



## Cover Story

**Jal Bhagirathi Foundation, Rajasthan**  
- Shri Vinod Hande



# जलसंवाद



## जलसंवाद तर्फे इ पुस्तके

- (१) मी एक जलप्रेमी : डॉ. दत्ता देशकर
- (२) जाणून घ्या आपले पाणी : डॉ. दत्ता देशकर
- (३) जल-सुसंस्कृततेच्या दिशेने : श्री. गजानन देशपांडे (आगामी)
- (४) Towards Excellence in Water and Culture :  
Shri Gajanan Deshpande (आगामी)
- (५) उद्योजकता : (स्वतःचे भविष्य स्वतःचे हाती) : डॉ. दत्ता देशकर (आगामी)
- (६) जलक्षेत्रातील यशोगाथा : संपादन : डॉ. दत्ता देशकर (आगामी)
- (७) जलक्षेत्रात काम करणाऱ्या संस्थांचा परिचय : श्री. विनोद हांडे (आगामी)
- (८) पाण्या तुझा रंग कसा? : श्री. विनोद हांडे (आगामी)
- (९) स्टॉकहोम पुरस्काराचे मानकरी : श्री. गजानन देशपांडे (आगामी)
- (१०) Recipients of Stockholm Water Prize :  
Shri Gajanan Deshpande (आगामी)

# Jalsamvad



## Contents

### Mouth Piece of Bharatiya Jala Sanskriti Mandal

#### ■ February 2024

#### ■ Founder Editors

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#### ■ Editorial / 4

#### ■ Organization - Jal Bhagirathi Foundation

Shri Vinod Hande / 5

#### ■ World Water Day - 2023

Shri Gajanan Deshpande / 11

#### ■ Revitalizing India's Cities

Kopal Dixit / 13

#### ■ Stockholm Water Prize - 2021

Shri Gajanan Deshpande / 16

#### ■ India leads in climate targets and sustainable cooling, says Environment Secy at COP 28s / 17

#### ■ Reforesting India's Concrete Jungles

Devangana Lashkary / 19

#### ■ A How the hottest summer ever affected the Arctic : 5 things you need to know / 23

#### ■ Dubai Disappoints / COP 28 fails to make history - Shailendra Yashwant / 26

#### ■ PWCDF's Remarkable Journey : A year of Resilience and Hope - Part 2 / 28

#### ■ Japanese water therapy : A natural approach to get glowing skin / 32

### Sarowar Sanwardhan – Need of the day

Whatever rains we get, we should try to store that rain water either on the surface of the earth or below the surface. Easiest way to store that water is on the surface of the earth in lakes or rivers. River is a natural flow of water which cannot cater to the needs of the entire area. River water can spread over land through canals constructed on both the sides. The problem of remaining parts of the country where river water cannot reach can be solved by lakes.

Lakes are of two types. Some are natural where as some are man made. At some places, there may be some low lying areas where rain water accumulates and natural lakes are formed. Chilka lake in Orissa, Lonar lake in Maharashtra or Pushkar lake in Rajasthan can be some examples of natural lakes. The best example of manmade lake is that of Powai lake located in the heart of Mumbai city.

When any storage of water is surrounded by land, lakes are formed. Some may be small in size whereas some may be very big, as big as a sea. Victoria lake in South Africa, Aral lake located between Kazakstan and Uzbekistan are some examples of large lakes which are also recognized as sea. As far as small lakes are concerned, there are innumerable lakes in India which fall in this category.

It is not necessary that water in all the lakes is sweet potable water. Many of them contain brackish water, which is salty in taste. Chilka lake in Orissa or Sambar lake in Rajasthan are the examples of lakes with brackish water. Till very recently, Sambar Lake was a main source of salt production. Such salty water cannot be used for drinking or even for agriculture.

In India, there is a lake of historical importance. This lake is Lonar lake, located in Buldhana District of Maharashtra. Lonar lake is an astrobleme created by meteorite impact. It is one of the four known hyper velocity impact craters in Basaltic rocks anywhere on the earth. Other three are located in Brazil. Lonar lake has a diameter of 1.2 kilometers. Average depth of this lake is 137 meters, the maximum depth at some places is above 150 meters. It is said that it was created 65 million years ago.

If we look at history, there was a practice followed by Kings to create lakes to solve the problem of drinking water in their kingdom. The famous example is that of Ahilyabai Holkar who created innumerable lakes in our country. It is for this reason she was honoured by the degree Punya Shloke. Many of such lakes are doing the service of providing drinking water to the community even today.

Main problems, the lakes are facing today, is that of poor maintenance. There is an encroachment from all sides, boundaries are not demarcated and all waste water is dumped in the lakes causing very heavy pollution. Lakes which were providing drinking water to the community, now have proved to be useless. There was a practice in our country that the villagers used to devote two days in every month for cleaning the lakes, i.e. on every Pournima and Amavasya. On these two days, they did not attend their regular farming duties. All the villagers used to assemble near the lakes to clean them. But once the Britishers came to our country, they took charge of all the water resources and accepted the responsibility of supplying water to the community. That is how the villagers are cut from these water sources and the present situation has arrived.

It is high time now that we should realize our responsibility and turn to our duty of maintaining the water resources which can provide pure potable water to the community.

**Dr. Datta Deshkar**  
Editor.

## Organization - Jal Bhagirathi Foundation

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Jal Bhagirathi Foundation was established as a non-profit organization on 15th January 2002 to face the increasing water crises in Thar Desert of Rajasthan. It was also decided to solve the water crises of area by adopting participatory water management. In Oct. 2001 a public meeting was attended by stakeholders from this region for formation of Jal Bhagirathi Foundation to address the water crises. A meeting was also conducted at grass roots level for consultation for formation of JBF to face water crises, they also extended their support for formation of Foundation. On 15th January 2002 Jal Bhagirathi Foundation was formed as a public trust. Foundation was registered under section 12A of Income Tax Act 1961 and donation to the JBF is exempted under section 80G of Income Tax Act 1961. HH Maharaja Gaj Singh II is founder trustee and Chairman of Jal Bhagirathi Foundation. Among the founder trustees Rajendra Singh is one of them.

JBF is driven by a vision of water security, leading to

sustainable development. JBF exists to provide an enabling environment in which the desert communities of the Marwar region can access adequate water for humans and animals by adopting traditional knowledge and technology through process of networking and advocacy.



In the global water crises, India stands at bottom. In India Marwar region in Rajasthan state is the worst hit by severe drinking water crises. The region is known for low and erratic rainfall, less nutritious sandy soil, deep and saline ground water. People face extreme water scarcity. Already stressed water area is getting much worse with the impact of climate change affecting millions of poor people. Followings are some worldwide water crises, deepening with climate change listed by JBF.

- 1.2 billion people lack access to safe drinking water while 2.4 billion live without safe sanitation.
- Water withdrawal is predicted to increase by 50 percent by 2050 in developing countries and 18 percent in developed countries.
- By 2030, 47 percent of world population will be living in areas of high water stress.
- Poor people or slum dwellers in a city often



pay 5 to 10 times more for water than rich people living in the same city.

