

Why we need a water allocation plan



Dr Anwar Zahid is former director at Bangladesh Water Development Board (BWDB) and an academic.

ANWAR ZAHID

The volume of water in the atmosphere, on the Earth's surface, and underground is considered constant, but its use in various ways has been increasing with time. Freshwater makes up only about three percent of the Earth's total water, but less than one percent is readily available for use, as approximately two percent is locked in glaciers and ice caps. Due to the unwise use of water, this small portion of freshwater is

Yet, in two-thirds of Bangladesh, withdrawal of groundwater has already surpassed seasonal recharge from the monsoon. Though we have plenty of rainfall and hundreds of rivers, groundwater remains the main source of potable, industrial, and dry-season irrigation water. Water resources management in Bangladesh, therefore, faces immense challenges. The country receives huge volumes of water during the monsoon, causing

agricultural, rural and urban water supplies and to forecast the groundwater situation in advance for dry seasons and future uses. Research on transboundary water, including groundwater, is also vital for managing shared resources with the neighbouring countries.

Preparation of water budget and water allocation plans is also important and should be based on an assessment of usable water resources. This can be done using the required data and information under the Water Act, 2013, which provides for the formation of water allocation committees from the union to the national level. During water allocation, the Water Act's outline on the priority of water use must be followed. For example, industries in and around the Dhaka city, which fall under water use priority serial 8, already poses a



Bangladesh withdraws about 32 cubic kilometres of groundwater annually, 90 percent of which is used for irrigation.

FILE PHOTO: STAR

also under threat of pollution and contamination.

Understandably, the overall amount of usable freshwater has been shrinking under a rising, uncontrolled demand. Various global studies have raised the alarm about water stress in different parts of the world. From lifesaving potable water supplies to food security and booming industrialisation, all sectors are suffering from water scarcity, while allocation for ecosystems and biodiversity remains largely neglected.

A recent study led by Arizona State University and published in *Science Advances* revealed that 101 countries have suffered unprecedented freshwater loss since 2002, driven by climate change, unsustainable groundwater use, and extreme droughts. Using GRACE/FO satellite data from 2003 to 2024, the study tracked total water storage (TWS) across the Ganges-Brahmaputra Basin, which covers much of Bangladesh, and found a consistent decline over 21 years. The northwest and north-central regions showed annual TWS losses between -1 and -2 cm.

According to a World Bank Group study in 2019, Bangladesh withdraws about 32 cubic kilometres of groundwater annually, mainly for irrigation (90 percent) and domestic and industrial use (10 percent). A 2022 study led by the University College London and published in *Science*, analysing 34 years of groundwater level data from 465 monitoring wells of Bangladesh Water Development Board (BWDB), showed continuous water level decline in two-thirds of the country. The current annual depletion ranges from millimetres to more than two metres—an unsustainable trend.

Sustainable development of groundwater means that abstraction from aquifers is less than or equal to the seasonal recharge by rain and surface water.

regular flooding in low-lying areas. But in the dry irrigation season, scarcity of water threatens time-bound irrigation in many areas, leading to extensive extraction of groundwater. The country is already seeing conflicts among various sectors and user groups regarding water-sharing and use.

Bangladesh has formulated many policies, plans, and acts related to water development and use. While important issues are well-addressed in these documents, their main weakness lies in inadequate implementation. There is also a lack of research-based education, advocacy and scientific approaches that can translate research outputs into sustainable water use.

Demand for water in the country is rising sharply to meet planned irrigation as well as domestic and industrial needs. Sustainable use of available safe water, including groundwater, requires careful analysis of the water cycle data. Fortunately, the country has been collecting hydro-meteorological data for over 60 years, led by the BWDB, though further expansion and strengthening are needed.

To reduce dependency on limited groundwater resources and to meet the increasing demand for water, a greater use of rainwater and surface water—alongside conjunctive use—must be emphasised, as outlined in the National Water Policy 1999 and other government guidelines. Assessing groundwater systems, understanding formation behaviour, and regularly monitoring groundwater storage and quality are essential.

