

EVA STALIN IAS ACADEMY

12/24, Muthuranga Mudali St, next to Deepam Hospital,
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Water, an instrument to build world peace

WORLD WATER DAY

World Water Day, which falls on March 22, is a global initiative backed by the United Nations, and has been observed every year since 1993. Under different themes, the attempt has been to raise awareness among stakeholders about the importance of freshwater. The theme this year is "Water for Peace". As everyone knows, there was a time when clean water was available in wells, ponds, streams, rivers and other sources, but the situation is vastly different now. There is a problem of water availability with respect to quantity or quality.

India too faces problems

This water crisis may be physical or economic based on multiple factors such as rapid urbanisation, industrialisation, unsustainable agricultural practices, climate change, erratic rainfall patterns, water overuse and inefficient water management, pollution, inadequate infrastructure, a lack of 'belongingness' among stakeholders, runoff due to high rain along with soil erosion and sedimentation. Water scarcity leads to the poor functioning of ecosystems, threatens food and water security, and, ultimately, affects peace. According to the World Resources Institute, 17 countries face 'extremely high' levels of water stress which is threatening to result in conflict, unrest and peace among people. India is not an exception to these problems. In India, water availability is already low enough to be categorised as water stressed, and is expected to reduce further to 134lm³ by 2025 and 1140m³ by 2050. Also, 72% of all water withdrawals are for use in agriculture, 16% by municipalities for households and services, and 12% by industries.

In almost every State and in the main cities of India, there is groundwater table depletion. The example of Bengaluru is one prominent example. In Punjab, Rajasthan, Delhi and Haryana, the ratio of groundwater consumption to availability is 172%, 137%, 137% and 133%, respectively, which is cause for alarm. In contrast, in Tamil Nadu, Uttar Pradesh, Gujarat, Madhya Pradesh and Maharashtra, it is 77%, 74%, 67%, 57%, and 53%, respectively. Most perennial rivers/streams now have intermittent flows or have run dry. In most areas after April-May, there is Less water availability even for drinking and other uses. Springs in India's hilly areas are almost dry. In



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The theme this year is 'Water for Peace', pointing to the need for better water security, sustainable agricultural production, and environmental integrity

India, the total number of water bodies is 5,56,601 whose irrigation potential covered 62,71,180 hectares. But, due to a lack of or inappropriate catchment treatment measures, bad design and poor maintenance of water bodies, most of the reservoirs/waterbodies/wetlands have silted up, resulting in reduced storage capacity and lower efficacy.

In most areas, tubewell density and networks have increased. Groundwater discharge is now more than groundwater recharge. The letting out of sewerage water and other sources of grey water into water bodies and rivers is causing a deterioration in water quality. There is a lack of proper surface and groundwater management. Rainfed regions in India which comprise over 48% of land area produces nearly 45% of the gross agricultural product.

So, a large amount of India's food grains is from the rainfed region. The Prime Minister, Narendra Modi, recently laid stress on having a judicious mix of 'traditional indigenous and new technologies to improve soil health and conserve water' and pitched for the efficient use of every drop of water. Hence, paying attention to these points is important.

The vital role of rainwater harvesting

Enhancing water availability with respect to quantity and quality and blue and green water is vital since water is more than just a basic human right. Water is also an instrument of peace-building and enhances the overall quality of life. Promoting sustainable agricultural production, ensuring water security and maintaining environmental integrity are increasingly becoming important issues. This can only be possible by adopting different resource conservation measures in general and rainwater harvesting (in-situ and ex-situ) and ensuring roof top rainwater harvesting in particular. Rain water harvesting (RWH) enables resilience against water scarcity and drought by augmenting recharge and aiding irrigation. The optimum use of surface water by large-scale RWH structures, conjunctive use with groundwater And safe reuse of waste water are the only viable solutions to boost and maintain the current level of food grain production.

The government's emphasis on 'per drop more crop', 'Gaon ka pani gaon mein', 'Khet ka pani khet mein', 'Har Medh per ped' under various programmes such as the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY), watershed

management, Mission Amrit Sarovar and the Jal Shakti Abhiyan programmes. There is an emphasis on water conservation and rainwater harvesting, rejuvenation of waterbodies/tanks/wetlands, recharge of borewell and other recharge structures, watershed development and intensive afforestation. But there is the need for a protocol of the revival of ponds/waterbodies (it is unavailable right now). To tackle all these problems there is a great need to study the condition of every waterbody, its water availability, water quality and the state of ecosystem services it supports. (This writer has done some of these in Mewat, Haryana, NCT of Delhi and Odisha.) There is a need also to create more waterbodies and their revival in every village by looking into the catchment-storage-command area of each waterbody.