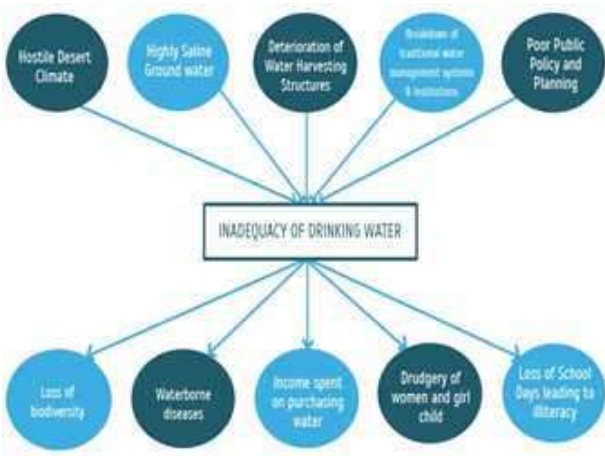
- Almost 2 billion people were affected by floods and droughts in the last decade of 20th century.
  - Feeding everyone in 2050 with additional 3 billion people could require 50 percent more water.
  - 70 to 80 percent of industrial waste and sewage in developing countries are disposed into water contaminating the precious water sources.
  - Freshwater species populations were reduced by half between 1970 and 2002.
- Similarly JBF have listed water crises in Marwar region of Rajasthan which is worst hit with severe drinking water crises.
- Annual per capita water availability in the state during 2001 was 840 m<sup>3</sup> and it is expected to be 439 m<sup>3</sup> by the year 2050 against national level of 1140 m<sup>3</sup>.
  - Rainfall in Marwar in monsoon is in the range of 100-500 mm but the average precipitation is only 200 mm.
  - On an average the region witnesses six drought years in decade. Marwar comes under most vulnerable regions in India as UNFCCC. ( United Nations Framework Convention on Climate Change)
  - The evaporation rate in region is as high as 1.8 meter/year due to high temperature which goes up to 50 °C.
  - The national habitation Survey 2003 found

that about 50% of the rural habitations of Rajasthan were not covered by government's water supply system.

- Women walk up to 4 km under scorching heat of the sun to fetch water.
- Water crises in Marwar region.



Jal Bhagirathi Foundation organizational structure is a unique blend of village-level volunteers and resource based professionals. A team of 20000 village volunteers is assisted by professional and technical members of JBF. Bhagirathi workforce mobilizing communities in planning, implementing and monitoring development in following ways, at village level it is "Jal Sabha", at block level it is "Jal Samiti" and at organizational level it is "Jal Parishad" and at all the stakeholders it is "Jal Sansad".





**Jal Sabha-** It is the main primary and decision making body for implementation of all water and land development projects. It is responsible for the construction and maintenance of water structures.

**Jal samiti-** The Jal Samiti is responsible for coordinating micro-projects, ease conflicts, helping village representatives to promote practices.

**Jal Parishad-** It is responsible for reviewing and approval of work plans and grants of village projects.

**Jal Sansad-** It provides a platform for members and volunteers to discuss the program activities and ensure stakeholder's participation in the programs. Achievements of JBF are listed as below,



- 2000+ water harvesting structures rejuvenated in approximately 500+ villages in Thar desert.
- Benefited 550000+ people and livestock enjoying year long water availability.



- 4000+ million liters of water harvested each year.
- Water availability increased from four months to 10-12 months.
- Jal Kosh is set up in each village where communities raise 30 percent of water harvesting systems.
- 500+ Villages are covered by JBF programs.
- 2100+ homes equipped with toilets.
- 100+ hectares of land cultivated.
- JBF has participated in various international forums and shown best practice of water management developed in their project area.

For the upliftment of village people of Thar region Jal Bhagarathi Foundation organizes several programs. They are listed as below,

- Community Media
- Safe Water
- Water Security
- Ecological security
- Gender Mainstreaming
- Water For School
- Wash
- Advocacy

#### **Community Media**

Problem is that there is minimal coverage of news relating to people of rural Marwar in the main news paper and news. As a result the people of this region do not have the means to voice their grievances. The concept of community media has been developed to provide a voice to section of society whose problems are rarely heard by the

outside world. JBF has set up a Community Media Unit(CMU) called “Jal Chitran” to create awareness and to provide a voice to the marginalized communities of Marwar. This unit produces short films for awareness, training films for communities for water resource management, sanitation and hygiene.

### **Impact**

“The changing Face of Mandali” 5 minutes film received best film award at Jaipur International Film Festival in 2010. “Rain for Life” 3 minute film was shown at Jaipur International Film Festival in 2010. Similarly Jal Prabandhak Ki kahani was shown at 7th film festival Jaipur in 2015

### **Safe Water**

Inability to access safe drinking water contributes to poverty, malnutrition, poor education, gender inequity, ecological degradation and conflicts. At any given time half the people in developing world suffer from a disease caused by drinking contaminated water or eating contaminated food. Marwar region is not an exception to this. Due to unavailability of potable water in the desired quantity and consumption of contaminated water adversely affecting productivity and health of people in this region. JBF has introduced community driven micro-level water projects under a public-private-community partnership model which demonstrate safe drinking water solutions through adoption of new technologies. This project not only ensured the availability of safe drinking water but improved livelihood opportunities for self-help groups (SHG) members in the village. It gives strength to communities in implementing drinking water purification technologies.

### **Impact**

- Ensured access to safe drinking water for people in desert villages.
- Provides livelihood opportunities to poor women who can earn up to Rs.4000 per month.
- Health of villagers improved due considerable reduction in water borne disease.

### **Water Security**

If the surface temperature rises to 2°C in this

century then Rajasthan will be most vulnerable state in India. With temperature reaching 50 °C in summer, average annual rainfall of only 200 mm with 40 percent chances of drought this region likely to faces acute water scarcity. Already 64 percent of the people in this JBF project area do not have access to safe drinking water. 75 percent villages have groundwater problems of high TDS, nitrate and fluoride content. Water scarcity has lead to poverty forcing people to compromise on water quality, sanitation and hygiene which impacts their health.

To overcome this issue JBF promotes construction of rainwater harvesting structures using traditional technology to meet their drinking water needs. JBF encourages village level bodies to undertake projects. A community led water management system taps runoff from the catchment area to a surface water harvesting structure (talab, nadi) of village and from water harvesting structure to community water harvesting tanks. Project is financed through Jal Kosh in which villagers contribution is 30 percent of project cost. JBF has constructed it's first Sand Dam project, the first of its kind in India with support from Excellent Development and African Sand Dam Foundation (ASDF) in three different villages. Those villages are Thumbaka Goila-Dist. Jalore, Mahinganiyoki Dhani-dist. Barmer and Jasol – dist. Barmer.

### **Impact**

- 1550 water harvesting structures constructed.
- Impact on 600000+ people and 300000+ livestock.
- 3.5+ billion liters of water harvested in 450+ villages.
- Women freed from daily water fetching.

### **Ecological security**

The Thar desert is one of the most densely populated deserts of the world. Population density is 84 to 90 people per sq.km. Human population has increased from 5.8 million in 1950 to 22.5 million in 2001. Livestock population from 13.7 million to 32 million from 1961 to 1997.





Unsustainable human and livestock population is leading to degradation of land, forest and water sources.

JBF works to restore and sustain natural resource management. They work for community mobilization, people's participation and capacity building of village level to increase the sense of ownership of community resources.

#### **Impact**

- 100 hectares of land developed through 24 land development projects.
- Raising awareness about climate resilient natural resource management.
- Capacity development of communities for the sustainable management of natural resources.

#### **Gender Mainstreaming**

This involves role of Marwar women in controlling and administering water system. They play a main role as water users because they are responsible for cooking, cleaning, health and hygiene etc.. Their role cannot be ignored. They should be included in decision making policies. JBF has taken a stand of equal participation of men and women in decision making process in the Jal Sabha. Another stand taken by JBF that one woman should hold leading position in Jal Sabha. To raise awareness about safe drinking water practices, health and hygiene various training programs are arranged by JBF. Women are also encouraged to form self-help groups.

#### **Impact**

- All-women Jal-Sabhas have been formed to ensure female participation.



- There is an average 34 percent female participation in Jal Sabha.
- JBF now works with 1650 rural women through SHG program.

#### **Water For School**

Attendance in school is linked with availability of drinking water. Water scarcity means that schools in the area are forced to close for prolonged period. In JBF working area less than 5 percent of primary schools have water and sanitation facilities. Water shortage at home also affects school attendance because children help their mother in fetching water for family. School children in the Thar Desert spend more time in fetching water than receiving education. JBF has supported schools in construction and maintenance of rooftop rainwater harvesting structures to ensure availability of drinking water to children throughout the year. Children's groups is named as Jal Dal. Jal dal group is responsible for management and maintenance of RWH structures.

