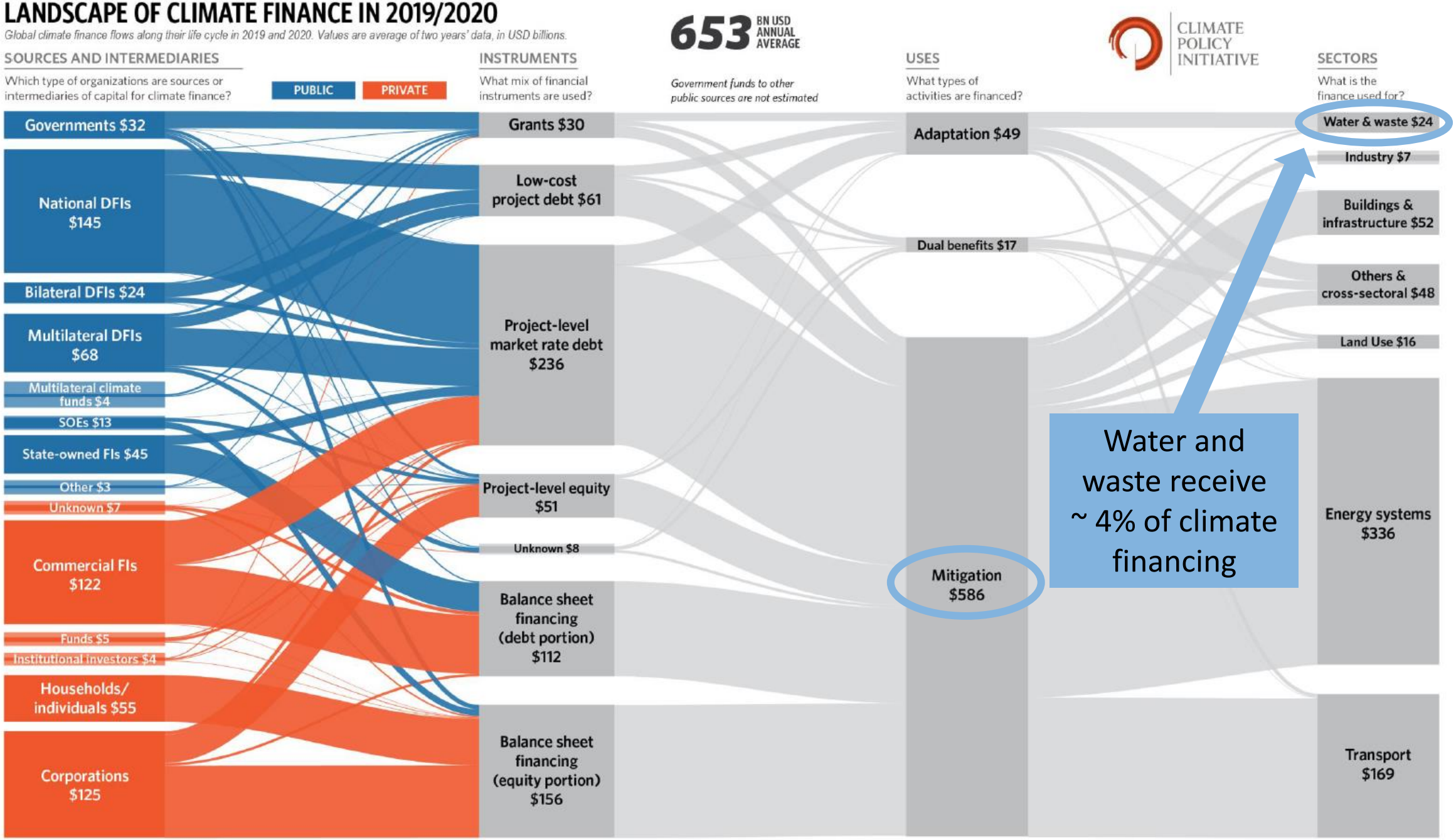



### 6.5: TRANSBOUNDARY WATER MANAGEMENT AND COOPERATION




High priority  Average priority  Low priority...  Not mentioned

Source: Upcoming "Mainstreaming water supply, sanitation, transboundary water management and cooperation into NDCs and NAPs" (UNECE, 2025)