Matching long-term withdrawals with recharge is the principal objective of sustainable groundwater planning. Both shallow and deep (up to 400 metres) groundwater resources need to be properly assessed. Regional modelling of the groundwater systems has to be developed for effective water resource management, to plan

threat to the availability of adequate potable water for inhabitants with priority serial 1, jeopardising environmental sustainability and ecosystem health.

Proper zoning for industries should be considered, preferably in areas with access to surface water. Introducing low water-consuming crops can help reduce pressure in water-stressed areas like Barind. Augmentation of both natural and artificial groundwater recharge (managed aquifer recharge) can be implemented in groundwater-depleted and water-stressed areas through appropriate programmes.

Extension and upgrading of the existing network of groundwater monitoring wells should be carried out both spatially and vertically across different aquifers to estimate recharge, monitor fluctuations in the water table, track groundwater movement, and assess water quality. To support sustainable development and management of Bangladesh's water resources, strengthening and building the capacity of relevant organisations is essential.

Although almost all sectors require water and operate under the guidance of the respective ministries, there is currently no dedicated organisation for monitoring and managing the status of water resources used across sectors in the country. Given the stress and importance of groundwater, a specialised organisation, initiated by the Ministry of Water Resources, needs to be established for the sustainable management and tracking of groundwater resources, including assessment, usage, water budgeting, and allocation planning.

Practices, techniques, and technologies should be improved to enhance water use efficiency, reduce wastage, and ensure optimal economic and social benefits. Citizens can play a vital role in saving a huge volume of freshwater by not overusing or misusing it in their everyday life.

ACCOUNTABILITY FOR CLIMATE POLLUTION

Lessons for Global South from a sinking Indonesian island



Saudia Afrin is an environmentalist and journalist turned development practitioner.

SAUDIA AFRIN

Since late August, Indonesia has been gripped by demonstrations rooted in long-standing structural pressures faced by its people. The outrage is fuelled by economic hardship, a faltering economy, and a government largely turning a blind eye to people's struggles. Amid this unrest, at the beginning of this month, another confrontation emerged, far from the political spotlight.

A crucial preliminary court hearing took place in a lawsuit filed by four Pulau Pari residents against Holcim, the Swiss cement giant, according to The Guardian. The residents of this four-kilometre-long island, which is just about three metres above sea level and has already lost 11 percent of its land underwater, filed the civil lawsuit at a Swiss court in July 2022, demanding climate justice for the company's role in the climate crisis. This is backed by Indonesian and international organisations, including Swiss Church Aid (HEKS/EPER) and European Center for Constitutional and Human Rights (ECCHR), and saw its main hearing on September 3 at the Cantonal Court of Zug.

The massive impact of carbon emissions on rising sea levels has placed Pulau Pari at risk of being wiped off the map. The plaintiffs feel it is unfair to suffer the consequences of global warming without contributing to pollution. Thus, they demand proportional compensation—urgent emission cuts of at least 43 percent by 2030 and contributions to climate adaptation measures.

The lawsuit marks a historic moment in climate accountability. It is the first time that a company of this size is being held accountable in its own country for alleged climate-related devastation. On July 23, the International Court of Justice, the world's highest court, ruled that

people harmed by climate change could be entitled to “full reparation.” Interestingly, the Pulau Pari residents filed their case even before the ICJ ruling, reflecting a growing recognition that climate justice is a legitimate claim.

According to the Climate Accountability Institute, 180 companies have produced the majority of global CO₂ emissions since the pre-industrial era. Holcim is among those that released more than seven billion tonnes of CO₂, more than double Switzerland's cumulative emissions between 1950 and 2021.

Yet, are these emitters doing enough to reduce their carbon footprint? The impacts of climate change we face today suggest otherwise. The melting ice, rising sea levels, and increasing temperatures are no longer a distant reality. It is high time climate victims took the lead to demand justice and immediate action—and that's what the Pari island residents are doing. Home to fishing families and small tourism operators, Pulau Pari's residents have long depended on the ocean for their livelihoods. Their homes and their core livelihood component—boats—are now at the mercy of tidal floods. Precious, limited sources of fresh drinking water are being contaminated and made unusable by the sea. Moreover, the island's mangroves and coral reefs, natural protectors of the coastal region, are steadily wearing away. If current trends linger, much of the island might disappear entirely by 2050.

