



Climate change and WASH webinar series:
**COP28 in Context:
Insights on WASH Financing**

20 February 2024, 16:00-17:00 CET



Dr Max John
Wengawenga
(Ministry of Water
and Sanitation
in Malawi)



Jorge Alvarez-Sala
(UNICEF)



Dr Mónica A.
Altamirano de Jong
(WaterEquity)

Financing Water Security

From households to climate resilient infrastructure

Mónica A. Altamirano de Jong, PhD
Director, Climate Impact

Who We Are



WaterEquity is an innovation of renowned non-profit Water.org with 30 years experience

WaterEquity is an asset manager exclusively focused on solving one of the most urgent issues of our time—the global water and sanitation crisis. We invest in financial institutions, enterprises, and infrastructure in emerging markets delivering access to safe water and sanitation to low-income communities, aligning investor values with risk-adjusted returns.

Founded by award-winning entrepreneurs Gary White and Matt Damon of Water.org and led by Paul O’Connell, the success of WaterEquity is built on decades of experience investing in water and sanitation in emerging markets, seeking social and financial returns.



Selected as one of the top 50 impact investment fund managers for five consecutive years (2019-2023)



What We Do

Our goal at WaterEquity has always been to build a sustainable, global capital market for safe water and sanitation.

Two ways we believe the global capital markets can help solve this crisis.



AFFORDABLE FINANCING FOR HOUSEHOLD-LEVEL WASH: We invest in financial institutions to enable them to scale their water and sanitation lending activities. These financial institutions use funding to expand microloans and on-lend to local enterprises delivering water and sanitation products and services.



CLIMATE-RESILIENT INFRASTRUCTURE:

We invest in water and sanitation systems through project and enterprise-level financing, such as waste management and water treatment facilities, to not only increase access to safely managed water and sanitation, but also provide climate resilience for vulnerable populations.

Sources:

Hutton, G.; Varughese, M. (2016). "The Costs of Meeting the 2030 Sustainable Development Goal Targets on Drinking Water, Sanitation, and Hygiene." World Bank, Washington, DC.

Confronting an Evolving SDG6 Landscape: *A Changing Climate Means a Changing Water Cycle*

— **Extreme weather events are stretching the capacity of existing water and sanitation systems,** as increased storms, floods, and droughts damage infrastructure and the availability and quality of water sources

— **The most vulnerable communities will feel the worst effects.** Studies show that disruptions in water and sanitation services are worse for low-income populations and cause significant impacts on health, costs, and gender inequality

50%



By 2025, half of the world's population will be living in water-stressed areas because of climate change

Our Impact Objectives

WaterEquity is exclusively focused on solving the global water and sanitation crisis. Investments must focus on at least one of three impact areas:

ACCESS

Providing households with safe water and sanitation is a human right and a driver of sustainable development

QUALITY

Reducing freshwater pollution levels has positive impacts on human health and economic growth, as well as ecosystems

SCARCITY

Managing water resources to ensure withdrawals don't exceed available supply is critical especially in the face of climate change

These water and sanitation improvements ultimately lead to multiple benefits for communities, economies, and the environment across several Sustainable Development Goals, including:




Climate Resilience: *Interlinked Climate Vulnerabilities at 3 Levels*



Climate Hazard	Watershed	Infrastructure	Community
Flooding and heavy rainfall	<p>Increased surface runoff and sewer overflow carries fecal matter and other pollutants into surface (streams and lakes) and groundwater, contaminating water quality of water sources</p> <p>Erosion leads to sedimentation</p>	<p>Damage to facilities</p> <p>Overwhelming of system capacity</p> <p>Service interruptions</p>	<p>Increased exposure to pathogens, reduced quality of service or total loss of service</p> <p>Loss of livelihoods, damage to home including household-level infrastructure</p>
Drought	<p>Reduced stream and river flow increases pollutant concentration</p> <p>Diminished groundwater recharge can lead to salinization of groundwater sources</p> <p>Threatened minimum ecological flows lead to a reduction of wetlands and other freshwater ecosystems, which impairs the self-regulating capacity of the watershed for storage and treatment</p>	<p>Increased inefficiency, costs, blockages, and interruptions in service</p>	<p>Reduced water availability, increased cost, reduced quality of service and overall increase in access inequality</p>
Sea Level Rise	<p>Salinization of groundwater</p>	<p>Damage to facilities</p>	<p>Increased water treatment needs, increased cost</p> <p>For coastal communities- loss and damage of household level and community level infrastructure essential for access</p>
Heatwaves	<p>Decreased water quality from eutrophication and higher pathogen levels</p>	<p>Blackouts often require high emitting backup power sources, an interruption in</p>	<p>Increased demand coupled with less reliable services</p>

Thanks for your attention Any questions?

Mónica A. Altamirano de Jong, PhD
Director Climate Impact, WaterEquity
maltamirano@waterequity.com
Twitter: @AltamiranoCAFF



Water and climate
What climate (and COP28) means for the water and sanitation sector



Water and climate Context

1 in 3 children exposed to severe water scarcity

Definitions

Water stress

The ratio of total water demand to available renewable surface and groundwater supplies. Water demand includes domestic, industrial, irrigation, and livestock uses. Available renewable water supplies include the impact of upstream consumptive water users and large dams on downstream water availability. Higher values indicate more competition among users.

Source: World Resources Institute.