#### **Impact**

- RWH structures have been built in 90 schools.
- Storage capacity of 3.4 million liters created.
- 24960 children benefited from the projects.
- Attendance in schools improved.

#### **Wash**

In Marwar region poor hygiene practice, open defecation is a major issue which affects public health. With increased population this practice has

become a major health hazard. In sanitation coverage Rajasthan is ranked 24th among the 28 Indian states. As per survey done by JBF only 3 percent of rural population in Marwar has access to toilet facilities. JBF supported families in promoting demand for sanitation, behavioral change and providing financial support for the construction of household toilets. Households have to contribute 50 per cent cost of construction.

**Impact**

- 2128+ toilets constructed.
- 4600 people have been trained in water, sanitation and hygiene practice.

**Advocacy**

The water crises is essentially a crises of governance. Weakness in governance affects the progress towards the development aimed. People participation plays a major roll in success of any policy but it needs support from NGOs and CBOs ( Community Based Organization) in formulating water policy, sharing knowledge, raising awareness, organizing meetings, and making laws on water for better governance. JBF works to strengthen the water governance through sharing knowledge, linking stakeholders, raising awareness, and building consensus on water laws and governance.

Interested motivated people can join and make careers at JBF by contributing in their project. They should have good team sprit also. JBF makes announcement time to time for vacant posts.

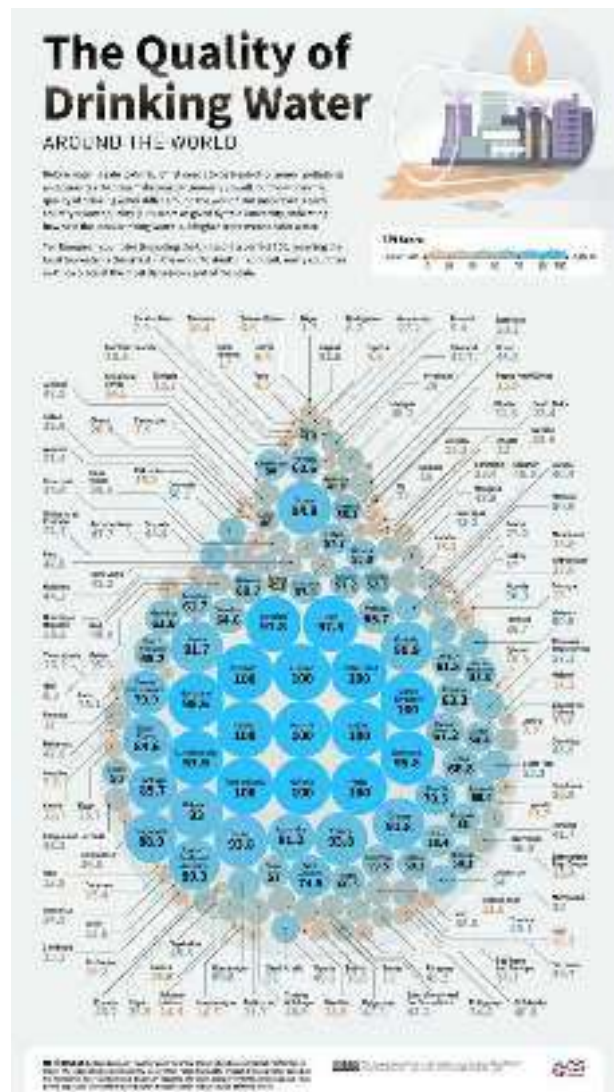
JBF has developed strong partnerships to strengthen and expand their project. From the big list of partners and donors of JBF, few are listed as below.

- HSBC
- Well for India
- Excellent –Pioneers of Sand dams.
- Italian development Corporation
- Acumen Fund
- PHED Rajasthan
- Unicef
- YES Bank

JBF is member of several networks through which it is spreading it’s good practice, participating in

international and national debates and placing water as a central issue. JBF is a member of World water Council, IUCN, CII and Safe Water Network etc..

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## World Water Day - 2023

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Accelerating Change through Partnerships and Cooperation

(A new article series has been launched from August 2021 to learn more about the importance of World Water Day and the various water awareness programs implemented every year.)

Every year on World Water Day, different aspects of freshwater are highlighted through a special theme. On the occasion of World Water Day-2023, the theme 'Accelerating Change through Partnerships and Cooperation' was adopted in order to accelerate the actions on the water and sanitation issues. While emphasizing the need for more aggressive action in this regard, an international commitment to meeting the Sustainable Water Development Goals has been expressed through these actions.

Hydrologists predict that increasing scarcity of fresh water could affect many parts of the world within a few decades. Only 2.5% of the Earth's surface water is fresh and suitable for human consumption, which is distributed over 71% of its surface. Recycling processes through Earth's natural water cycle keep this amount of fresh water nearly constant. However, competition for access to this resource is intensifying due to increasing demand for clean water due to population growth. Therefore, water scarcity and the problems arising from it have become a matter of concern, which needs to be resolved urgently.

Today, many schools, businesses, factories, health care centers, farms do not have facilities like safe water and toilets that are essential for health. Because of this, millions of people face serious

problems from health to hunger, gender inequality to jobs, education to industry in various fields. Progress so far in resolving these global problems has been very slow. Keeping in mind the need to take immediate steps to overcome these problems, the United Nations has focused on bringing about rapid change. It has been decided to achieve the target of sustainable development by 2030.

In view of precautions to be taken for health protection, availability of sufficient water for every family has become a key issue before the governments. The concept of WASH (Water, Sanitation and Hygiene) has been promoted globally by the World Health Organization. Priority efforts are being made to root them, especially, from backward and rural areas and informal settlements. Through this concept, special focus is placed on girl child education, gender equality and social integration, and the program emphasizes on teaching basic hygiene to backward communities and school children.

Sanitation as defined by 'WASH' generally refers to the provision of facilities and services for the safe disposal of human urine and faeces. It includes four technical and non-technical systems namely excreta management system, sewage management system, solid waste management system and rain water drainage system. Its progress so far has been very slow.

The main objective of this year's theme is to attract the attention of global and local communities and organizations and to inspire swift action in that regard. These efforts will provide safety to every person on earth from water stress and water related disasters, increase awareness among the general public and encourage positive

change in the public mind. In order to achieve these goals by 2030, it has been decided that each country should double its public expenditure for effective implementation.

### **What is rapid change?**

It is expected that the international community will work together to bring more investment, creativity and good governance to water development programs designed to ensure effective management of water resources, to ensure safe and sustainable water for all.

### **Play Your Role:**

As water affects everyone, everyone needs to act. Do your part by doing what you can and prove your commitment to it. You and your family, school and community can make a difference by improving the way we use and manage water.

As the human rights to water and sanitation are not being fully complied with, the governments have seriously restricted access to millions of people, countless schools, businesses, health care centers and factories. To complete all these changes within the specified time frame, the governments need to accelerate their efforts at four times the current pace. But, this situation cannot be handled by the governments alone with full competence. For that, the conscientious society should also come forward with promptness and enthusiasm.

While the campaign highlights actions that everyone can and should take, reaching the ambitious targets set out requires massive changes in our flawed social practices. Actions such as citizens and pharmaceutical companies not dumping chemicals into drains, local municipalities not releasing untreated waste into local waterways, constructing sewage treatment plants in their areas and treating sewage, etc., are necessary.

### **Water sector development requires partnership and cooperation:**

The United Nations has released the World Water Development Report in 2023. It emphasizes the importance of cross-sector partnerships and collaboration across all dimensions of sustainable development to accelerate progress towards the

Sustainable Development Goals on water, and also recognizes the human rights to water and sanitation.

Protecting water, food and energy security through sustainable water management, providing water supply and sanitation services to all, supporting human health and livelihoods efforts, helping to mitigate the effects of climate change and extreme natural events, sustaining ecosystems sustainably - such valuable Services require partnerships and collaborations from local to global levels.

Every country needs to show commitment to provide at least basic water and sanitation services to all as soon as possible. For this, it is necessary to enshrine the human rights to water and sanitation in our national laws and to establish and properly implement effective mechanisms for the equitable implementation of those rights. Otherwise, our failure to do so may prove costly for future generations.

