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Learning Journey on Water Security
Briefing Note

Groundwater: Making the invisible visible

FCDO Briefing Note on Water Governance, Finance and Climate Change

Overview

The theme for World Water Day 2022 is 'Groundwater – Making the Invisible Visible'. Groundwater is water found underground in aquifers – geological formations of rocks, sands and gravels, that hold substantial quantities of water. Groundwater feeds springs, rivers, lakes and wetlands, and seeps into oceans. 80 percent of the world's food depends on groundwater. It is recharged mainly from rain and snowfall infiltrating the ground, and can be extracted to the surface by pumps and wells. See this video Introducing groundwater and Unlocking Africa's Groundwater Potential from UPGro – a UK Aid funded seven-year (2013-2020) social and natural science research programme for enabling sustainable use of groundwater for the benefit of people living in poverty across Sub-Saharan Africa.

Here are ten reasons why Groundwater is important, as explained by UPGro, and also Alan McDonald from the British Geological Survey. The the main challenge is how it can be used sustainably to support societal needs and economic development while being protected from overexploitation and contamination so that its benefits can continue to be realised.

Key facts about groundwater

1 Groundwater may be out of sight but it is the largest store of liquid freshwater on earth; 20 times of that in rivers, lakes, and forms nature's reservoir.

2 Groundwater is used by half of the world's population, both through large-scale, strategic public water supply and smaller-scale community-based or private supply. It often silently solves water supply gaps.

3 Groundwater is often resilient to changes in climate and will play a critical role in adapting to the effects of climate change.

4 Groundwater supports critical environmental and ecosystem services upon which many communities and ecosystems depend.

5 There is much potential in some areas (particularly rural Africa) to further develop groundwater to support water supply for both domestic and productive uses, thus accelerating socio-economic outcomes.

6 Groundwater is overexploited and depleting in some cities and many parts of Asia.

7 Groundwater is becoming polluted in many areas due to fertiliser use, poorly regulated industries, and lack of sanitation facilities.

8 We need to invest in expertise and better governance, including gender aspects, to explore, monitor and develop groundwater sustainably and equitably, and prioritise protecting and managing the resource for all.

9 Transboundary groundwater – where groundwater resources cross political boundaries – provides an opportunity for increased cooperation and integration.

Reading time
5 minutes

Who is this for
This briefing note is primarily for UK diplomats and their partners in country to respond to world water day.

What you can find
Information on 'Groundwater'- the theme for world water day; the UK's Water action at COP26; programme activities around water and climate, water governance and finance, and gender; the UK's well-developed water 'offer', that together, can help reach the goal of global water security.

What is the overarching goal for the UK in relation to global water security?

- Tackle and reverse growing water insecurity and its consequences caused by depletion and degradation of natural water sources
- Address poor water management and increasing demand

To do this, the UK Government has a well-developed water 'offer' that can help reach the goal of global water security. To hear more about this contact Andrew Roby at FCDO and look out for the launch of the full 'briefing pack' on 17 March 2022.

How does the Climate & Environment Directorate (CED) intend to tackle growing water insecurity?

We are developing a new central programme to address climate-related water security challenges building on the COP26 achievements below.

The CED programme will be global, with policy work on best practice, standards, regulations and trade and will be complemented by direct action in up to 10 countries or regions in Africa, Asia, Middle East and Latin America. In increasing the UK's sustainable water footprint the programme will inform and encourage other consumer countries to do the same.

What was the UK's role in water action at COP26?

Agreed use of water tracker

15 countries agreed to use the AGWA Water Tracker, a tool and diagnostic guide to strengthen water resilience in climate and national development planning. The Water Tracker launched in 2021 to explore how water is embedded and hidden in, governance, investments, infrastructure systems, and national programmes in order to determine if there are potential synergies or conflicts that interact with climate change. The goal is to ensure that countries make trade-offs explicitly and mindfully, and that they view these water linkages as dynamic, requiring insight into ensuring that national economic efforts are robust, flexible, credible, and effective as the climate continues to evolve. To learn more about water and climate listen to John Matthews from AGWA or read this report from the REACH programme.

Key messages for water resilience in climate

- Freshwater resources, including rivers, lakes, glaciers, snowpacks, precipitation, and groundwater, is actively evolving in response to climate change. Many of these impacts are not easily or accurately predicted by climate models, and these uncertainties are a challenge to traditional approaches to managing water resources, infrastructure, and sectoral systems such as utilities, energy, healthcare, agriculture, cities, and ecosystems.
- Most countries do not manage water as a climate-dynamic or cross-sectoral resource, or one that is shared across political and administrative boundaries. Improving these qualities is often an area in which knowledge sharing, aid, and diplomacy can have a cost-effective impact.
- We can often see evidence of a movement towards resilience in water trade-offs and decision making by seeing how water is negotiated and discussed between ministries and from national to sub-national levels. Cross-referencing water in the NDCs with, for example, water-sharing agreements with neighbouring countries or in water-intensive ministries and in key national policy documents is also a good sign. Ideally, a Finance Ministry cares as much about water resilience as a strategic national approach as an Environment Ministry.

Signing of the Glasgow Fair Water Footprint Declaration

The UK Government led the signing of the Glasgow Fair Water Footprint (FWF) Declaration on 5 November 2021 with seven other countries and 20 businesses and civil society organisations. The Declaration follows the call to action from UK Minister Lord Goldsmith in August 2021 to ensure responsible water use throughout our globalised supply chains, to protect nature and human rights, and accelerate attainment of the Global Goals. The role of fair water footprints is explained in more detail in this K4D Reading Pack Tackling the Global Water Crisis: The Role of Water Footprints and Water Stewardship and in this video from Sareen Malik from ANEW.

