

EDITORIAL

A CALL FOR ACTION

Tater is the essence of life, an indispensable resource that sustains humanity and the planet Vot 11. resource is depleting rapidly due to overuse, pollution, and climate change. As stewards of Earth, it is our responsibility to preserve water for the future. Saving water is not merely an environmental obligation; it is a necessity to ensure survival, sustain ecosystems, and secure resources for future generations. Water is essential for all forms of life. It nourishes agriculture, fuels industries, sustains ecosystems, and meets the daily needs of billions. However, the availability of freshwater is finite.

Despite Earth being a "blue planet," only 2.5% of its water is freshwater, and less than 1% is accessible for human use. With the global population increasing and water demand soaring, this limited resource faces immense pressure. The repercussions of water scarcity are devastating. Agriculture, which accounts for 70% of global freshwater use, is

jeopardized. This impacts food security and livelihoods, especially in agrarian economies. Additionally, lack of clean water contributes to diseases, economic instability, and even geopolitical tensions. Preserving water today is essential for addressing these challenges and ensuring a sustainable future. Overconsumption, pollution, climate change, and urbanization

are some of the significant challenges to water conservation. Excessive use of water for domestic, industrial, and agricultural purposes has led to the depletion of natural reserves. Rivers, lakes, and groundwater are polluted with industrial waste, agricultural runoff, and untreated sewage, rendering them unusable Rising temperatures and erratic weather patterns caused by climate change further disrupt water cycles, reducing the availability of freshwater. The growing demand for water in expanding cities adds additional strain on resources and infrastructure.

To address these challenges, collective efforts are needed. Promoting efficient water use in agriculture, industries, and households is critical. Farmers can employ methods like drip irrigation and rainwater harvesting to minimize wastage. Industries must implement water recycling technologies, while households should practice mindful consumption and fix leaks promptly.

Protecting water sources is equally vital. This includes preventing pollution by regulating industrial discharges, reforesting watersheds to maintain natural filtration, and reducing plastic and chemical waste to safeguard marine ecosystems. Additionally, rainwater harvesting should be encouraged at all levels to recharge groundwater and provide an alternative water source for domestic and agricultural use.

Education and community involvement play a pivotal role in water conservation. Awareness campaigns, workshops, and school programs can highlight the value of water and inspire conservation. Local communities must be empowered to manage water resources, promoting a sense of ownership and responsi-

Governments also have a crucial role to play. Policies that regulate water wastage, prevent pollution, and promote sustainable practices must be enforced. Urban planning should prioritize water-efficient designs in buildings and infrastructure. Investments in innovative technologies like desalination, greywater recycling, and smart water meters can further drive water conservation efforts.

International Water Day: March 22

'Paani Re Paani: Tera Rang Kaisa'

■ DR. PARVEEN KUMAR

Paani re paani, tera raang kaisa; Jisme mila do lage us jaisa', this melodious song from movie 'Shor' written by Inderjeet Singh Tulsi was given a beautiful voice by two legendry figures of Indian film industry, Lata Mangeshkar and Mahendra Kapoor. The song was filmed on Manoj Kumar and Jaya Bahaduri and music to the song was given by Laxmikant. In the song, Manoj Kumar says that even one drop of water is enough to feel the pleasure of heaven and compares its colour with hunger and thirst of a hungry person. He further says that the colour of water is like the desire of a person to live for hundred years. In the same tone, the actress of the movie Jaya Bahaduri compares the colour of the water with the Almighty who created this world. The lyrics of the song speak in volumes of the importance of this natural resource. Its unique quality of being softer and flexible and to attain that colour in which it is dissolved is not found in any other resource. No water, No life; No blue, No green. Water is an essential condition, a thing that is absolutely necessary for life. It is a natural resource whose value is more than its price. Water has enormous and complex value for our households, food, culture, health, education, economics and the integrity of our natural environment. Unfortunately, this finite and irreplaceable resource is being misused and mismanaged and getting depleted at a rate faster than it is replenished.