These sufferings are similar to the climate vulnerabilities facing Bangladesh. Almost two-thirds of our land sits less than 15 feet above sea level, with about a third of the population living along the coastal area. It is predicted that one in every seven people could be forced from

their homes by climate change by 2050. The country ranks ninth on the 2024 World Risk Index for vulnerability to extreme weather, although its contribution to global greenhouse gas emissions is only 0.3 percent (2022 data). Between 2000 and 2019, Bangladesh encountered 185 extreme weather events that resulted in economic losses of \$3.72 billion. According to a 2018 report of USAID, approximately 90 million live in “high climate exposure” areas, with 53 million facing “very high” exposure.

Similarly, despite their minimal contribution to global emissions, coastal communities across the Global South endure the burden of climate change the most—losing their homes, livelihoods, and even their lives. On the other hand, the corporations most responsible for these emissions continue to profit. Although rapid and decisive emission cuts are essential, when it comes to taking responsibility—whether of corporations, governments, consumers, or makers of technologies—it continues to be shifted from one to another.

Although the Paris Agreement's goal of limiting global temperature to 1.5 degrees Celsius is crucial for the survival of low-lying islands and vulnerable communities, the current emission curve and rising temperature indicate that the world is far from the right track.

On September 3 in Zug, no decision was reached about the Pulau Pari case. When the court will announce its decision is still uncertain. However, the case has opened a door for other vulnerable communities in the Global South to seek justice, holding immense potential to inspire climate victims to fight back. It underscores the need to hold polluters accountable—those who profit while remaining untouchable as the world suffers, and particularly as vulnerable communities are pushed to the brink.

What lies ahead is a whole new discussion, but this case has surely created a path where victims are not defenceless, and corporate giants are not untouchable. The Pulau Pari case thus serves as a wake-up call for countries like Bangladesh to seek climate justice.



Chief Adviser's Office
Bangladesh Export Processing Zones Authority
Jashore Export Processing Zone Project
BEPZA Complex
House-19/D, Road-06, Dhanmondi, Dhaka-1205.



e-Tender Notice (05/2025-26)

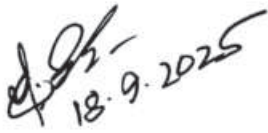
Reference No. 03.06.4104.325.07.009.25-05

Date: 18 September 2025.

e-Tender is invited in the National e-GP System Portal (www.eprocure.gov.bd) under Development Budget of Jashore Export Processing Zone Project, BEPZA.

Sl	Tender ID	Description of Works	Package No.	Publication Date	Document Last Selling/ Downloading Date and Time	Closing & Opening Date and Time
1	1153612	Supply and Installation of 11 KV HT Line at JEPZ Project	JEPZ EW-1	25 Sep 2025 14:00	26 Oct 2025 17:00	27 Oct 2025 14:00
2	1153613	Supply and Installation of 11/0.415 KV Substation (250 KVA Pole Mounted) for JEPZ Project	JEPZ EW-4	25 Sep 2025 14:00	26 Oct 2025 17:00	27 Oct 2025 14:00

This is an online tender, where only e-Tender will be accepted in the National e-GP portal and no offline/hard copies will be accepted. To submit e-Tender, registration in the National e-GP System Portal (www.eprocure.gov.bd) is required. The fees for downloading the e-Tender Document from the National e-GP System Portal have to be deposited online through any registered Bank's Branches. Further information and guidelines are available in the National e-GP System Portal and from e-GP help desk (helpdesk@eprocure.gov.bd).



(MD. YOUSUF PASHA)
Project Director
Jashore Export Processing Zone Project
Phone: +8802-41060425
Email: pdjepz@bepza.gov.bd

GD-2067