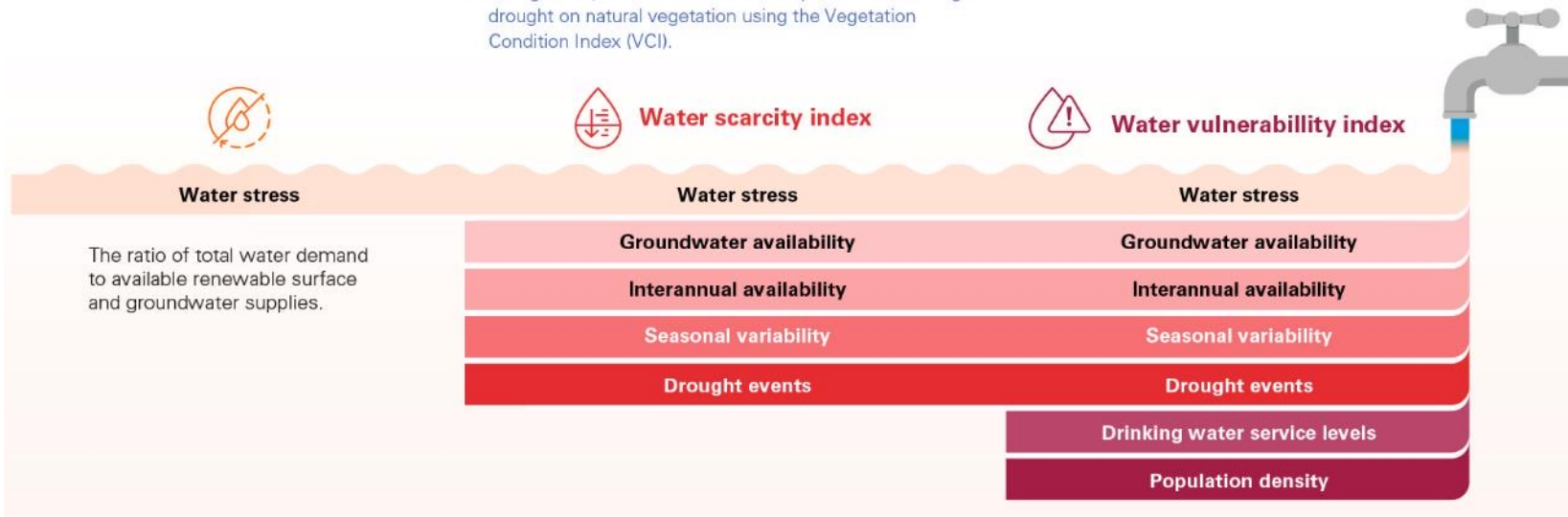
Water scarcity

A key driver of water stress. UNICEF's CCRI defines water scarcity based on composite measure of:

- Baseline water stress, which measures the ratio of total water withdrawals to available renewable surface and groundwater supplies.
- Interannual variability, which measures the average between-year variability of available water supply, including both renewable surface and groundwater supplies.
- Seasonal variability, which measures the average within-year variability of available water supply.
- Groundwater table decline, which measures the average decline of the groundwater table.
- Drought risk, which measures the impact of meteorological drought on natural vegetation using the Vegetation Condition Index (VCI).

Water vulnerability

UNICEF calculates the water vulnerability index based on a composite measure of water scarcity (as above) and drinking water service levels (WHO/UNICEF Joint Monitoring Programme) using population data from the Gridded Population of the World and the United Nations' World Population Prospects. Higher values indicate high levels of water scarcity and low levels of drinking water service.