LANDSCAPE OF CLIMATE FINANCE IN 2019/2020
Global climate finance flows along their life cycle in 2019 and 2020. Values are average of two years' data, in USD billions.
653 BN USD ANNUAL AVERAGE
Government funds to other public sources are not estimated
CLIMATE POLICY INITIATIVE
SOURCES AND INTERMEDIARIES
Which type of organizations are sources or intermediaries of capital for climate finance?
PUBLIC
PRIVATE
INSTRUMENTS
What mix of financial instruments are used?
USES
What types of activities are financed?
SECTORS
What is the finance used for?
Governments $32
National DFIs $145
Bilateral DFIs $24
Multilateral DFIs $68
Multilateral climate funds $4
SOEs $13
State-owned FIs $45
Other $3
Unknown $7
Commercial FIs $122
Funds $5
Institutional investors $4
Households/ individuals $55
Corporations $125
Grants $30
Low-cost project debt $61
Project-level market rate debt $236
Project-level equity $51
Unknown $8
Balance sheet financing (debt portion) $112
Balance sheet financing (equity portion) $156
Adaptation $49
Dual benefits $17
Mitigation $586
Water & waste $24
Industry $7
Buildings & infrastructure $52
Others & cross-sectoral $48
Land Use $16
Energy systems $336
Transport $169
Water and waste receive ~ 4% of climate financing

# Global Goal on Adaptation (COP28, 2023)

Water and sanitation: first of seven thematic targets

Significantly reducing **climate-induced water scarcity** and enhancing climate resilience to **water-related hazards** towards a climate-resilient **water supply**, climate-resilient **sanitation** and towards access to safe and affordable **potable water** for all

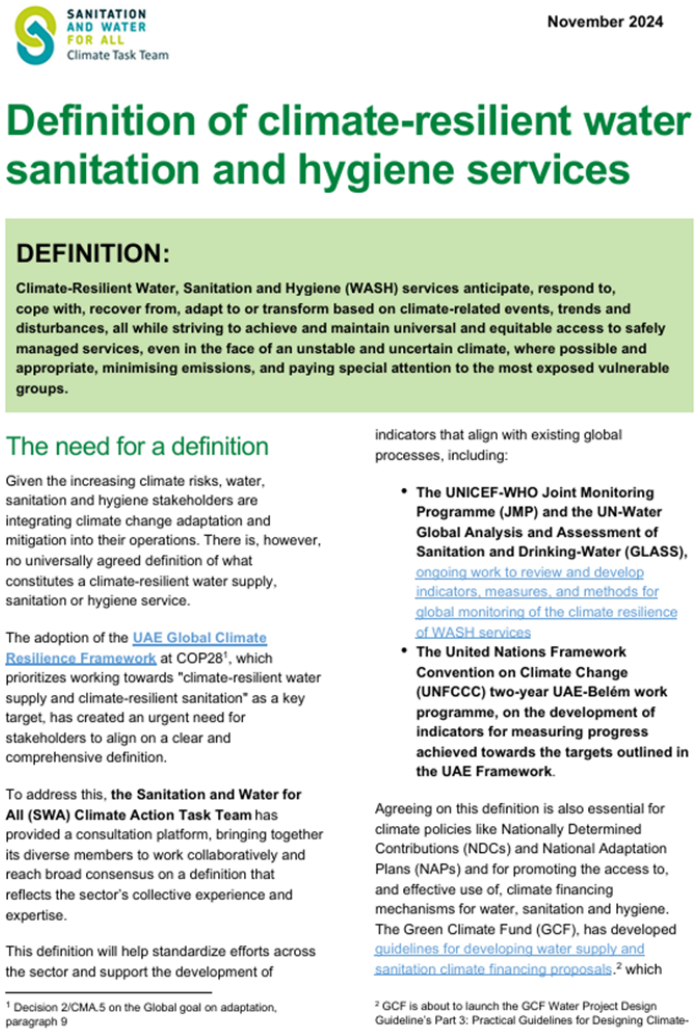
UAE – Belém work programme to develop indicators for measuring progress achieved towards the targets

# SWA Definition of CR-WASH services (COP29, 2024)

World Health Organization

## DEFINITION:

Climate-resilient water, sanitation and hygiene (WASH) services **anticipate, respond to, cope with, recover from, adapt to or transform** based on climate-related events, trends and disturbances, all while striving to achieve and maintain universal and equitable access to safely managed services, even in the face of an unstable and uncertain climate, where possible and appropriate, minimizing emissions, and paying special attention to the most exposed vulnerable groups.