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## Revitalizing India's Cities

### 'A call for rainwater harvesting solutions

Kopal Dixit, Senior Researcher, CERE



India, a nation celebrated for its cultural diversity and rich history, confronts a formidable challenge that imperils its sustainable future: water scarcity. Despite being home to 18 percent of the world's population, the country possesses only 4 percent of the global water resources, ranking it among the most water-stressed nations [1]. The ever-expanding urban landscape further widens the chasm between water demand and supply, necessitating a transformative solution. The repercussions of water shortages extend beyond daily life, causing disruptions in industries, energy sector outages, and substantial losses in agricultural production. This is evident in India, where a shortage of water to cool thermal power plants from 2017 to 2021 resulted in a staggering 8.2 terawatt-hours of lost energy – equivalent to powering 1.5 million Indian households for five years [2].

As climate change continues to exert its influence, the water crisis in India faces additional complexities. Changing precipitation patterns, increased temperatures, and more frequent extreme weather events contribute to the strain on existing water resources. These factors exacerbate the challenges of water scarcity, affecting both quantity and quality. Climate-induced uncertainties further underscore the urgency of adopting adaptive and resilient water management strategies to safeguard against future uncertainties.

Maharashtra, despite being one of India's economically prosperous states, grapples with significant water issues that have far-reaching implications for both urban and rural communities. The state faces a complex water crisis characterized

by depleting groundwater levels, inadequate water infrastructure, and recurrent droughts. The scarcity is particularly acute in rural areas, where reliance on agriculture is high. Unequal distribution, coupled with inefficient water management practices, exacerbates the challenges.

Amid the water crisis, the practice of harvesting rainwater (RwH) emerges as a beacon of hope. Rainwater harvesting, a proven, simple, economical, and sustainable approach, involves capturing rain that falls on rooftops, terraces, roads, and fields during the monsoon season. This harvested rainwater is then stored in tanks or channelled into the ground to recharge the water table, offering a lifeline to water-scarce urban areas.

Rainwater harvesting emerges as a critical solution that extends beyond providing a source of water. This sustainable practice offers a multifaceted approach to water-related issues. In addition to replenishing water sources, rainwater harvesting plays a pivotal role in flood control by capturing and redirecting excess rainfall, thereby mitigating the impact of floods. Moreover, it contributes to the reduction of soil erosion, preventing the loss of fertile topsoil and maintaining the health of agricultural lands. The adoption of rainwater harvesting not only addresses immediate water needs but also provides holistic benefits for the environment and communities, making it an integral component of Maharashtra's comprehensive water management strategy.

Recognizing the gravity of the situation, concerted efforts are required, and organizations like the Centre for Environmental Research and

Education (CERE) are stepping up to address the water crisis. With 28% of the country being drought-prone and groundwater declining faster than it is being recharged, the urgency to implement rainwater harvesting initiatives has never been more apparent.



**Figure | Impact of CERE's Rainwater Harvesting Project in a Snapshot**

CERE's rainwater harvesting project carries a comprehensive goal: to introduce, promote, and facilitate the installation of rainwater harvesting systems in cities across India with special emphasis on Maharashtra. In pursuit of this objective, the organization endeavours to improve living conditions and enhance the urban environment. Employing a diverse array of rainwater harvesting methods, CERE focuses on creating percolation pits, contour trenches, bunds, open wells, and deepening existing water bodies.

**Holistic Water Conservation: CERE's Approach through Rainwater Harvesting and River Rejuvenation**

**Percolation Pits and Contour Trenches**

One of the key strategies adopted by CERE involves the creation of percolation pits and contour trenches. These structures help slow down and capture rainwater, allowing it to seep into the ground, replenishing groundwater reserves. By strategically placing percolation pits and contour trenches, CERE contributes to the sustainable use of rainwater resources and ensures a more resilient water supply for urban areas.

**Bunds and Open Wells**

Additionally, CERE focuses on the construction of bunds and open wells, which act as storage reservoirs for harvested rainwater. These structures not only help in preventing soil erosion but also serve as reliable sources of water during

times of scarcity. The integrated approach of combining various rainwater harvesting methods ensures a comprehensive and effective solution to the water crisis.

**Desilting of Water Bodies**

Desilting of water bodies is an effective water management practice that supports environmental conservation, sustainable water use, and community well-being. Removing accumulated sediment restores the original depth of the water body, increasing its water storage capacity. This is particularly important for communities that rely on the water body for domestic water supply, irrigation, or other purposes. This is also an approach that CERE has used, particularly in agricultural communities.

**River Rejuvenation and Watershed Management**

As part of its commitment to comprehensive water conservation, CERE has also engaged in river rejuvenation and watershed management initiatives. Recognizing the interconnectivity of ecosystems, the organization works towards restoring the health of rivers and managing watersheds. This dual focus ensures a more balanced and sustainable approach to water resource management, addressing the broader ecological needs of the region. CERE's initiatives encompass a range of actions, including restoring check dams, tree plantation along river banks, community engagement, and sustainable agricultural practices. By implementing these measures, CERE aims to enhance the resilience of river ecosystems, mitigate soil erosion, improve water quality, and foster community participation in sustainable water management practices.

**Rainwater Harvesting Projects of CERE**

In its unwavering commitment to tackle the pressing water crisis in India, the Centre for Environmental Research and Education (CERE) has been at the forefront of pioneering impactful rainwater harvesting projects.

Contact Information

Website: [www.cere-india.org](http://www.cere-india.org)

<https://cere-india.org/rainwater-harvesting/>

[Send us an email: info@cere-india.org](mailto:info@cere-india.org)



## Stockholm Water Prize-2021

Mrs.Sandra Postel, USA

Shri. Gajanan Deshpande, Pune ( M ) : 9822754768



(An article series has been launched in August 2020 to learn more about the World Water Prize winners and their work.)

Mrs. Sandra Postel of America was awarded the Stockholm Water Prize-2021 for her groundbreaking work in the water sector, which has changed the point of view of many people towards water. She was the first to warn of the impending global water crisis and call for the conservation of water-based ecosystems. Today, her work inspires those involved in the decision-making process to find innovative solutions to stop water scarcity, climate change and biodiversity loss.

Sandra Postel is considered a leading authority on international water issues. In 1992,

she published the book 'Last Oasis: Facing Water Scarcity' on the global water crisis. Its revolutionary message sparked new discussions and debates about threats to freshwater resources. The book was published in eight languages and later turned into a television documentary. Postel has written extensively, publishing more than 100 articles and research papers for scientific and popular publications.

Mrs. Sandra Postel is recognized as a global authority on water scarcity. It is rare to find individuals with such commitment, ability, courage and tenacity in solving far-reaching and critical water problems affecting human and natural ecosystems. She is a pioneer in water communication and knowledge sharing. She





worked tirelessly to raise awareness of global water issues and draw attention to the human impact on the water cycle. Her work has been instrumental in changing public and professional awareness of the water crisis.

Many of the warnings she gave about 30 years ago are unfortunately being faced today; water scarcity is spreading, food security is increasingly threatened, freshwater fauna is disappearing, and water-related disasters are increasing in number and severity. However, as this happens there is a growing public understanding of how these issues are interconnected. Sandra Postel has played an important role in bringing about these changes in society.

One of her main ideas is to expand the "Community of care" around freshwater. This has led her to constantly explore new forms of communication. Between 2009 and 2015 Mrs. Postel served as a "Freshwater Fellow" of the National Geographic Society and attending numerous conferences, she advocates for a more water-secure world, advocating for the belief that by working with nature, not just against it, we can develop more effective climate solutions and improve water management to restore degraded ecosystems. These ideas are attracting a large number of people. In her most recent book "Replenish: The Virtuous Cycle of Water and Prosperity", she provides many inspiring examples.