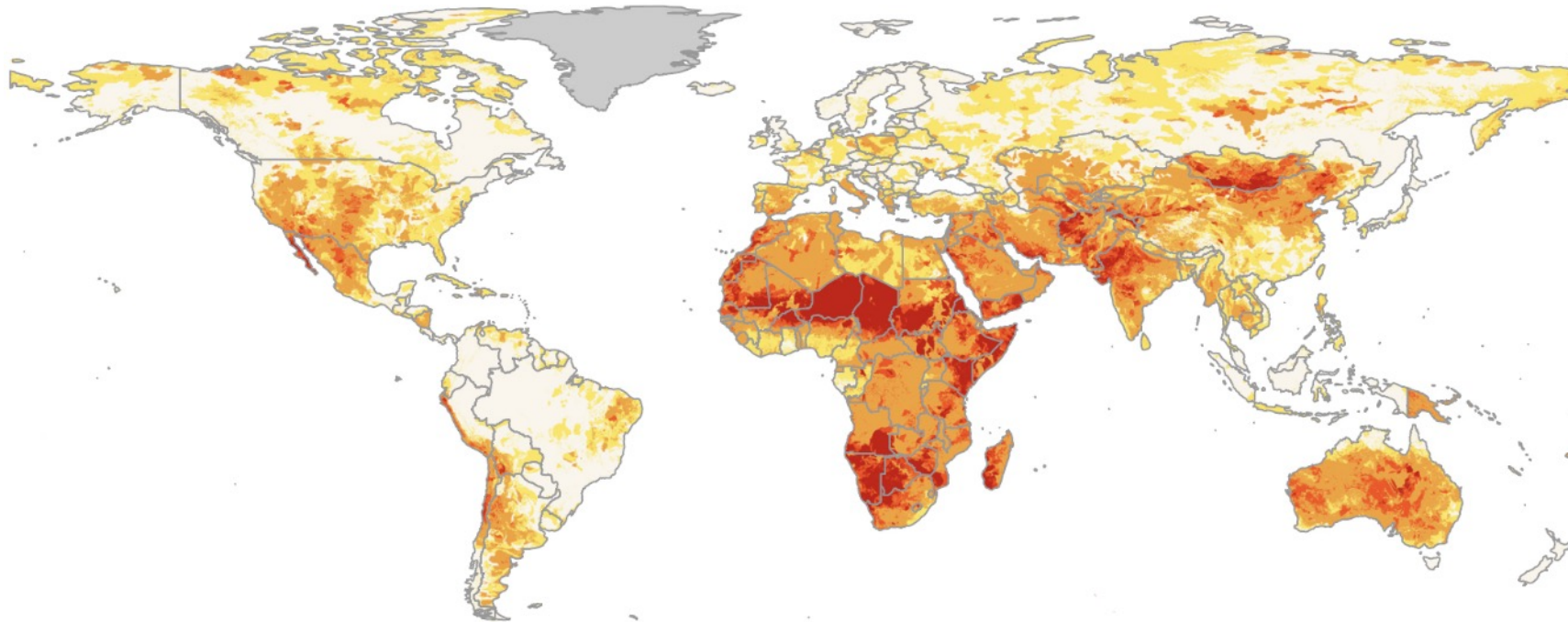


As of 2022:¹

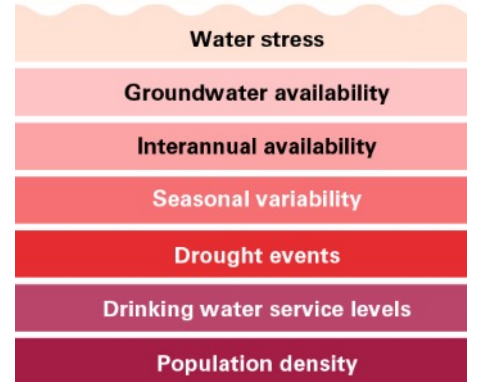
- Almost 1 billion children (953 million) are exposed to high or extremely high water stress
- 739 million children are exposed to high or extremely high water scarcity
- 436 million children live in areas with high or extremely high water vulnerability
- 470 million children face high or extremely high drought risk

436m children exposed to extreme water vulnerability

MAP 3 Exposure to extreme water vulnerability in 2022



Water vulnerability index



Water vulnerability index:



- Extremely high (2.76 to 5.00)
- High (2.30 to < 2.76)
- Medium (1.28 to < 2.30)
- Low (0.75 to < 1.28)
- Very low (0.0 to < 0.75)
- No data / not applicable

Data Source: WRI, 2023, *Aqueduct 4.0* and NASA, 2023, *Moderate Resolution Imaging Spectroradiometer (MODIS) Vegetation Indices Monthly (MOD13A3) Version 6.1*

World Geodetic System 1984 (WGS84) projection. Map Production Date: Oct 11, 2023

Note: This map does not reflect a position by UNICEF on the legal status of any country or territory or the delimitation of any frontiers.

Access to safe WASH services is not improving fast enough

In 2022, more than two thirds of the 295 million children who lacked basic drinking water services lived in two regions: Eastern and Southern Africa (110 million) and in West and Central Africa (97 million). And there were more children exposed in South Asia (45 million) than in all the other regions combined. Projections for 2030 show that coverage of basic drinking water services is expected to increase in all regions, except for Western Europe, thereby reducing the number of children exposed to water vulnerability. At current rates of progress, South Asia will more than halve child exposures from 45 million to 18 million. But

there will still be around 225 million children without basic drinking water in 2030 of whom more than 8 out of 10 will be living in sub-Saharan Africa.

Along with impacts on food security, livelihoods and economies, climate change and increased water scarcity will make it more difficult to keep existing drinking water services running risking the possibility of some people currently served to lose their existing service level and making even more difficult to extend services to those who remain unserved.

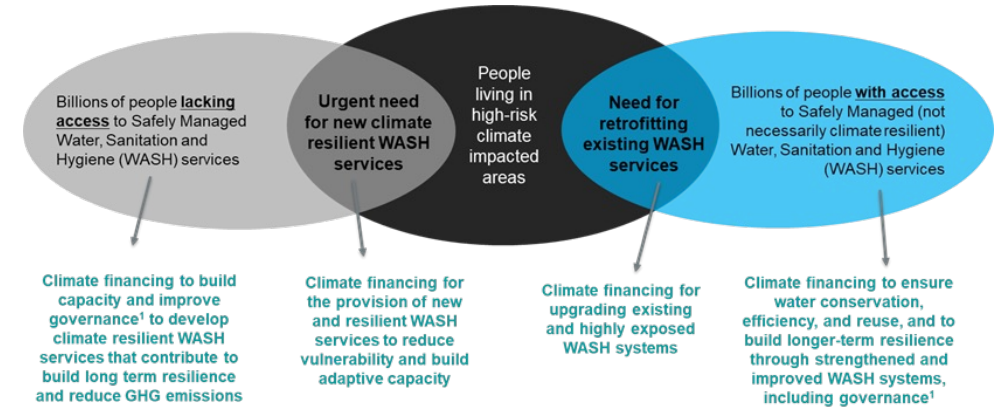
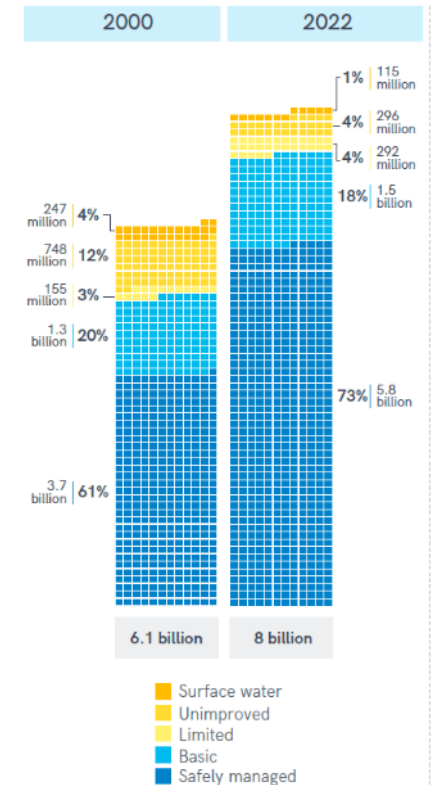
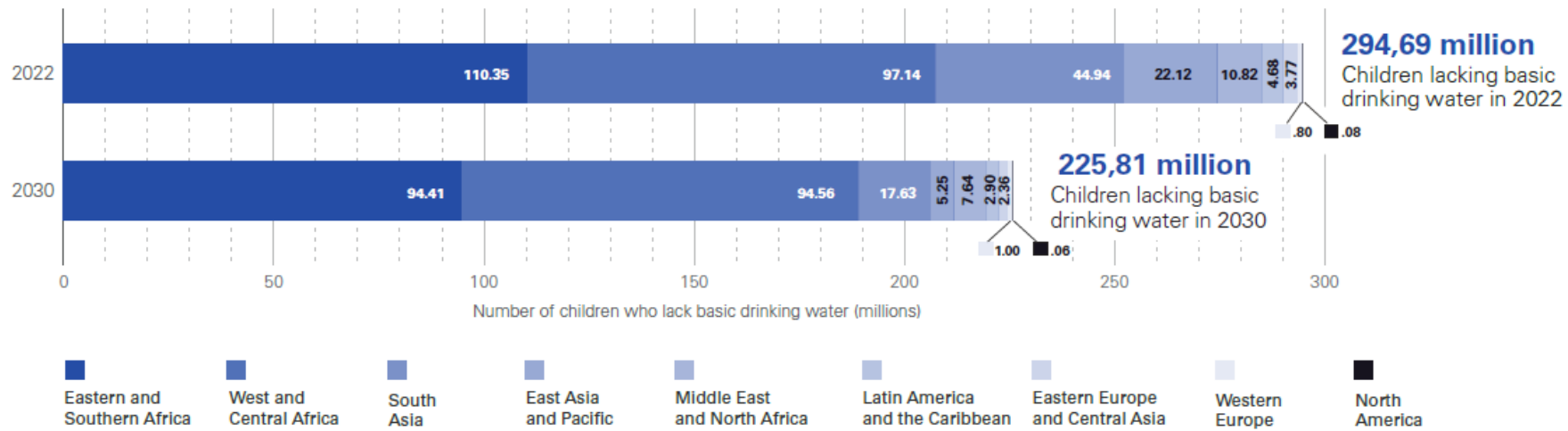