Our planet is also known as a blue planet because of the presence of vast reservoir of water in the form of oceans, lakes, seas, wells, rivers, dams, canals and streams. Despite the presence of so many water bodies and reservoirs, only 1-2 % water is suitable for human use. According to the United Nations' World Water Development Report 2024, 2.2 billion people lack access to safely managed drinking water, while 3.5 billion lack access to safely managed sanitation services. Water scarcity has today assumed alarming dimensions all over the world. Many factors are contributing for this water scarcity which includes the climate change, rising population, the water wastage, its non judicious use, socioeconomic development and many others. Rising incomes and urbanization are leading to increased water demand from industry, energy and services and the dietary changes also imply more demand for water-intensive foods (e.g. meat and dairy products). All these factors have lead to

a rising demand for this precious natural resource. The anticipated impacts of climate change, such as uncertain rainfall and water availability, further exacerbate these factors. A report of the FAO says that as a consequence to all these factors, the annual amount of available freshwater resources per person has declined by more than 20 percent in the past two decades. This is a particularly serious issue in Northern Africa and Western Asia, where per capita freshwater has declined by more than 30 percent and where the average annual volume of water per person barely reaches 1000 m3 which is conventionally considered the threshold for severe water scarcity

Considering the essence and the threats looming large over this precious natural resource, the United Nations decided to celebrate March 22 every year as 'International Water Day' (IWD). The idea for this international day goes back to 1992, the year in which the United Nations Conference on Environment and Development in Rio de Janeiro took place. That same year, the United Nations General Assembly adopted a resolution by which 22 March of each year was declared World Day for Water, to be observed starting in 1993 and since then the day has been celebrated all across the globe.

The series of UN World Water Development Report (WWDR) published by UNESCO on behalf of UN-Water and production coordinated by UNESCO World Water Assessment Programme provides policy and decision makers with factual evidence and tools to stimulate ideas and actions. This comprehensive report, funded by the Italian Government, also provides an authoritative overview of global water trends, challenges and solutions. The 2024 Report, entitled 'Water for Prosperity and Peace', underlines the interlinked complex relationships between water, prosperity and peace, describing how progress in one dimension can have positive repercussions on the others. The 2024 report also describes how developing and maintaining a secure and equitable water future underpins prosperity and peace for all and how poverty and inequality, social tensions, and conflict can amplify water insecurity.

The IWD 2025 is being celebrated with the theme 'Glacier Preservation,' highlighting the critical role glaciers play as natural freshwater reservoirs and the impacts of their rapid melting on water security and livelihoods. Glaciers are vital sources of freshwater, providing melt water for drinking water, agriculture, industry, and healthy ecosystems. Rapidly melting glaciers, due to climate change, are causing uncertainty in water flows, leading to potential water shortages, floods, and other challenges. Preserving glaciers is crucial for ensuring long-term water security and promoting global peace and prosperity. We need to implement sustainable glacier management and monitoring practices, and fostering international scientific cooperation. The 'International Water Day' celebrates water as a means to raise awareness of the global water crisis and a core focus of the observance is to support the achievement of Sustainable Development Goal (SDG) 6: water and sanitation for all by 2030.

In India, with increase in population and a change in lifestyles the demand for water has increased enormously both in rural as well as urban areas. India with 18% of world population has just 4% of world's fresh water, out of which 80% is used in agriculture. In the country, water availability per capita has declined from 5000 cubic meters (m3) per annum in 1950 to around 2000 m3 now and is projected to decline to 1500 m3 by 2025 leading to far less water availability for agriculture. The 2011 census put India into a league of water deficient nations. A country is considered to be water deficient if the per capita availability falls below 1700 cubic meters per per-

A few years back while briefing the media on water management in agri sector, Director General, Indian Council for Agriculture Research (ICAR). T Mohapatra had pointed out that the per capita annual water availability has declined to 1,508 cubic meter in 2014 from 5,177 cubic meter in 1951 and that the per capita availability of water is estimated to decline further to 1,465 cubic meter by 2025 and 1,235 cubic meter by 2050. If it declines further to around 1,000-1,100 cubic meters, then India could be declared as water-stressed country," he warned. In such a scenario, Mohapatra feared that there could be a fight between different states over water and even within states. Of the total 140 million hectare of net sown area, only 48.8 per cent is under irrigation and rest is rainfed, he added. Of the net irrigated area of 68.38 million hectare, about 60 per cent is irrigated through groundwater. According to Prof. Mohapatra, there is a need to reduce the consumption of water in the agriculture sector.

Although the rate of depletion of this precious resource has gone down in the country, but still it is not at par with the rate at which it is being replenished in the nature. Unless and until efforts are being made to conserve water, we are not going to do good for our coming generations.