Key messages from the Glasgow Declaration for Fair Water Footprints COP26

- Water footprints – the water used to produce the food, clothes and goods – shape water and climate security for millions of people across the globe.
- There is an urgent obligation and opportunity to harness water footprints so that they 'do no harm', and 'do good' for people, ecosystems, and climate resilience.
- The Glasgow Declaration for Fair Water Footprints is a ground-breaking, urgent and a vitally important milestone which can transform how water is used in the global economy for good.
- Declaration signatories will be accountable for decisive and specific action to improve water management and to secure a fair water footprint by 2030.
- Transformative action is already in motion. Many of the tools, systems and best practices needed to deliver a fair water footprint are already in place.
- All interested parties are invited to join this COP26 initiative and to mobilise the leadership and partnership needed to shape a more resilient, just and water-secure world.

Agreed approach to attract private investment- The Resilient Water Accelerator partnership

The Resilient Water Accelerator, in partnership with national governments and local communities, will support country efforts to secure climate finance, ensuring that despite the many challenges they face, vulnerable people on the frontline of climate change will have reliable clean water 'fit for the future'. It has proven difficult to boost private investment in water, yet this is where most of the finance will come from to reach SDG6 by 2030. The UK Government is working with other partners such as Water Aid and the Prince of Wales Sustainable Markets Initiative to integrate lessons into the design of the Accelerator. To hear more about water and finance listen to Kathleen Dominique from OECD.

FCDO supported the Water Pavilion

At COP26, the Water Pavilion mobilised the water community and partners in the global climate action community to debut the first-ever Water & Climate Pavilion at the COP. The aim was to strengthen a unified voice on the role of water in meeting the goals of the Paris Agreement and support ambitious and science-based global climate action. The Water Pavilion ran a full programme of events and seminars mirroring the COP26 presidency programme, and reached out to other 'sector' constituencies at COP26 with a solutions-based approach. Egypt is thought likely to prioritise water at COP27, as will the United Arab Emirates at COP28, whilst the Netherlands and Tajikistan are co-hosting the UN Water Summit in March 2023.

Key messages about water and finance

Addressing the financing challenge requires more than calls for increased funding. It requires accelerated and concerted action on multiple fronts to:

1. Make the best use of existing assets and finance and ensure investments benefit those most in need.
2. Strengthen the enabling environment for investment, including the policies, regulations and institutional arrangements that create the conducive conditions for financing to flow. This includes both water specific policies and policies related to the financial sector and capital markets.
3. Pursue strategic investment planning in sectors that affect - or would benefit from - water security (most prominently urban development, agriculture, energy, environment) to ensure resilient investments over time in the context of uncertain future climatic conditions and demographic, urbanisation and economic shifts.
4. Mobilise additional sources finance from a range of public and private sources.

The Water Risk Filter enables companies and investors to assess water-related financial risks under various climate change scenarios and temperature pathways and is recommended by the Taskforce on Climate-related Financial Disclosure (TCFD).

Climate-related scenario analysis is a key recommendation of the TCFD. Scenario analysis can help organisations consider a broader range of assumptions, uncertainties, and potential future states when assessing business and financial implications of climate-related water risks.

Water and gender

The water crisis is a gender crisis that has major implications across a range of other SDGs. The fact that women and children are 14 times more likely than men to die during a climate and water disaster underscores the interlinkages between these crises, suggesting that there is a 'complex development crisis' emerging.

> **"Women are disproportionately affected by climate change impacts such as droughts, floods and other extreme weather events. They also have a critical role in combatting climate change but need to be better represented at all levels in the decision-making. Empowering women will be a significant factor in meeting the climate challenge."**
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> *UNFCCC Executive Secretary, Christiana Figueres, 2014 (Aguilar et al., 2015).*

Helping to build resilience to risk in relation to water in a climate crisis requires that marginalised women 'adapt to diverse climate challenges' requiring 'fixing systemic and structural inequalities', and not just promoting participation.

Having sought to achieve greater equality in women's access to water and sanitation, as well as stronger engagement in water management, governments and agencies now face a new reality. Women 'in development' – with an emphasis on participation – has been central to past efforts. At the same time as participation increased, structures of power in which gender inequalities are embedded remain relatively unchanged. The focus in the water community addressing the combined water, gender and climate crisis has therefore moved to tackling structural impediments to equality. This has been termed adopting gender-transformative approaches in which efforts focus on tackling institutions and structures of power, including those that construct patriarchies and enable the persistence of gender inequalities often in spite of greater women's participation.

Listen to the experts

- **Alternatives to wastewater treatment in Colombia | Natalia Duque** Natalia Duque, a PhD Researcher at Universidad del Valle in Cali explains her research into waterwater treatment in Colombia.
- **A tale of two groundwaters | Alan MacDonald**
  Alan MacDonald from the British Geological Survey explains what groundwater is, and how the story of groundwater has played out in Africa and in Asia.
- **Groundwater is a key resource in Africa | Callist Tindimugaya**
  Callist Tindimugaya of the Ugandan Ministry for Water and the Environment discusses how groundwater is a key resource for African urban areas and beyond.
- **Water as a climate solution | John Matthews**
  John Matthews from AGWA explains how water is a climate solution.
- **Fair Water Footprints | Sareen Malik**
  Sareen Malik from ANEW explains the importance of fair water footprints.
- **Why finance matters for water | Kathleen Dominique**
  Kathleen Dominique from OECD why finance matters for water.

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