SANITATION AND WATER FOR ALL
Climate Task Team

November 2024

### Definition of climate-resilient water sanitation and hygiene services

**DEFINITION:**

**Climate-Resilient Water, Sanitation and Hygiene (WASH) services anticipate, respond to, cope with, recover from, adapt to or transform based on climate-related events, trends and disturbances, all while striving to achieve and maintain universal and equitable access to safely managed services, even in the face of an unstable and uncertain climate, where possible and appropriate, minimising emissions, and paying special attention to the most exposed vulnerable groups.**

#### The need for a definition

Given the increasing climate risks, water, sanitation and hygiene stakeholders are integrating climate change adaptation and mitigation into their operations. There is, however, no universally agreed definition of what constitutes a climate-resilient water supply, sanitation or hygiene service.

The adoption of the UAE Global Climate Resilience Framework at COP28[1], which prioritizes working towards "climate-resilient water supply and climate-resilient sanitation" as a key target, has created an urgent need for stakeholders to align on a clear and comprehensive definition.

To address this, **the Sanitation and Water for All (SWA) Climate Action Task Team** has provided a consultation platform, bringing together its diverse members to work collaboratively and reach broad consensus on a definition that reflects the sector's collective experience and expertise.

This definition will help standardize efforts across the sector and support the development of indicators that align with existing global processes, including:

- **The UNICEF-WHO Joint Monitoring Programme (JMP) and the UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLASS),** ongoing work to review and develop indicators, measures, and methods for global monitoring of the climate resilience of WASH services
- **The United Nations Framework Convention on Climate Change (UNFCCC) two-year UAE-Belém work programme, on the development of indicators for measuring progress achieved towards the targets outlined in the UAE Framework.**

Agreeing on this definition is also essential for climate policies like Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) and for promoting the access to, and effective use of, climate financing mechanisms for water, sanitation and hygiene. The Green Climate Fund (GCF), has developed guidelines for developing water supply and sanitation climate financing proposals.[2] which

[1] Decision 2/CMA.5 on the Global goal on adaptation, paragraph 9

[2] GCF is about to launch the GCF Water Project Design Guideline's Part 3: Practical Guidelines for Designing Climate-

SWA

# How This Definition Strengthens WASH Climate Action

📌 **Supports National Policies**
Aligns WASH planning with **NDCs and NAPs**.

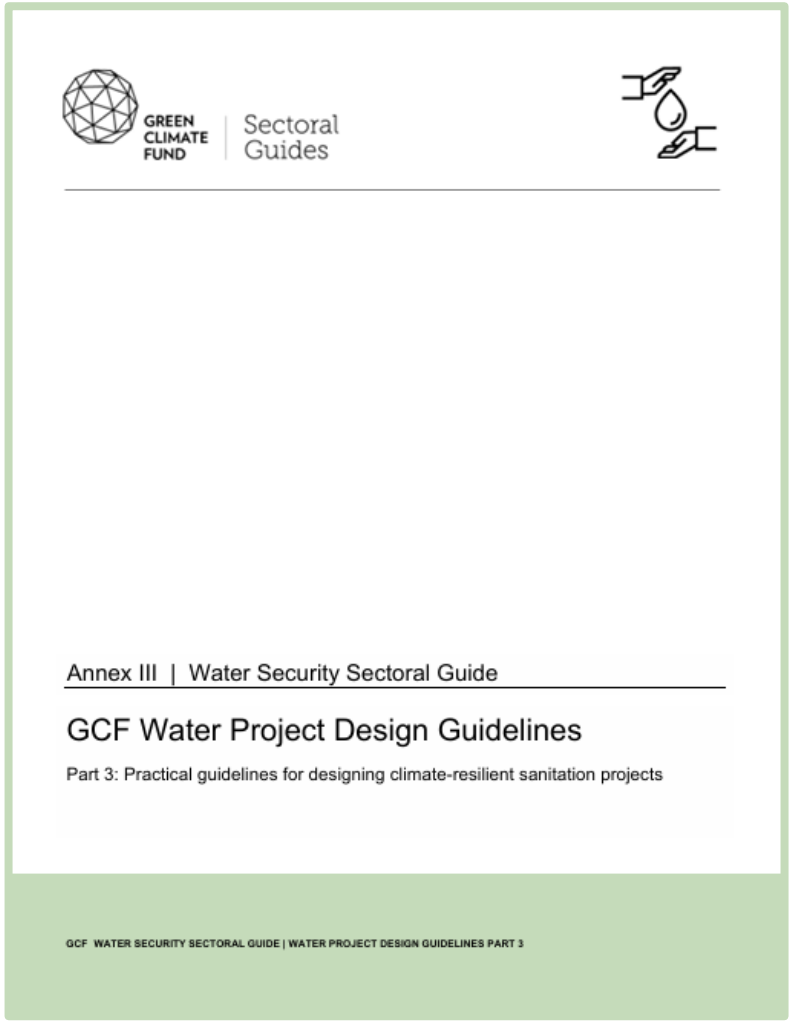
💰 **Unlocks Climate Finance**
Strengthens eligibility for **GCF, Adaptation Fund, and other financing mechanisms**.