Additional steps

There is a need also for these additional interventions to ensure 'water for peace': monitoring the groundwater table; the reclamation of the water quality of groundwater, rivers and waterbodies; the pricing of water use; having a circular water economy; ensuring efficient irrigation techniques such as integrating water resources with micro-irrigations systems and IOT based automation; having integrated water resource management; installing water meters to reduce water use for domestic purposes; no free electricity, having a convergence and linkages of line departments; fostering community awareness and peoples' participation, awareness campaigns about water conservation; ensuring groundwater use neutrality; land neutrality, growing low water requirement crops; optimal crop plan having integrated farming system models; building resilience against climate change and ensuring the needs of a growing population by adopting an integrated and inclusive approach to manage water which is a finite resource; reducing losses from water distribution systems, and ensuring safe wastewater reuse, desalination and appropriate water allocation, tubewell/borewell development and finally, enabling the integration and collaboration of research, industry and academia to implement different developed and new technologies.

With these solutions, the theme of World Water Day 2024 can be strengthened and India can become water secure. These are also steps to ensure a more peaceful world.

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Navigating the global waterscape, its challenges

WORLD WATER DAY

The global challenge for securing access to clean water persists for about two billion people and its demand keeps rising. Beyond threatening our basic individual human needs, this scarcity also poses a risk to our collective prosperity and peace.

Today, March 22, 2024, is the 31st World Water Day, with the theme, "Leveraging water for peace". Under the 'World Water Assessment Programme', UNESCO led the development of the 2024 edition of the flagship United Nations World Water Development Report, "Water for Prosperity and Peace" as a part of UN Water (an interagency coordination mechanism on water and sanitation of 35 UN entities along with 48 other international partners).

Throughout history, water has been a pivotal resource for some of the greatest civilisations such as those that arose around the Indus, the Nile, the Tigris and the Euphrates. But it is also true that in these civilisations, conflicts arose on account of this resource, like the well documented tensions between the Mesopotamian cities of Lagash and Umma. This conflict, one of the oldest known wars in human history, centered around a fertile piece of land and water resources. Notably, this historical episode also yielded what is considered the world's first peace treaty, the Treaty of Mesilim, recognised as one of humanity's oldest legal documents.

Water diplomacy in a time of extremities

Today, the world is also experiencing countless meteorological extremities: from intense heat waves to turbulent floods, magnifying concerns about the climate crisis as well as its continuing implications over water insecurity. For example, here in India, the monsoon has become erratic over the years and brings with it major uncertainties for agriculture, which lies at the heart of India's \$3 trillion economy.



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In the context of climate change-related pressures, the world also needs to foster improved cooperation over water-sharing

Within the added climate change-related pressures we face, the world needs to foster improved cooperation over water-sharing and embrace universal principles for International Water Law. By governing the use of shared waters and encouraging the use of water sustainably, we can strive for better water diplomacy – making water a force for peace.

The shared recognition that water is a vital resource, with limitations in quality and availability, necessitates collaborative governance to ensure effective and equitable water allocation among nations, fostering regional stability and peace, and an understanding of the intricate relationships between water, climate, and international stability.

Water diplomacy also requires inclusive approaches, acknowledging the indigenous and local communities' extensive cross-border networks, as well as involving civil society and academic networks, who can also play an important role in facilitating political processes to prevent, mitigate, and resolve water-related disputes.

This year's report also highlights a general shortage of water quality data globally and points more specifically to a prominent urban-rural divide, finding that "four out of five people lacking at least basic drinking water services live in rural areas".

Addressing rural India's needs

Within India, a total of 70% of the rural population relies on water to run their households, where agriculture remains the principal source of livelihood. This is even more striking as we know that agriculture also accounts for 70% of the total freshwater use, globally.

With improved water accessibility, these differences can be erased, and increased water investments in the rural areas have the potential for returning positive outcomes – in health, education and employment, not to mention basic human needs and dignity.

In the agrarian sector, the efficient use of

emerging artificial intelligence (AI) technology in the conservation of water, ranging from tackling crop and food loss, to minimising chemicals and fertilizers, and saving water, is starting to show that outputs that are both productive and sustainable can be enabled.

The issue of transboundary waters

The report reminds us that a "large proportion of the world's freshwater resources are in transboundary waters" including in India. With its expansive landmass, India boasts a network of long rivers, not only serving its own needs but also shared with its neighbours. And, yet, in the South Asian region, the extent of water pollution has worsened considerably in recent years, especially the Meghna, Brahmaputra, Ganga and Indus, warns the 2024 report.

To solve these problems, the world needs a sophisticated form of cross-border water governance, promoting effective and equitable water allocation among nations that share water resources. Out of UNESCO's 194 member-states and 12 associate members, 153 countries can be classified as water-sharing nations, and all transboundary waters account for 60% of the world's freshwater flows.

Of these 153 countries, just 24 have managed to reach a 100% cooperation agreement on their shared waters, as per a 2021 UNESCO progress report on Sustainable Development Goal indicator 6.5.2 titled "Progress on transboundary water cooperation."

Since time immemorial, we have of course made significant progress in fostering peace; however, if freshwater runs scarce, it threatens our collective well-being and peace. This is also crucial for the 2030 Agenda and achieving the SDGs. Through transboundary cooperation on the sustainable management of water, we can realise benefits across various sectors including health, food and energy security, protection from natural disasters, education, improved living standards, employment, economic development, and numerous ecosystem services.