India accounts for almost one-fourth of the total groundwater extracted globally, more than that of China and the US combined. Paddy is the most important and highest water-guzzling crops that India is producing. Rice is the least water-efficient grain and wheat has been the main driver in increasing irrigation stress. Replacing rice and wheat with other crops like maize, millets, sorghum mapped to suitable geographies could reduce irrigation water demand by one-third. Noting that one kg of wheat required an average 1.654 litres of water and 1 kg of rice requires an average 2,800 litres of water. So, just for rice, a family of four consumes approximately 84,600 litres of virtual water in a month. In 2014-15, India exported 37.2 lakh tonnes of basmati. To export this rice, the country used around 10 trillion litres of water, meaning India virtually exported 10 trillion litres of water.

As agriculture is the largest withdrawal of water, water use in agriculture has to be made more efficient and sustainable. The basic principle should be 'more crop, per drop'. Many water conservation practices like drip, sprinkler can be adopted more so in rainfed regions of the country where water availability is an issue. Rainwater can be harvested in farm ponds and roof tops for further use in times when water scarcity occurs. The drip and sprinkler system of irrigation avoid the conveyance losses and make the water available directly in the root zone of the plants. Flooding of fields should be avoided. Paddy requirements for water according to FAO estimates make it as one of the most water intensive crops. Techniques like System of Rice intensification that avoids flooding rice fields should be promoted for cultivation of rice. We should also have to go for healthy diets that include sustainability considerations at the food systems level that reduce the associated water consumption.

On this World Water Day, let us all help clean water reach the unreachable and focus on supporting the achievement of Sustainable Development Goal 6: water and sanitation for all

> (The author writes on agriculture and social issues)

Significance of Mental Health, Meditation and Yoga Rising Awareness of Mental Well-being

■ GOURAV SABHARWAL

ental health is an essential aspect of overall wellness, yet it often remains overlooked in modern society. Increasing work pressures, social obligations, and digital overstimulation have contributed to the rise of anxiety, depression, and stress-related conditions. Unlike physical ailments, mental health challenges can go unnoticed until they significantly affect daily life. Maintaining mental wellbeing requires a proactive approach that fosters emotional balance and psychological resilience. Recognizing the importance of mental health enables individuals to adopt healthier coping strategies, strengthen social connections, and enhance productivity in both personal and professional domains. A society that prioritizes mental well-being fosters an environment where people feel empowered to seek help and embrace holistic wellness practices.

Meditation as a Gateway to Inner Harmony

Meditation has long been practiced as a means of attaining mental clarity, emotional equilibrium, and spiritual development. Originating in ancient traditions, it is now widely recognized for its profound effects on psychological and physiological health. Scientific studies have demonstrated that consistent meditation practice can reduce stress, regulate blood pressure, and improve cognitive function. By training the mind to focus and detach from daily worries, meditation cultivates inner peace and emotional resilience.

One of the most significant benefits of meditation is its capacity to regulate emotional responses. In a world characterized by constant stimulation and emotional fluctuations, meditation provides a structured approach to self-awareness and self-regulation. Mindfulness meditation, in particular, encourages individuals to observe their thoughts without judgment, fostering oreater acceptance and emotional stability Research has shown that mindfulnessbased interventions significantly alleviate symptoms of anxiety and depression, positioning meditation as a powerful complement to traditional mental health treatments. Additionally, meditation sharpens concentration and decision-making skills, equipping individuals with the clarity needed to navigate challenges with confidence.

From a physiological perspective, meditation activates the parasympathetic nervous system, reducing the production of stress hormones such as cortisol and inducing a state of relaxation. Over time, regular meditation has been linked to improved sleep quality, enhanced immune function, and better overall brain health. Given its farreaching benefits, meditation is an invaluable tool for individuals of all ages, aiding them in achieving a greater sense of calm and direction in life.

The Transformative Power of Yoga and Its Techniques

Yoga, an ancient discipline originating from India, offers a comprehensive approach to well-being by integrating physical postures, breath control, and meditation. Beyond its physical advantages, voca is highly regarded for its positive impact on mental health. It fosters a balanced connection between body and mind, promoting both relaxation and cognitive clarity.

Yoga employs various techniques that contribute to mental and physical harmony. Some of the most effective and widely practiced methods include:

▶ Hatha Yoga: A foundational style that

emphasizes physical postures (asanas) and breathing techniques (pranayama) to cultivate strength, flexibility, and inner balance.