Sandra Postel is an American water conservation activist and a recognized expert on international water issues. She began to adopt a multidisciplinary approach to water soon after studying geology, political science, and environmental management during her tenure at the Worldwatch Institute in Washington DC. In 1994, Sandra Postel founded the World Water Policy Project. Between 2009 and 2015, she served as a Freshwater Fellow of the National Geographic Society.

She is also a prolific writer and a sought-after speaker. Sandra Postel became a household name in 1992 after she published her book Last Oasis: Facing Water Scarcity, a forewarning of the

impending water crisis. She has since written extensively in both popular and scientific journals, including Science, Natural History, Foreign Policy, and Ecological Applications. Her most recent book Replenish: The Virtuous Cycle of Water and Prosperity suggests several new solutions for freshwater conservation and management.

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### **India leads in climate targets and sustainable cooling, says Environment Secy at COP 28**

Speaking on "India's journey towards sustainable cooling", Nandan highlighted India's progress in meeting its Nationally Determined Contributions (NDCs), including a 33% reduction in emission intensity of its GDP as of 2019, surpassing the initial 2030 target.

New Delhi: India is set to lead the way in achieving its climate targets, said Leena Nandan, Secretary of the Ministry of Environment, Forest and Climate Change at a side event of the UNFCCC COP 28 in Dubai.

Speaking on "India's journey towards sustainable cooling", Nandan highlighted India's progress in meeting its Nationally Determined Contributions (NDCs), including a 33% reduction in emission intensity of its GDP as of 2019, surpassing the initial 2030 target.

The secretary credited India's success to its significant push in renewable energy and a strategic decoupling of emissions from economic growth. She emphasized that India continues to scale up its climate ambitions, reflecting a commitment to addressing global climate change.

Nandan also pointed out India's proactive role in climate solutions, despite not being a major contributor to the problem. She stressed the balance India maintains between economy and ecology, development and environment, demonstrating this through the India Cooling



Action Plan a benchmark for many countries.

The plan focuses on enhancing efforts in research and dialogue with the industry for developing coolants suitable for Indian climatic conditions. Nandan underlined India's ambition to set the narrative for responsible and sustainable growth, inviting stakeholders to join in making India a leader in cooling technology.

The event showcased India's achievements under the Montreal Protocol and its roadmap for a sustainable cooling and thermal comfort ecosystem. Rajasree Ray, Economic Adviser, MoEFCC, underscored the importance of an integrated approach to sustainable cooling and thermal comfort in India.

A publication released at the event provides insights into India's initiatives, including synergies with international environmental commitments, addressing the growing cooling demand in various sectors due to the country's economic growth.

India has been at the forefront of implementing the Montreal Protocol, proactively phasing out substances like HCFC 141b and HCFCs

in manufacturing, exceeding the protocol's targets. Representatives from industries and implementing agencies like UNDP, UNEP and GIZ also shared their perspectives on sustainable cooling initiatives.



# Reforestation India's Concrete Jungles

Practices, challenges and future directions in Urban Afforestation

Devangana Lashkary



## Urban Afforestation Project Lead, Centre for Environmental Research & Education (CERÉ)

Devangana leads CERÉ's Urban Afforestation Project, which aims to afforest India's urban and peri-urban areas. With a background in environmental science and technology, her area of interest includes CSR project management, restoration ecology, ethology and environmental awareness.

India is home to some of the most bustling and rapidly growing cities in the world. With a booming population and expanding infrastructure, the urban landscape has become synonymous with concrete jungles, leaving little room for greenery. Today, however, the bustling pace of urban life has led to a reduction in tree cover, diminishing the once familiar canopy that served as a testament to the simpler times when we had the luxury to explore and connect with the various kinds of trees that adorned our neighbourhoods.

Planting trees in the cities or Urban afforestation not only plays a crucial role in addressing the issue of bringing back nature into the heart of our cities but also is a vital strategy to mitigate climate change. Additionally, research has shown that spending time in green spaces can reduce stress levels, improve mental health, and promote physical activity. Fortunately, cities and local governments are starting to understand how closely human well-being, urban resilience, and efforts to mitigate and adapt to climate change are related. We now have an opportunity to leverage urban forests to fight climate change.

With the simple yet challenging aim of planting native Indian trees that the Centre for Environmental Research and Education (CERÉ) started its Urban Afforestation Project (UAP) initiative in 2015 to address three needs: (i) the need for green cover in our urban concrete jungles. (ii) the need for the creation of habitats for urban fauna that is fast disappearing from our urban landscapes and (iii) also the need of companies, organisations and individuals to offset a part of their carbon footprint through the sequestration potential of trees..

The unique aspect of CERÉ's UAP is to bring together two different groups (primary stakeholders): (i) urban landowners in India who have spaces for growing plants, such as campuses of educational institutions, police and military forces, hospitals, residential colonies, new townships, etc.; and (ii) funding companies or concerned groups or individuals who want to plant but lack access to land or open spaces but have the financial means to do so. As the program's nodal agency, CERÉ also provides opportunities for livelihood to those in need by employing them as ground staff who maintain plantations.

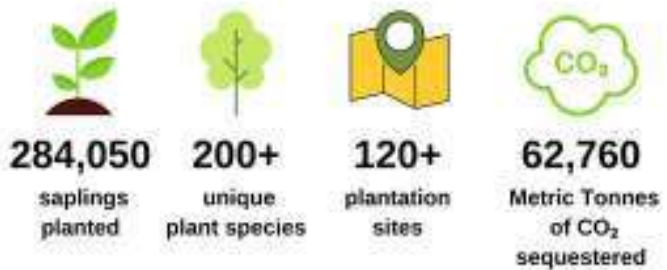


Figure 1: UAP's impact since 2015

## Why planting the right tree matters: Native species are superheroes

Its clear that planting trees benefits both the community and the climate.. But, is planting any kind of tree at any location always beneficial, though? Planting trees can cause ecological damage if not done carefully. Tree plantation enthusiasts recognise that planting native species



*Figure 2: Volunteers participating in CERÉ's afforestation drive*

not only hugely benefits the surrounding wildlife, but also benefits those of us who cultivate them. If you live where it's hot and dry, your local native trees thrive in hot, dry landscapes. If the soil happens to be rocky, certain trees grow well in that environment. The benefits of planting native trees goes far beyond the ease of care. Native trees are evolved as part of an ecosystem of flora and fauna. When you plant an exotic tree that would otherwise naturally grow in the wild in a different ecosystem, the tree must often be coddled with fertilizer, soil amendments and winter protection to survive. But regardless of the efforts you undertake, native insects and wildlife cannot get what they need from the newcomer and are not likely to adapt and be able to use the exotic tree for many generations. An excellent example of an Indian native tree that hosts numerous wildlife species is the Banyan Tree (*Ficus benghalensis*). It is known for its vast canopy and aerial roots, creating a microhabitat that supports various bird species, insects, and small mammals. Contrastingly, let's

consider a non-native or exotic tree, such as the Eucalyptus tree (*Eucalyptus sp.*), originally native to Australia, it has been introduced in various parts of the world, including India. While they are fast-growing and provide timber, their impact on local ecosystems can be detrimental. Eucalyptus trees release allelopathic chemicals that inhibit the growth of other plants around them, reducing plant diversity. This, in turn, affects the availability of food and habitat for native wildlife [1].

## Carbon offsets and certification

Carbon sequestration involves diverting CO<sub>2</sub> from emission sources and storing it in various natural and geological formations, including the ocean, terrestrial environments (such as vegetation, soils, and sediments), and geologic structures. Almost all the pathways developed by the Intergovernmental Panel on Climate Change (IPCC) rely on methods to enhance land-based carbon sinks. Among them, carbon sequestration through tree planting is considered key to reducing emissions at a meaningful scale. As trees grow, they engage in photosynthesis, absorbing atmospheric carbon dioxide and storing carbon within their biomass. The National Mission for Green India (GIM) emphasizes the substantial carbon sequestration potential of urban trees in Indian cities, estimating they can sequester up to 0.49 million metric tonnes of carbon per year [2].