FIGURE 3 Projected number of children who will still lack basic drinking water in 2030



Note: Regional aggregates based on 163 UNICEF CCRI countries, areas or territories with data available in 2022

Key messages

- Today, over 1 billion people – including **436 million children – live in areas of high or extremely-high water vulnerability**. 2.2 billion people worldwide still lack access to safely managed drinking water
- Securing an adequate supply of clean water despite the damage inflicted by **climate change is one of the world's most urgent challenges**.
- Water can be a **universal focus for climate change** (mitigation and adaptation) and for achieving the SDG agenda.
- **Water is both a common good and an economic good** that needs to be managed and regulated effectively.
- **If business is investing in water supply this can be extended to communities**. Business has a critical role to play in addressing water scarcity in their operations, supply chains, and wider communities (**business, people, planet nexus**)
- ROI: Every dollar spent addressing water risks to business could save more than five dollars in future costs. The **adaptation market could be worth \$2 trillion** per year by 2026
- Individual corporate initiatives are not enough. We need **concerted, collective action** to create a more water secure world and achieve **Water Security for All by 2030**, by addressing water scarcity, delivery of water services, and making them more climate resilient.



***Reimagining WASH:
Water Security for All (WS4A)***

Water Security for All (WS4A) initiative

UNICEF has set an ambitious goal to reach 450 million children and their families (1.42 billion people) with climate resilient solutions. And by 2030, for all children to have access to safe and affordable water supply.



The **"shift" package** allows partners to invest in a country's first step on the journey to ensuring climate-resilient water supplies, by supporting governments with initial climate risk analysis and testing of potential climate-resilient solutions.



The **"catalytic" package** represents an enabling investment, as partners provide injection funding to help countries unlock even larger investments of climate finance to support their development of climate-resilient water supplies.



The **"scaling-up" package** takes a varied approach across different countries, but all investments are ultimately aimed at expanding water services to those without access, and upgrading existing services to be resilient to climate change.



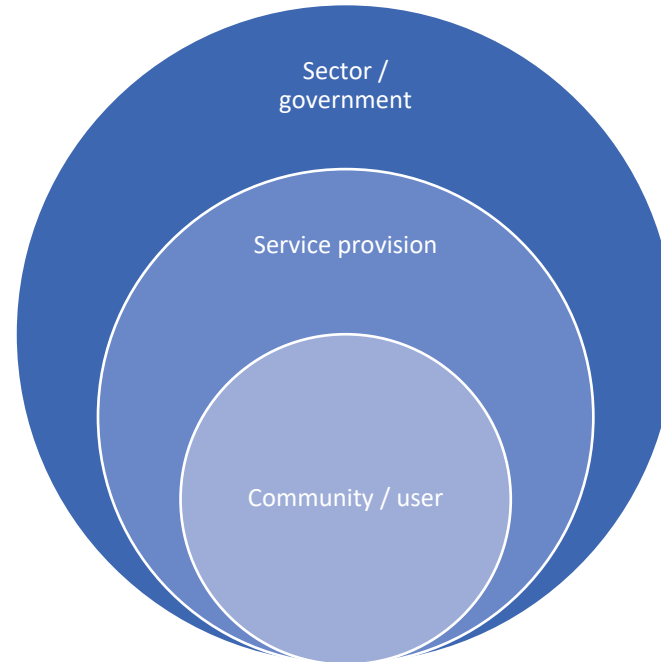
The **"solar hub" package** enables partners to invest in support hubs in select geographical regions, allowing countries to access expert guidance to help expand their use of solar energy in water supply systems.