📊 **Standardizes Monitoring**
Integrates with **UNICEF-WHO JMP & the upcoming global resilience monitoring framework**.

🌍 **Promotes Global Alignment**
Helps countries meet **COP28 & UAE Framework goals** on WASH resilience.

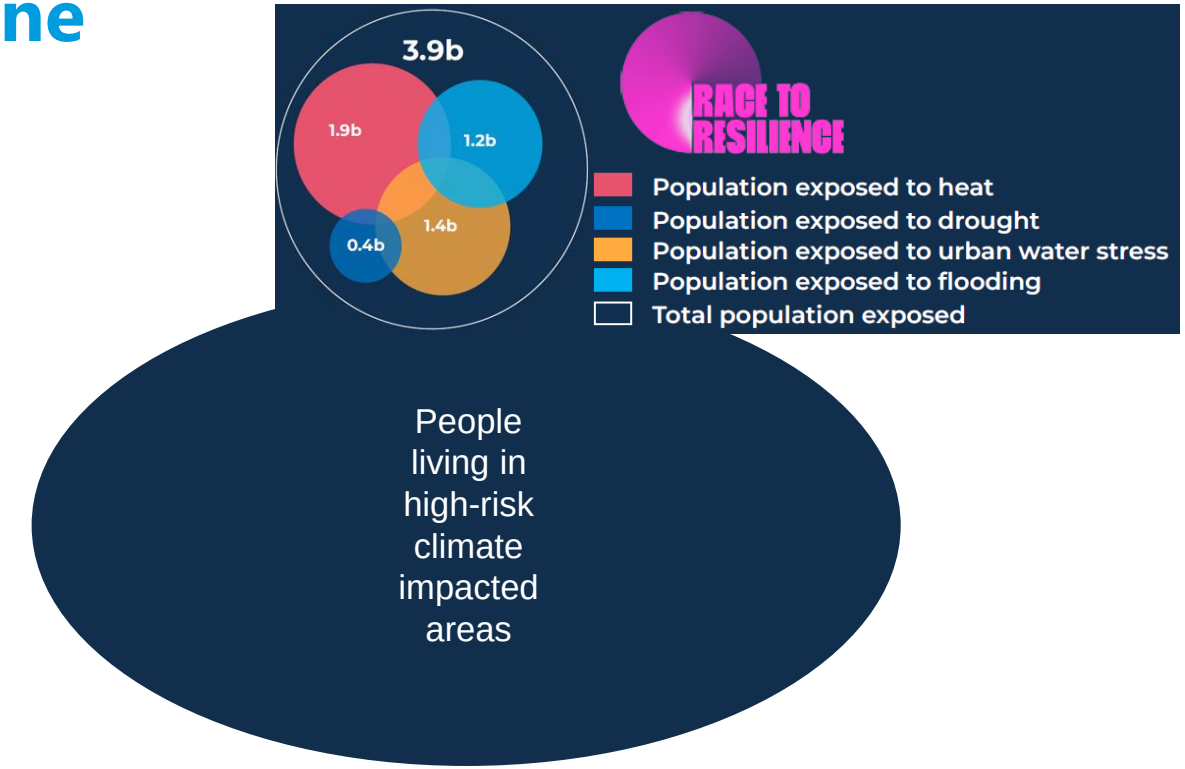
# Green Climate Fund Annex on sanitation (COP29, 2024)