Experts in biodiversity and climate change have called for stronger certification programmes and standards in response to concerns about forestry practices financed by corporate social responsibility (CSR). Ensuring that businesses have faith in the initiatives they invest in would mean having much more support for urban afforestation programs. Today, more and more environmentally responsible individuals and organizations are supporting afforestation drives across the country and to determine the impact of mass-scale afforestation efforts, third-party, independent audits are undertaken. These audits help (i) improve plantation practices, (ii) determine survival rates, and (iii) quantify the amount of carbon sequestered by the plantation. CERÉ helps

companies determine the survival rate and the carbon sequestration potential of their plantations through a species-specific carbon sequestration assessment using a science-based approach and issues clients with a carbon sequestration certificate that is in accordance with the International Standard on Assurance Engagements (ISAE 3410) . CERÉ's carbon sequestration assessments add value to afforestation programs and can benefit sponsor companies in reporting their achievements through multiple platforms including CDP, annual and sustainability reports and the company's Business Responsibility Report (BRR).

### Challenges and Solutions through CSR

Implementing urban afforestation in India comes with its fair share of challenges. One significant hurdle is the competition for space in densely populated urban areas. The pressure for infrastructure development often overshadows the importance of preserving green spaces. Additionally, issues like air pollution, soil quality, and inadequate maintenance pose threats to the

survival of planted trees. Community awareness and engagement are essential as urban residents may not fully grasp the benefits of urban afforestation. Limited resources and funding are other obstacles hindering large-scale afforestation efforts. The allocation of financial resources for sustainable urban development and the implementation of green infrastructure projects are vital for successful urban afforestation. NGOs can play a crucial role in raising awareness about the benefits of afforestation and mobilizing public support. Through UAP, CERÉ arranges opportunities for employee engagement and volunteering for funding companies. These events serve to educate people about the value of planting native plant species, sustaining these ecosystems and demonstrating how to plant saplings correctly. While it can enhance a company's positive public image, engaging the community through educational programs and public participation initiatives can also foster a sense of ownership and genuine commitment to social and environmental responsibility.



## Offsetting Carbon Emissions Should Just be a First Step

Since 2018, the global market for offsets has grown five-fold and is set to continue growing. But further steps must be taken to ensure that carbon offsets are used correctly – World Economic Forum [3]. While tree planting is a valuable tool in the fight against climate change, it is not a silver bullet. It should be complemented by broader strategies, including reducing emissions at the source and transitioning to renewable energy. Moreover, carbon offsetting initiatives should be seen as a part of a comprehensive approach rather than a substitute for direct emissions reduction efforts. The effectiveness of carbon offsetting ultimately depends on the careful consideration of these factors and the implementation of well-designed and accountable projects.

### Future forests

India's national forest policy, which strives for 33% of the nation to be covered in trees, reflects the emphasis on expanding the extent of land covered with trees. Schemes under this policy include plantations consisting of a single species such as eucalyptus or bamboo which grow quickly and can boost the amount of tree cover. Sometimes these trees are planted in grasslands and other ecosystems where tree cover is naturally low. As a result, afforestation harms indigenous and rural populations that rely on these ecosystems for food production and grazing. The success of forest restoration efforts cannot be measured by tree cover alone but by its ecological value and its contribution to enhancing biodiversity. It is important to consider how the goal of increasing tree cover would affect local livelihoods, biodiversity, forest rights, and carbon storage. Some of the best practices on restoration through communities should be studied and scaled up. It's also critical to restore ecosystems where trees are rare such as urban and peri-urban areas. Measuring success in terms of whether the environment and local population are benefiting is more useful than looking at a forest canopy from above. Reforesting India's concrete jungles is a

challenging yet imperative task for the sustainable future of urban areas. As we navigate the complexities of urbanization, a commitment to reforesting concrete jungles stands as a testament to our dedication to a greener, healthier, and more sustainable future.

To understand more about CERE's work and to support afforestation that helps the community and biodiversity, visit their website.

Contact Information

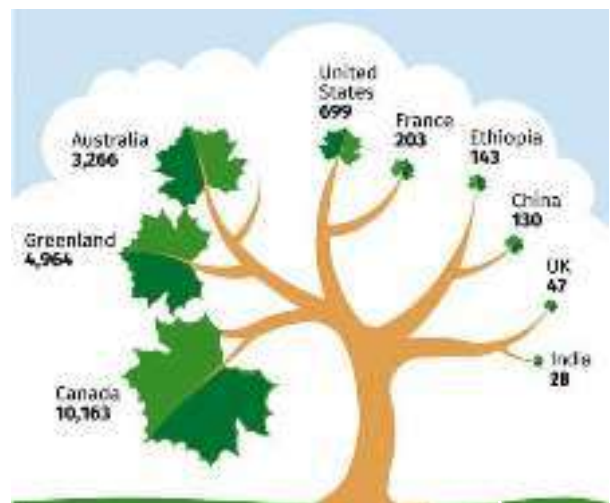
Website: [www.cere-india.org](http://www.cere-india.org)

<https://uap.cere-india.org/>

Send us an email: [info@cere-india.org](mailto:info@cere-india.org)

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## How the hottest summer ever affected the

### Arctic: 5 things you need to know

Written by Alind Chauhan

Rising temperatures in the Arctic have led to unprecedented wildfires that forced communities to evacuate, a decline in sea ice extent, devastating floods, food insecurity, and a rise in sea level. Here is a look at the situation.



Sea ice off the coast of Greenland in September 2016. (Photo: Wikimedia Commons)

The 2023 summer was the warmest on record in the Arctic, which, due to climate change, has warmed nearly four times faster than the globe since 1979. Overall, the past year was the sixth-warmest year the Arctic had experienced since reliable record-keeping began in 1900.

These were some key findings of the National Oceanic and Atmospheric Administration's (NOAA) annual Arctic Report Card, released on Wednesday (December 13). The peer-reviewed analysis was done by 82 scientists from 13 countries.

The rising temperatures in the northern polar region contributed to unprecedented wildfires that forced communities to evacuate, a decline in sea ice extent, devastating floods, food insecurity, and a rise in sea level, according to the

study.

"These changes that are happening, they're more than the graphs and the figures that we see," Susan Natali, a senior scientist at the Woodwell Climate Research Center who was not involved in the NOAA report, told The New York Times. "They're having a very severe impact on people's health and ability to travel and ability to access subsistence resources and Indigenous ways of living."

Here is a look at the most severe consequences of the soaring temperatures in the Arctic.

#### 1. THAWING OF SUBSEA PERMAFROST

Subsea permafrost is essentially frozen soil beneath the seabed that contains organic matter. While it has been gradually thawing for thousands of years, (now) warmer ocean temperatures are accelerating this process, making it a cause of concern for scientists.

"Just as with permafrost on land, when subsea permafrost thaws, the organic matter it contains decays and releases methane and carbon dioxide – greenhouse gases that contribute to global warming and worsen ocean acidification," three of the authors involved in the NOAA study wrote in an article published by The Conversation.

To make matters worse, there isn't enough research to estimate how much greenhouse gases will subsea permafrost release in the following years and what will be its effect on global warming.

#### 2. FOOD INSECURITY

Due to the impact of climate change on freshwater bodies and marine ecosystems,





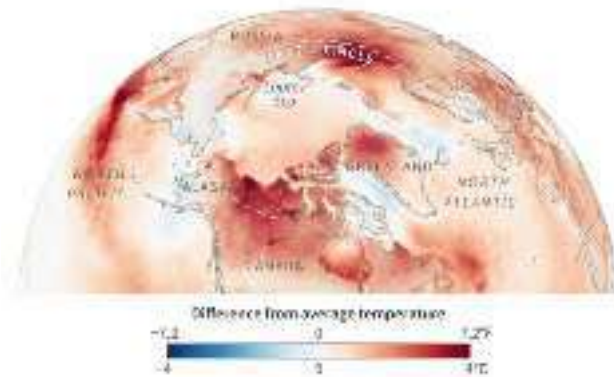
burst through its ice dam and caused unprecedented flooding and severe property damage” in Alaska’s Juneau, the study added.