▶ Kundalini Yoga: A spiritual practice that combines dynamic breathing exercises, chanting, and meditation to awaken latent energy and enhance mental clarity. ▶ Ashtanga Yoga: A vigorous and structured practice focusing on synchronized

breath and movement to improve physical stamina and concentration. ▶ Yin Yoga: A slow-paced, meditative form that involves holding postures for

extended periods to enhance flexibility and mindfulness ▶ Bikram Yoga: Practiced in a heated environment, this style focuses on a sequence of 26 poses to promote detoxifi-

cation and mental endurance **Buddhist and Vedic Yoga Traditions**

Both Buddhist and Vedic traditions have contributed significantly to yoga practices, integrating meditative techniques to deepen self-awareness and spiritual growth.

▶ Buddhist Yoga Techniques: These practices emphasize mindfulness, compassion, and concentration. One of the core approaches is Samatha (calm-abiding) tion on breath or an object to cultivate mental tranquility. Another technique, Vipassana (insight) meditation, enhances self-awareness by encouraging deep observation of bodily sensations and thoughts without attachment.

meditation, which involves focused atten-

▶ Vedic Yoga Techniques: Rooted in ancient Hindu scriptures, Vedic yoga integrates mantra chanting, breath control, and ritualistic meditation to align the mind with cosmic consciousness. Pranayama (breath regulation) is a fundamental practice in Vedic traditions, believed to purify the mind and energy channels. Nada Yoga, or the yoga of sound, uses sacred vibrations to achieve inner harmony.

Integrating Mental Wellness Practice into Daily Life

The true effectiveness of meditation and yoga lies in their consistent application and seamless integration into daily life. Prioritizing mental health requires commitment to self-care and recognizing that psychological well-being is just as crucial as physical health. Incorporating meditation into morning routines, practicing voga several times a week, and setting aside moments for mindfulness throughout the day can yield transformative benefits.

Communities and workplaces also play a vital role in fostering mental well-being by creating environments that support holistic health. Schools can introduce mindfulness programs to help students manage stress, while organizations can offer yoga and meditation sessions to enhance employee productivity and job satisfaction. Additionally, healthcare professionals can incorporate these practices into treatment plans, providing a well-rounded approach to mental health care.

The increasing acceptance of meditation and yoga within mainstream health practices signals a shift toward more sustainable and natural approaches to mental wellness. By embracing these time-honored techniques, individuals can develop emotional resilience, enhance cognitive function, and cultivate profound inner peace. Mental well-being is not a luxury but a necessity, and through the disciplined practice of yoga and meditation, people can achieve a healthier, more bal-

World Water Day: Protecting precious resource our most

■ PROFESSOR (DR.) VIKAS SHARMA & KOMAL SUDAN

rorld Water Day, observed annually on March 22, is an initiative by the United Nations to highlight the importance of freshwater and advocate for sustainable water management. Established in 1993, this day serves as a reminder of the global water crisis, emphasizing the need for collective efforts in ensuring clean and accessible water for all. As climate change intensifies and populations grow, the urgency to protect and conserve water resources becomes even more critical.

Significance: Water is a fundamental human need, essential for health, agriculture, industry and the environment. Despite its necessity, millions of people worldwide lack access to clean water, leading to severe health and socio-economic challenges. According to the UN, over 2.2 billion people do not have access to safe water, while 4.2 billion lack proper sanitation. World Water Day aims to raise awareness about water-related issues including scarcity, pollution and inadequate sanitation and encourages governments, organizations and individuals to take action. Each year, World Water Day has a unique theme that focuses on a specific aspect of water conservation. These themes highlight issues such as wastewater management, groundwater preservation and the impact of climate change on water availability. The theme of World Water Day 2025 is 'Glacier Preservation'. Glaciers are critical to life their meltwater is essential for drinking water, agriculture, industry, clean energy production and healthy ecosystems. However, glaciers are melting rapidly due to climate change, thus causing uncertainty in water flows, leading to profound impacts on people and the planet.

Water Scarcity-A Global Challenge: Water scarcity is one of the most pressing global concerns. Rapid urbanization, industrialization and deforestation contribute to the depletion of freshwater sources. Climate change exacerbates the situation, causing erratic rainfall patterns, prolonged droughts and melting glaciers, all of which disrupt the natural water cycle. Several regions, including parts of Africa, the Middle East and South Asia, experience extreme water shortages. For instance, Cape Town, South Africa, faced a severe water crisis in 2018, nearly reaching "Day Zero," when water supply would have been cut off for residents. Similarly, India's water crisis affects millions, with groundwater depletion posing a significant threat to agricultural sustainability.