How to achieve water security for all

Focus on four WS4A main domains

- 1. Safe and affordable drinking water services**
Provide access to a safe and affordable water service that is sustainable, close to home and managed professionally.
- 2. Climate-resilient Water, Sanitation and Hygiene (WASH) services and communities**
Ensure that all WASH services withstand climate-related events, strengthen the resilience and adaptive capacities of vulnerable communities, and operate using low-carbon energy sources, such as solar power.
- 3. Prevent Water scarcity crisis through early action**
Avert water scarcity crises through water resources assessments, sustainable water withdrawal, efficient use, and early warning and early action to prevent situations where water supplies are fully depleted.
- 4. Water Cooperation for peace and stability**
Work with communities and key stakeholders so that equitable management of water resources and WASH services contribute to increased social cohesion, political stability and peace; and in conflict zones to prevent attacks on water and sanitation infrastructure and personnel

Work at three levels



Systems strengthening

- Shifting the entire sector
- Governance, finance , capacity building, institutional arrangements

Professionalization of service delivery

- Building capacities
- Improving performance

Community resilience

- Risk analysis
- Community cohesion
- LNOB

Other support: Innovation, technical expertise, water security in business

Innovation

- Groundwater exploration
- Climate projections and use of GIS
- Groundwater and water quality monitoring
- Service delivery models

Other technical expertise

- Professional management of services
- Digitalization
- Solar energy (helpdesk, capacity building)

Water security in business

- Integrate commitments on water management into corporate policies
- Support local communities
- Innovate
- Advocate with government
- Accelerate financing and capacity

Mapping of corporate prospects/champions

WATER SECURITY FOR ALL



1. Fashion / textiles & apparel

A global economic powerhouse, with over US\$2.5 trillion annual revenue pre-pandemic, the sector has the resources and influence to lead the way in water stewardship. Key players are adopting new water-less technology for dyeing and processing textiles for fashion and footwear (E.g., Nike), and are joining efforts like the Water Resilience Coalition and the Alliance for Water Stewardship (AWS). The AWS Textile & Apparel working group launched a water stewardship hub in Bangladesh with Vietnam, India and Turkey to follow.



2. Mining and quarrying

The global mining market is expected to grow to US\$3,358 Trillion by 2026, a compound annual growth rate (CAGR) of 12.9% and is at the forefront of the global low-carbon transition and the efforts to minimize water-risk. Global players are increasing investments in R&D and innovation and are funding industrial-scale experiments to pave the way for water conservation technology (E.g., AI and analytics-backed IoT sensors, leak management, the Helmholtz Institute Freiberg for Resource Technology test about water usage optimization in fluorite extraction).



3. Fintech, Venture Capital and innovative financing

Sector participation is needed to accelerate and scale up solutions across the value chain through: **Fintech** to deliver banking and financial services, such as (micro) financing to households, institutions, and local market suppliers and manufacturers; **Venture Capital** to invest in early stages & emerging companies/startups; and **Innovative financing** to offer Innovative seed funds and blended mechanisms to share / minimize risk.



4. Data technology incl. Artificial Intelligence (AI)

Digital/Tech players can transform the water sector with game changing solutions for connectivity, automation and decision-making using **Data analytics and AI** to map out & connect resources, manage supply chains, and conduct system data extraction & measurement using machine learning. AI can save 20-30% on operational expenditures (OPEX) by reducing energy costs, optimizing chemical use for treatment, and enabling proactive asset maintenance.



5. Water-focused

Sector participation continues to be required to deepen the knowledge, develop and scale up innovation in **water & wastewater treatment** to respond to the growing demand for energy-efficient and advanced technologies, and **water utilities & infrastructure** to continue furnishing water to the public for household or drinking purposes.



6. Travel and tourism

Tourism is a US\$1.31 Trillion strategic industry for many economies, directly contributing to a country's wealth (E.g., tourism was 12.4% of Spain's GDP pre-pandemic). Tourism depends on water, so minimizing the water risk is critical for the survival of the industry. Water-savings is a key driver of sustainability efforts due to the impact in profits. As a result, water-saving pilots are being conducted around the world (E.g., UNDP-GEF Kura II Project in the Caucasus, Caribbean Alliance for Sustainable Tourism (CAST), etc.)



7. FMCG, incl. Beauty/Cosmetics

Many global consumer packaged goods and manufacturing firms, including those in Beauty, have water footprints that span the globe – and value chains that expose them to water challenges. Conscious of their role, many participate in water stewardship and climate action groups and are now increasingly looking to become a leading voice in this effort.



8. Health Care incl. Pharma

Major players in the US\$11 Trillion global healthcare sector believe that "*health and water are closely interconnected*" (E.g., Novartis, GSK, Merck) and therefore, water is becoming a top priority in both their sustainability narrative and key actions, and they are becoming water stewards and seeking opportunities to champion industry and global efforts.



9. Industrial Engineering & Manufacturing

Includes global technology and engineering manufacturers that operate across multiple sectors – mobility, at home, power, etc. and that are giving climate action (carbon neutrality) and water stewardship (reduce water scarcity) a major role in their sustainability goals and investments. Large players endorsed the CEO Water Mandate and signed COP27's Biz. decl. on Climate, Water & Sanitation.