### 5. GREENLAND ICE SHEET MELTING

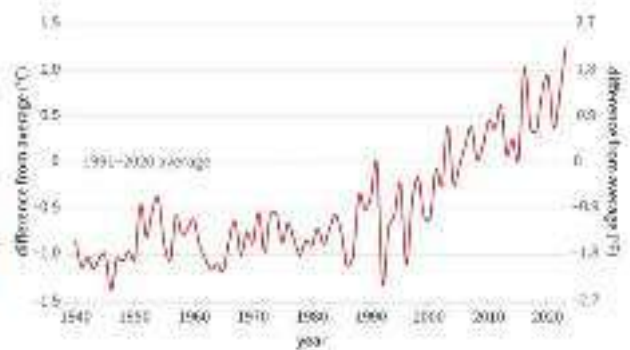
The NOAA report noted that the highest point on Greenland’s ice sheet experienced melting for only the fifth time in the 34-year record. Not only this, the ice sheet continued to lose mass

despite above-average winter snow accumulation — between August 2022 and September 2023, it lost roughly 350 trillion pounds of mass. Notably, Greenland’s ice sheet melting is the second-largest contributor to sea-level rise.

### Widespread warmth across the Arctic in summer 2023



### 2023 brought Arctic's hottest summer on record



(map) Surface temperatures in July-September 2023 compared to the 1991-2020 average. Some areas were 7.2 degrees Fahrenheit or more above average (darkest red). (graph) Summer temperatures (July-September) each year from 1940-2023, showing rapid warming in recent decades. Credit: NOAA



## Dubai Disappoints / COP 28 fails to make history

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Shailendra Yashwant

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COP 28 threw equity and justice out of the window, giving wealthy countries and countries of the Global South the same targets and timelines, without any means of implementation, additional climate finance, and resources to the latter to enable the energy transition.

United Arab Emirates Ministry of Industry and Advanced Technology and COP 28 President Sultan Ahmed Al Jaber walks at a plenary meeting, after a draft of a negotiation deal was released, at the United Nations Climate Change Conference COP 28 in Dubai, United Arab Emirates.

Don't be misled by any headlines celebrating the so called historic outcomes of COP 28. Just because an oil company CEO was the first to insert the F words into the three decade old climate negotiations does not mean it is the end of the fossil fuel era, and if there were any hopes raised on Day One of COP 28 by the announcement of operationalisation of the Loss and Damage Fund, they were quickly shattered by the meagre financial pledges that followed. The current pledges total only \$700 million or just 0.2 per cent of the \$ 400 billion needed each year to address the loss and damage.

COP 28 can be considered a success only for the 2456 fossil fuel lobbyists swarming the corridors of the Expo City in Dubai and, of course, the historical polluters led by the United States - the world's largest oil and gas producer, and wealthiest country - that has weaselled its way out of making any commitments or plans to implement a phaseout of fossil fuels even as the ramp up production of oil and gas. US negotiators in Dubai, meanwhile, were practically forcing every country to agree to such a phaseout.

Sure, this is the first UN climate agreement that calls on all countries to transition away from fossil fuels in energy systems in just, orderly, and equitable manner, however, it only singles out unabated coal for accelerated phase down and gives a free pass to transitional fuels, oil and gas, the fossil fuels of the developed and rich countries. It really is business as usual, and worse, the outcome allows for dangerous distractions such as untested and unproven carbon capture, utilisation, and storage technologies.

Furthermore, what is worrying for poor, cash-strapped, and most vulnerable countries is the lack of progress on global goal on adaptation, the final text has weak language on targets without timeframes and no indication of how adaptation finance will be scaled up. That can have been kicked down the road to the next COP in 2024.

Not everyone is celebrating the outcome, the Marshall Islands said that it came to COP 28 ready to collectively work for the good of future generations. Instead, it lamented, we have built a leaky canoe. The Holy See also registered its concern about a lack of progress in securing international justice. Several countries including Antigua and Barbuda were also disappointed in the weak language on human rights. If this is what a historical outcome looks like, then it is on the wrong side of history, noted Sanjay Vashist, an observer attending his 20th COP. A delegate from the Children and Youth constituency said agreement has written her obituary at the age of 16.

None of this is surprising, in the first week of COP28 the Guardian revealed comments from COP28 president Sultan Al Jaber saying there was no science that said a fossil fuel phase out was

needed to keep global heating below 1.5 C. Al Jaber, also CEO of the UAE's State oil company, claimed his comments were misinterpreted. Then, earlier this week, the OPEC (Organisation of Petroleum Exporting Countries ) sent a letter urging its members and allies to reject any mention of fossil fuels in the final summit deal, warning that undue and disproportionate pressure against fossil fuels may reach a tipping point. A closer reading of the final agreement text gives observed warming as about 1.1 C, while the actual current global warming level is about 1.3 C, which also explains the lack of sense of urgency.

Meanwhile, India did not follow up on its call for phase down of all fossil from COP 27, not did it explicitly endorse the call for fossil fuel phase - out at COP 28, instead, India's Environment Minister Bhupender Yadav demanded equity and justice in any deal, holding that rich countries should be leading global climate action.

Unfortunately, COP 28 threw equity and justice out of the steel and glass windows of the EXpo 2020 venue, giving wealthy countries and countries of the Global South the same targets and timelines, without any means of implementation, additional climate finance and resources to the latter to enable the energy transition.

The only takeaway from COP 28 is that it is time to bar the presence of fossil fuel lobbyists, as the COP moves from one oil producing nation to a city where one of the worlds first oil fields was developed 1200 years ago, Baku, Azerbaijan in 2024.



## PWCDF's Remarkable Journey: A Year of

### Resilience and Hope - Part 2

Bhudkheda village serves as a global example of how water can bring about peace. This serene village is an inspiration for the World Water Theme 2024 'Leveraging water for peace.'

Lachchu Singh emphasized that the arrival of water granted freedom to the people in his hamlet. They no longer live in fear or instill fear in others. They are now regarded with love and respect by everyone, and happiness pervades his family and the entire community. The people are content with their newfound abundance, which has boosted their confidence. This sense of faith has ushered in tranquility, and it is this faith that originates from water. Bhudkheda village embodies a picture of serenity and harmony.

Similarly, villages like Koripura, Ghodiyakha, Naharpura and Mathara exemplify that through the proper conservation and management of water resources, communities can improve their quality of life.

The experiences of Umri and Daudpur villages vividly demonstrate how effective water management and sustainable utilization of water resources can significantly enhance the lives of local communities. A profitable fish farming enterprise has been established, resulting in increased income for its residents. This newfound self-sufficiency has led to an overall improvement in their economic situation. Furthermore, adept management of water resources has augmented the availability of water in streams and wells, leading to enhanced agricultural productivity.

These stories teach us the importance of community organization for collective partnership and prosperity. It underscores the significance of community engagement and collaboration within

groups to overcome challenges and solve problems.

The work of the Indian team associated with the PWCDF was able to highlight the importance of rivers in climate resilience. The focus on rejuvenation of small rivers gained momentum.

Furthermore, it is encouraging to learn that other nations such as Brazil, the United States, Slovakia, are extending their support for this effort. This is a vital step toward reaching a global agreement and collaborating to develop solutions to the climate change challenge.

#### IV. Political and government engagement

In India, discussions were held with the Chief Ministers of Bihar and Jharkhand for equitable and sustainable sharing of water resources in the River Mahanadi and Damodar Valley regions might be improved. This was also necessary to minimize floods and droughts.

In Maharashtra, a government-civil society collaboration began to address drought and floods through a people's program of 'Let's know our rivers.' The government resolutions have recorded the importance of healthy rivers in drought and flood mitigation, adaptation and resilience.

Rajendra Singh shared, "If an area lacks empathy toward nature and the protection of the environment, it can have a significant impact on local environmental issues, such as floods and climate change. Therefore, society needs to be more aware of its environment, and the government should take appropriate steps to prioritize the protection and conservation of natural resources. Most people are primarily focused on expansion and economic growth, often

disregarding the importance of natural resources. It is critical to emphasize the transformation and conservation of natural resources to ensure a healthy and safe future for future generations.