World Health Organization




**Sanitation systems can pose risks to health at all steps of the sanitation service chain presenting addition risks and also potential for GHG reduction and resilience in other sectors.**

# Priority climate resilient strategies within water supply, sanitation and hygiene



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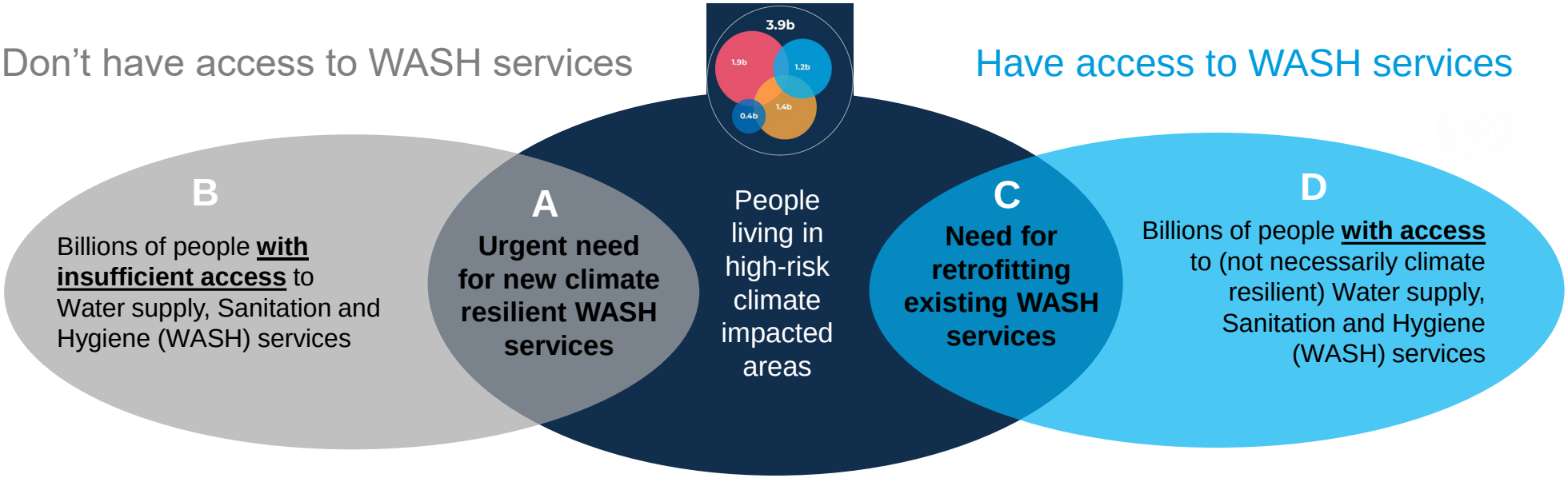
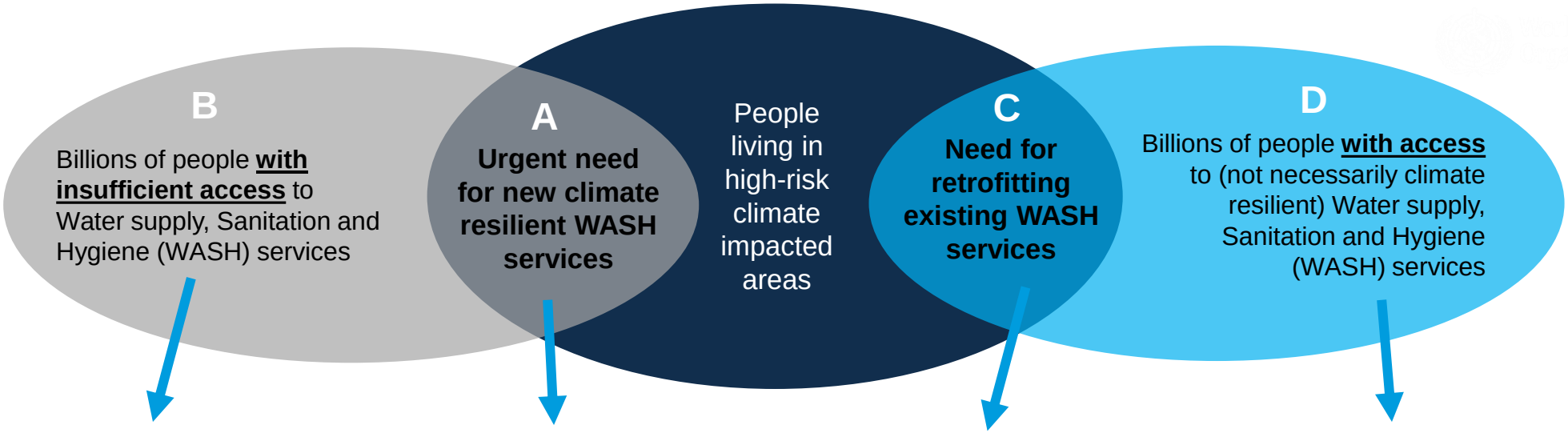