COP28. Why it represents a milestone for the WASH sector



MITIGATION / Global Stocktake (GST)



Inclusion of water in the introduction of the GST text: “Also recognizing the critical role of protecting, conserving and restoring water systems and water-related ecosystems in delivering climate adaptation benefits and co benefits, while ensuring social and environmental safeguards”



Main GST reference to fossil fuels: “Transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net zero by 2050”

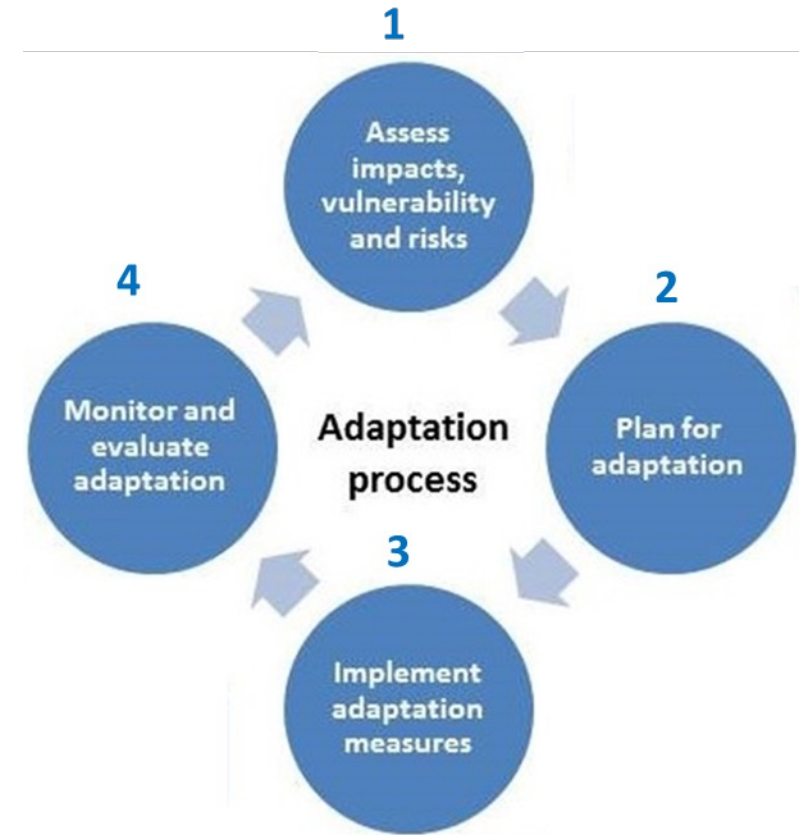


Revision of NDCs: “requests Parties that have not yet done so to revisit and strengthen the 2030 targets in their nationally determined contributions as necessary to align with the Paris Agreement temperature goal by the end of 2024”



ADAPTATION / Global Goal Adaptation (GGA)

- Major accomplishment is the prioritization of WASH as part of the **7 thematic adaptation targets of the GGA framework**, including:
 - **WATER:** 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
 - Water is at the centre of the Adaptation agenda, with references to water for **ecosystems** and **other productive uses** (e.g. irrigation)
- **2030 targets also set around the iterative adaptation policy cycle.**
 - Parties to conduct up-to-date climate risk assessments
 - All Parties have in place NAPs



GGA Follow up work...

Climate stream

- **Two-year work programme on indicators for measuring progress** achieved towards the targets (thematic and policy cycle) with a view to identifying and, as needed, developing indicators and potential quantified elements for those targets
- **Parties and observers invited to submit via the submission portal by March 2024:**
 - a) **Views on measuring progress**
 - b) **Modalities of the work programme**, including organization of work, timelines, inputs, outputs and the involvement of stakeholders
- **AC and LEG:** recommendations on how to improve reporting on adaptation action and progress
- **UNFCCC Secretariat:** to undertake work to examine how transformational adaptation is defined and understood by COP29
- **LEG:** to update the technical guidelines for the NAP process



WASH sector stream (SWA)

- Currently working collaboratively in the **common definition of climate resilient WASH services**
- UNICEF-WHO Joint Monitoring Programme (JMP) developing **global indicators** on climate resilient WASH
- UNICEF-WHO also developing new set of climate indicators for GLAAS (Global Analysis and Assessment of Sanitation and Drinking-Water) country reporting
- Inputs to the **GGA negotiations** (COP29, AC, LEG, etc)

UNICEF

- Continues with WS4A, in particular 'shifting' all of our WASH programmes (100+ countries, \$1.1 billion/year) and supporting the sector's shift (~50 countries)
- Working with partners and developing knowledge and capacities

Financing

- **Lost and Damage Fund:** Agreement to operationalize the Loss and Damage Fund (financial assistance to the countries most vulnerable to the impacts of climate change)
- **Progress towards the “100 billion commitment” (from developed to developing countries):**
 - In 2021 reached USD 89.6 billion. It is estimated that the goal was met in 2022
 - COP28 important commitments to replenishments of GCF, Adaptation Fund, Global Environmental Facility (Least Developed Countries Fund, Special Climate Change Fund).
- **Adaptation Finance:**
 - Concerns that adaptation finance gap is widening
 - Urging of further work needed to double adaptation finance by 2025 (baseline is 2019)
 - Recognition will have to be significantly scaled up beyond the “doubling”
- **Work Programme on the New quantified global goal on climate financing**
 - What after the “100 billion” commitment?
 - 3-year programme and 2024 is the last year concluding at COP29.

Thank you.