Role of Sustainable Water Management: Sustainable water



management is essential to ensure a reliable supply of water for future generations. This involves implementing conservation practices, improving water infrastructure and investing in innovative technologies. Kev strategies include:

▶ Water Recycling and Reuse: Recycling wastewater for industrial and agricultural use can significantly reduce freshwater

supplement water supply, especially in arid regions. ▶ Efficient Irrigation Techniques: Drip irrigation and other advanced irrigation methods can minimize water wastage in agri-

▶ Rainwater Harvesting: Capturing and storing rainwater can

culture, which is the largest consumer of freshwater. ▶ Desalination: Converting seawater into potable water is a viable solution for water-scarce coastal regions, though it requires

significant investment. ▶ Public Awareness and Education: Encouraging responsible water use through community engagement and educational programs fosters a culture of conservation.

Impact of Pollution on Water Resources: Water pollution is a major challenge that threatens aquatic ecosystems and human health. Industrial discharge, agricultural runoff and domestic waste contribute to the contamination of rivers, lakes and groundwater. The excessive use of fertilizers and pesticides leads to eutrophication, causing the depletion of oxygen levels in water bodies and harming aquatic life. Plastic pollution is another growing concern, with microplastics found in water sources worldwide These pollutants pose serious health risks to both humans and marine organisms. Addressing pollution requires strict regulations on industrial waste disposal, promotion of eco-friendly products and public participation in clean-up initiatives.

Role of Government and Organizations: The Government and International Organizations play a crucial role in addressing water-related issues. The UN's Sustainable Development Goal (SDG) aims to ensure clean water and sanitation for all by 2030. Various policies and programs have been implemented worldwide to achieve this goal including:

▶ The UN-Water Initiative: Coordinates efforts among UN agencies to manage global water resources effectively.

▶ India's Jal Jeevan Mission: Aims to provide tap water to every rural household by 2024.

\blacktriangleright Africa's Water Supply and Sanitation Programme: Work towards improving access to clean water across the continent. Collaboration between governments, non-governmental organi-

zations (NGOs) and the private sector is essential for implementing sustainable water policies and addressing disparities in water distribution.

Water facts: ▶ In 2023, glaciers lost more than 600 gigatons of water, the

largest mass loss registered in 50 years (WMO). ▶ About 70% of Earth's freshwater exists as snow or ice (WMO)

▶ Nearly 2 billion people rely on water from glaciers, snowmelt and mountain run-off for drinking, agriculture and energy production (UN Water/UNESCO).

▶ Increased glacier melting contributes significantly to global sea-level rise, with today's sea level about 20 cm higher than in

▶ Limiting global warming to 1.5 0C could save glaciers in two-

thirds of World Heritage sites (UNESCO/IUCN).

Key messages:

▶ Glaciers are melting faster than ever. As the planet gets hotter due to climate change, our frozen world is shrinking, making the water cycle more unpredictable and extreme.

▶ Glacial retreat threatens devastation. For billions of people, meltwater flows are changing, causing floods, droughts, landslides and sea level rise and damaging ecosystems.

▶ Glacier preservation is a survival strategy. We must work together to reduce greenhouse gas emissions and manage meltwater more sustainably for people and the planet.

Water Pledge:

▶ Save water: Take shorter showers and don't let the tap run when brushing teeth, doing dishes and preparing food.

▶ Eat local: Buy local, seasonal food and look for products made with less water.

▶ Be curious: Find out where water comes from and how it is shared and visit a treatment plant to see how waste is managed. ▶ Protect nature: Plant a tree or create a rain garden - use nat-

ural solutions to reduce the risk of flooding and store water. ▶ Flush safe: Fix leaking water and waste pipes, empty full sep-

tic tanks and report dumping of sludge. ▶ Build pressure: Write to elected representatives about budgets

for improving water at home and abroad. ▶ Stop polluting: Don't put food waste, oils, medicines and

chemicals down toilet or drains. \blacktriangleright Clean up: Take part in clean-ups of local rivers, lakes, wetlands or beaches

World Water Day serves as a powerful reminder that water is a precious resource that must be protected. World Water Day 2025 highlights the urgent need for glacier preservation to secure freshwater resources and combat climate change. As glaciers melt at an alarming rate, global and local efforts must focus on reducing carbon emissions, sustainable water management and conservation strategies. Governments, organizations and individuals must work together to protect these vital water sources. By taking action now, we can ensure a sustainable future where clean water remains accessible for all. Let this day be a reminder of our shared responsibility to safeguard the planet's most precious resource.

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