# Priority climate resilient strategies within water supply, sanitation and hygiene

World Health Organization

Don't have access to WASH services

Have access to WASH services




**Efforts to build capacity, improve governance and mobilise investment in climate resilient water and sanitation as basic services essential for adaptation**

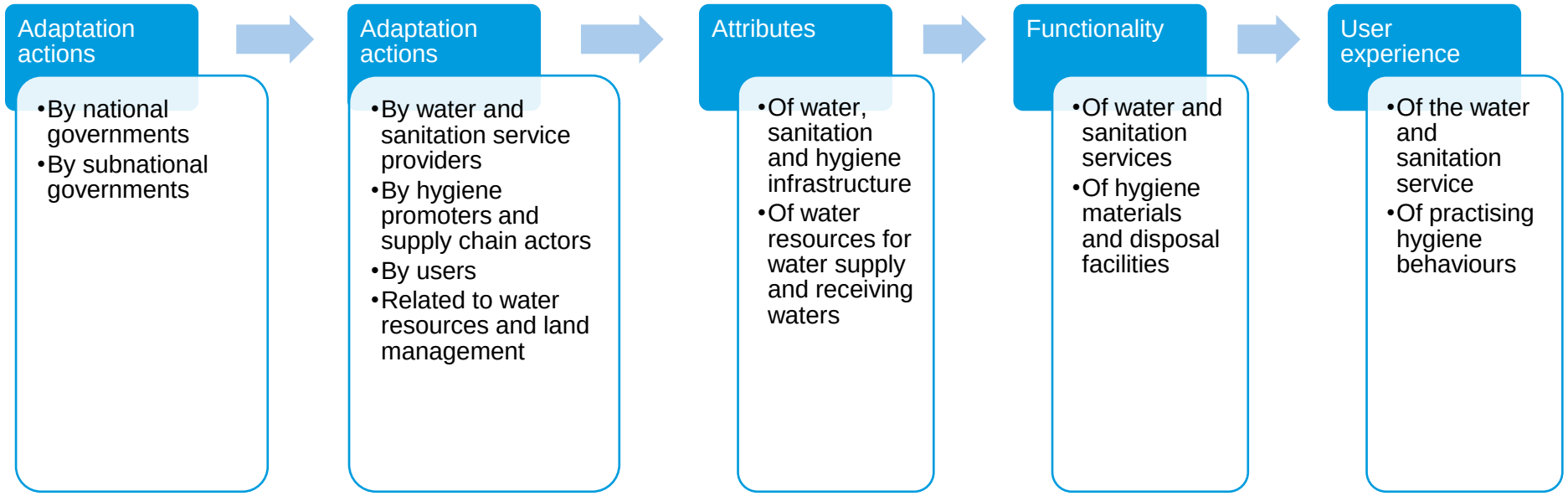
**Urgent provision of new and resilient services to reduce vulnerability and build adaptive capacity**