Contact:
Jorge Alvarez-Sala
jalvarezsala@unicef.org

unicef 



Ministry of Water and Sanitation - Malawi

Dr Max Wengawenga,
Deputy Director of Policy and Planning



Background



Malawi's Vision

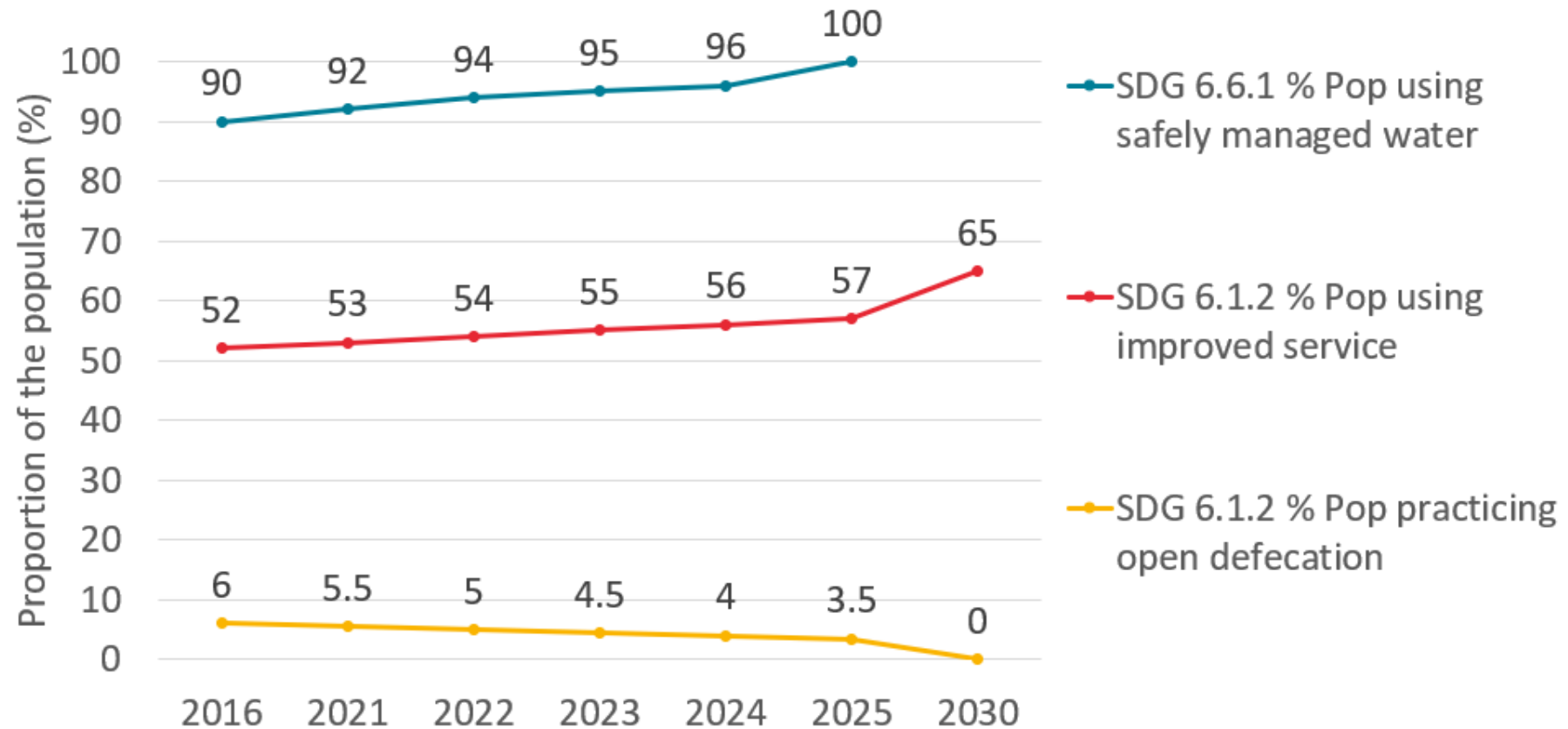
An Inclusively Wealthy and Self-reliant Nation

MALAWI 2063



Malawi's WASH Targets

SDG 6 targets (Malawi national indicators)