**Need for sustained risk based management and upgrading existing and highly exposed water and sanitation systems**

**Efforts to improve governance, increase awareness and mainstream adaptation efforts to make existing service more climate resilient, including through water conservation, efficiency and re-use**

# JMP/GLAAS review

Conceptual framework

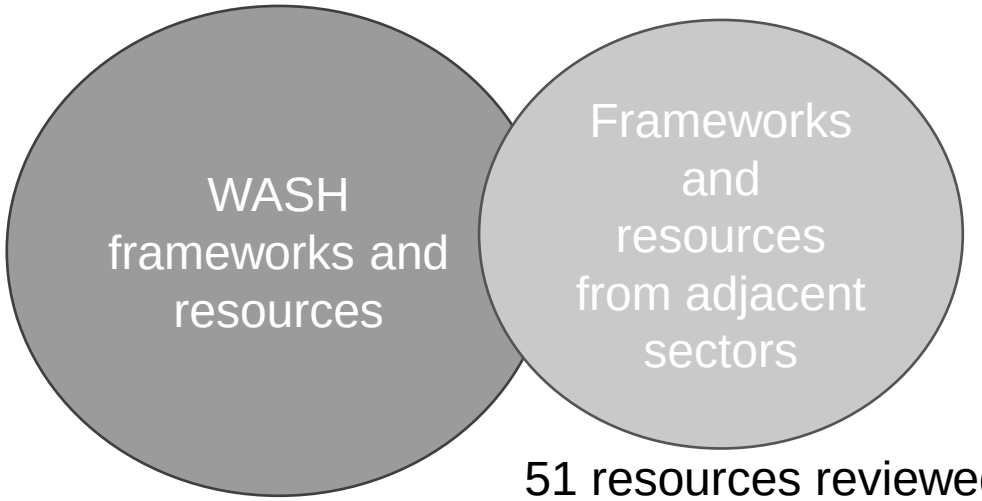



Hazards:

- Droughts
- Floods
- Changing precipitation patterns
- Relative sea level
- Severe wind
- Changing air temperature
- Fire weather
- Extreme heat

# JMP/GLAAS review

Reviews of evidence




202 resources reviewed
15 used

51 resources reviewed
11 used
2400+ publications

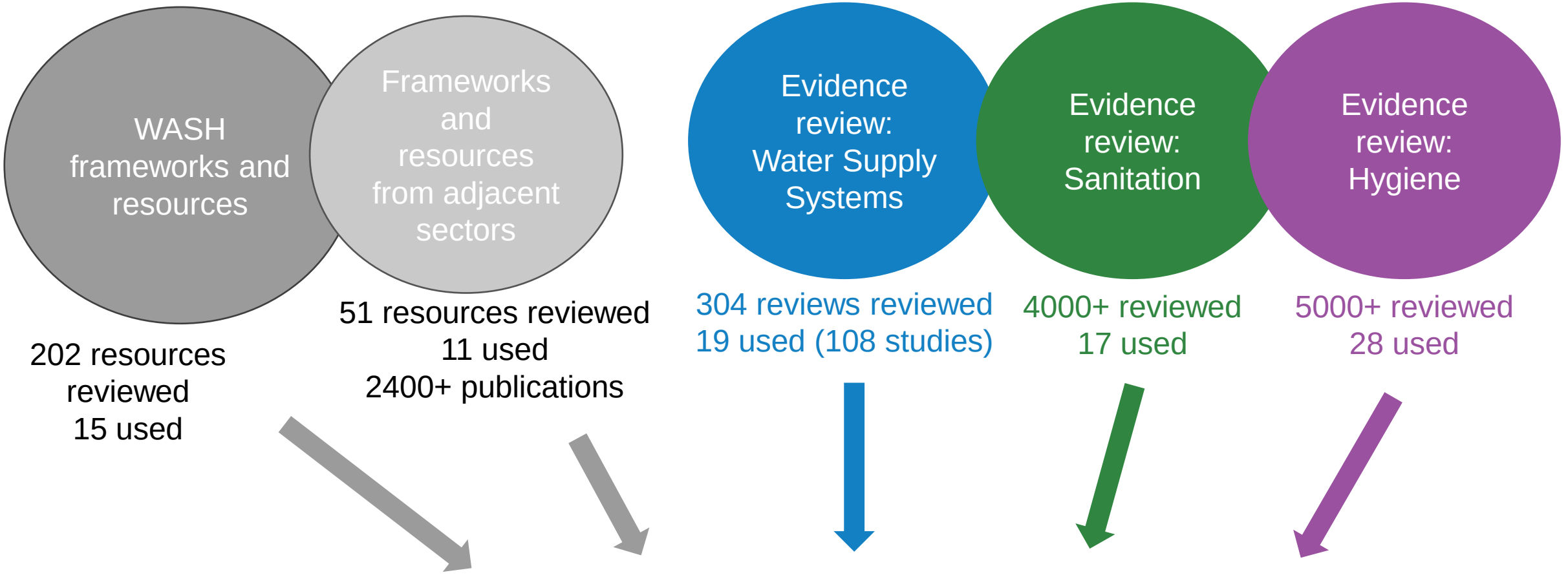

304 reviews reviewed
19 used (108 studies)

4000+ reviewed
17 used

5000+ reviewed
28 used

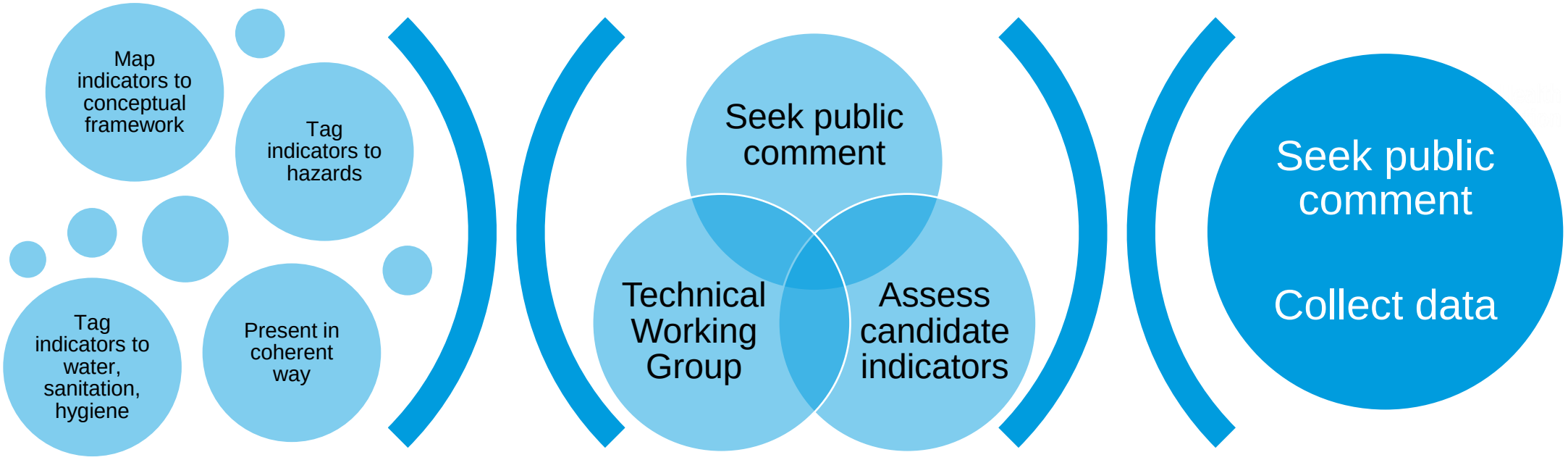
# JMP/GLAAS review

Reviews of evidence



# JMP/GLAAS review

Next steps




Disseminate reviews, produce long list (April)

Review and prioritize long list

Produce short list (October)

# Example: water security in Chennai

Supplies ~ 830 MLD drinking water
Treats ~ 750 MLD wastewater

Rainwater harvesting, tertiary treatment, ultrafiltration, reverse osmosis

Treated effluent sold for industrial use. Planning indirect potable reuse (260 MLD).

Energy recovery from wastewater sludge meets 50% of energy needs, with a payback period of 2.8 years

Tertiary treatment plant at Kodungaiyur (CMWSSB)

# Thank you!