Climate Related Disasters

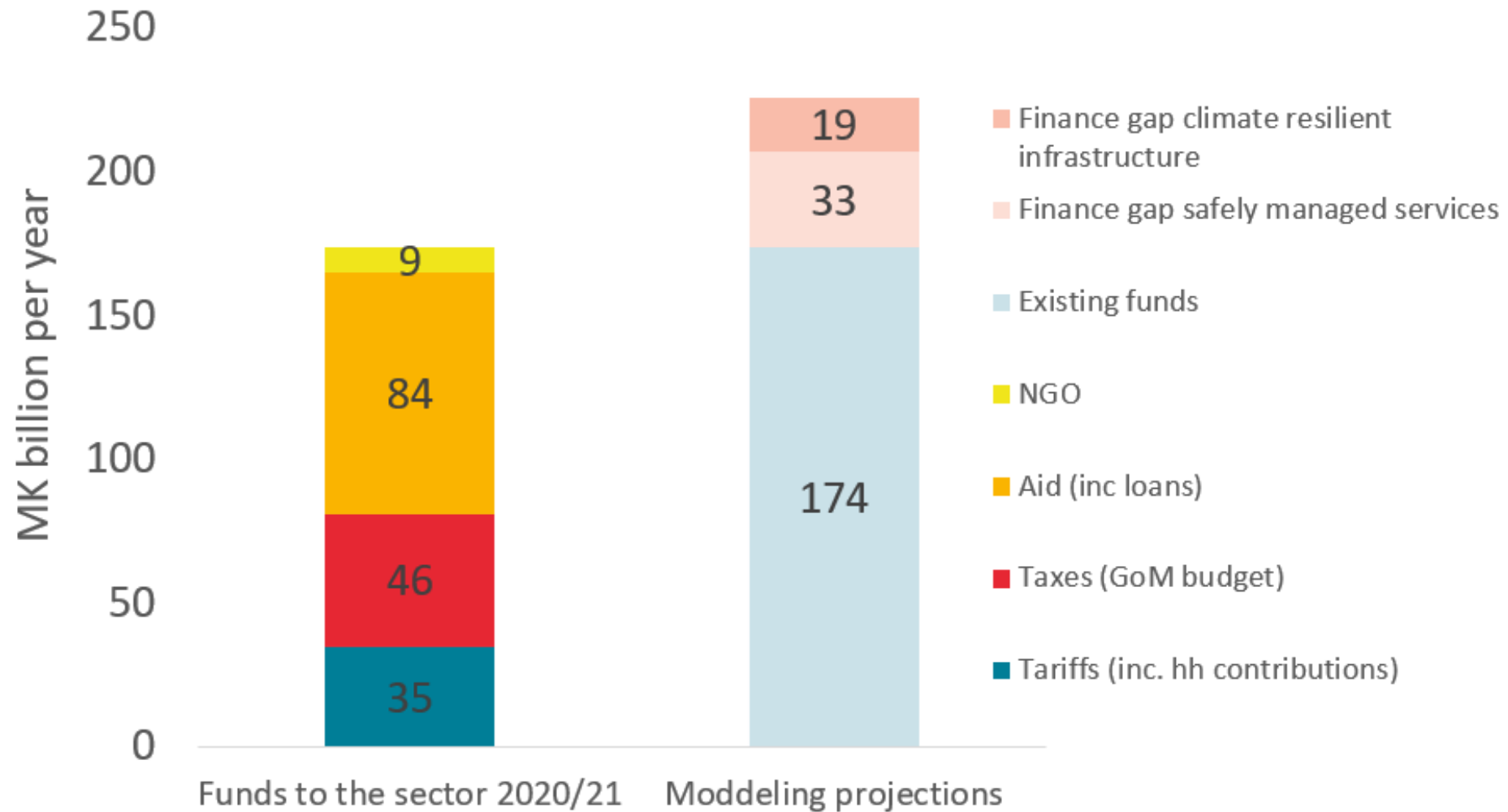


Cyclones

- 2019 – Idai
- 2022 – Ana
- 2022 – Gombe
- 2023 – Freddy



WASH Financing Gap



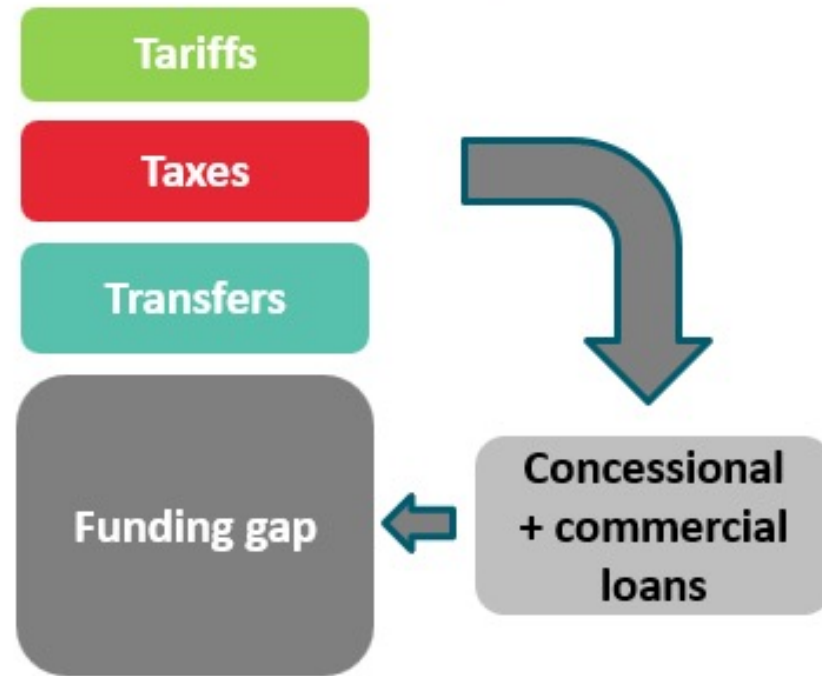


Sources of WASH Financing

How much does it cost?
Now and in the future.



Where are the funds coming from? What is the gap?



The Bottleneck



How much does it cost?
Now and in the future.



Where are the funds coming from? What is the gap?

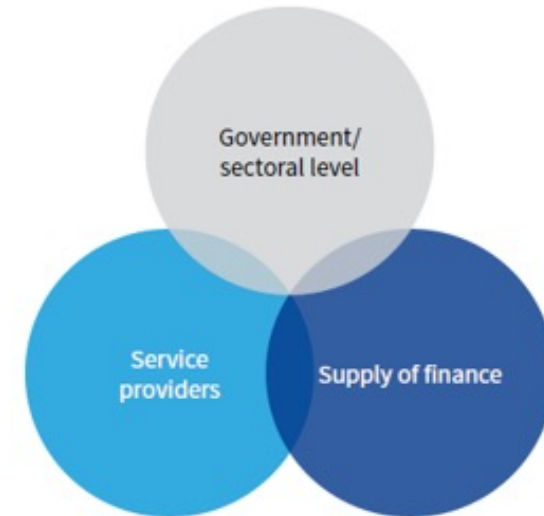
Tariffs

Taxes

Transfers

Funding gap

What bottlenecks are preventing finance to flow?





What Next? – Implementation

1	Reduce non-revenue water and increase revenue
2	Reducing the need for rehabilitation by increasing preventive maintenance
3	Reducing long-term operational costs by investing in renewable energy
4	Increase budget for the sector and within other sectors (2-5%)
5	Performance based mechanisms (5-10%)
6	Reform the borehole fund
7	Increase climate funding (concept note has been submitted)
8	Support market-based approaches
9	Annual revision of the tariffs
10	Improving billing and collection systems
11	Ring fence VAT from water bills
12	Support city councils to develop business plans for faecal sludge management units
13	Regulate neighborhood areas and fees for waste operators
14	All the options for increasing repayable finance => will need to be paid back



Thank You !



Q&A