Similarly, India must embrace innovative approaches to water conservation and management to effectively oversee its water resources and prevent future water crises. Water management in India is of paramount importance and can serve as a model for the rest of the world. Even in times of water scarcity, India remains committed to peace and tranquility. Our teams in India are dedicated for this cause.”

A major achievement was setting up the structure of the Commission and appointment of Commissioners, Advisory Council Members and General Assembly members, Commissioners have taken on the responsibility of their ecohydrological areas and comprise of scientists, academicians, bureaucrats, and indigenous community members.

In addition, eminent retired and serving bureaucrats, judges, academicians and indigenous community members have joined as the Global Advisory Council.

V. Publications: During this period some of the salient publications included the following:

1. Rejuvenation of Rivers: Climate resilience. Livelihood. Dignity: Living Examples –Rajendra Singh and Indira Khurana (English)
2. Rejuvenation of Rivers: Climate resilience. Livelihood. Dignity: Living Examples. An epilogue – Rajendra Singh and Indira Khurana (English)
3. Drought, flood, and climate change: Global problems, local solutions. Water conservation for mitigation, adaptation and resilience: A reaffirmation – Rajendra Singh and Indira Khurana (English)
4. Solutions for drought and flood mitigation –Rajendra Singh (Hindi)
5. The drying streams of civilizations: Rajendra Singh (Hindi)

6. Water and peace yatra of Waterman – Rajendra Singh (English)
7. Revival of Sherni and Parvati rivers – Rajendra Singh (Hindi)
8. Water: Colours of Rejuvenation: Papers published during the first General Assembly of the PWCDF, Puri, India
9. UN Water conference report: Hindi and English
10. Report of the Bundelkhand and UP chapter of PWCDF ( English)
11. Revival of Sherni and Parvati rivers: Rajendra Singh (Hindi)

In addition, the Chairman and the members of the PWCDF presented in various conferences organized by universities, technical institutes and central and state governments.

## VI. Summarising:

1. This was an extremely productive first year of the PWCDF. Efforts were made at the international level as well as in select countries to initiate programs and build the Commission structure at local level. In India as well, considerable work has been done to spread climate literacy and address the climate crisis, wherein water plays a key role.
2. The structure of the PWCDF is being formalized. This is a process and since participation is entirely voluntary, the fact that several persons are interested and want to commit themselves speaks about the respect for the Chair and the need to contribute.
3. Efforts for people-centred and nature rejuvenating drought and flood mitigation, adaptation and resilience were multi-pronged. These included:
  - (a) Participation and discussions in various international levels;
  - (b) Building a cadre of water warriors in different states of India and countries like Egypt, Brazil and

Portugal;

(c) Institutional building from Commissioner level to grassroot General Assembly level;

(d) Bridging knowledge and communication between indigenous knowledge and modern science through research, participation and presentation in various universities, colleges and other educational institutions;

(e) Interaction with academia, bureaucrats and political stakeholders;

(f) Drought and flood and climate literacy; and,

(g) Documentation and communication through print publication, online discussions and trainings, films and media interviews. A summary of the events and the number of people reached out to is given in the table below.

Table 1: Summary Report of PWCDF First-Year

S.No.	Events	Number	No of Participants
1.	International Conference on Drought & Flood	12	4000
2.	International Conference on Water & Peace	2	400
3.	National Conference on Drought & Flood	52	35000
4.	National Conference on Flood	0	900
5.	Workshop	102	50000
6.	Skill Development Program for Drought & Flood Mitigation	107	10000
7.	Public Meeting	260	200000
	<b>Total</b>	<b>544</b>	<b>300300</b>

Action Work Started: India, Portugal, South Africa, Egypt and Kenya

International reflection and review team: Barbara Paredes (Chile), Dr Indira Khurana (India), Martin Winiacki (Portugal), Maulik Sisodia (India), Pooja Bhatti (India), Dr Rana Pratap Singh (India).

#### Annex I: The PWCDF

People's World Commission on Drought and Flood: Reducing risks to life, livelihoods, and ecosystems while increasing resilience through community-led nature rejuvenation

The People's World Commission on Drought and Flood (PWCDF) was during the World Water Week in Stockholm, Sweden in 2022.

Under the Chairmanship of Stockholm Water Awardee and Magsaysay winner, Dr Rajendra Singh, the goal is to reduce risks to lives, livelihoods, and ecosystems by building community resilience to extreme weather events such as droughts and floods through community-driven nature rejuvenation.

The Secretariat of the PWCDF is at International Association for Advanced Materials (IAAM) at Ulrika, Sweden.

#### Mission

Reducing climate risks of droughts and floods and building resilient communities and economies through community-centered nature rejuvenation.

#### Goal

To bridge the gaps between policy, science, knowledge, and community action by bringing together communities, scientists, engineers, technocrats, environmentalists, ecologists, social activists, hydrologists, youth and other stakeholders to reduce impact of droughts and floods and build resilience at ground level.

#### Objectives

1. Prepare an annual report that provides a summary of the state of floods and droughts in various parts of the world by capturing perspectives through people's dialogues and community engagement, as well as discussions with technocrats, scientists, ecologists, environmentalists, agriculturists, and decision makers, among other people;
2. Explore, evaluate, and document the various community-centered decentralized human actions that led to nature rejuvenation and resulted in climate resilience;
3. Utilize the information obtained from the community to persuade the state to invest in measures to make communities more resilient to the effects of drought and flood; and,
4. Encourage students to adopt more environmentally conscious and mindful behaviors by leveraging the educational system.
5. Wherever the demand, create awareness,

and train local stakeholders for facilitating ecologically and financially sound, equitable and culturally appropriate community driven nature rejuvenation.

#### Background

The area affected, the number of occurrences, and the severity of droughts and floods have all grown significantly over the course of the last few decades. These extreme weather events have been attributed to a variety of causes, including natural phenomena, deforestation, disruptions in river flows and drainage, drying up of life-saving rivers, encroachment of riverbeds and other surface water bodies, excessive extraction of groundwater, and most recently, climate change. Natural ecosystems that protected against catastrophic weather events and provided a buffer against their effects are being destroyed. The disruption of the monsoon cycle, the increase in cloudbursts, and the accelerated melting of glaciers have all been attributed to climate change. Rain, the primary source of water that helped nourish the planet in now often the cause of drought and flood due to human interventions.

These crises are now a global phenomenon that are leading to displacement and forced migration: the poor, the disadvantaged, women, children, and youth are being forced to move away from their roots and to relocate to urban areas and other countries in order to survive. This has resulted in a rise in poverty and inequality, as well as an environment that is increasingly unstable and ripe for potential conflict. The people who are affected by natural disasters like floods and droughts are not always to blame for their plight.

Traditional knowledge that once existed all over the world and assisted communities in coping with these events has been lost, and there is a pressing need to investigate, conduct research on, and encourage the use of traditional coping mechanisms and resilience. In India, for instance, groundwater recharge brought about by rainwater harvesting has resulted in a revival of the agricultural economy and even the revival of dead rivers like the Sherni in the state of Rajasthan. This community-driven and decentralized nature

rejuvenation work, which was facilitated by Tarun Bharat Sangh, was carried out in extremely challenging environments, which reassures us that this kind of work is possible in a variety of locations across the world.

#### Structure

The Commission will develop a vibrant family that believes in engagement, people's perceptions and evidence-based knowledge and action.

The Chairman will be assisted by the Secretary General, Commissioners, Advisory Council and Assembly.

The structure of the Commission is decentralised. Besides the Chairman, it includes Commissioners from different macroecological zones that will drive the work based on their own experience and suggestions that emerge from the Advisory Council and most importantly from the General Assembly composed of persons on the ground.

#### Commissioners

Commissioners will look at different regions, agroecological climate diversity, cultural diversity, and places that have been affected by drought and flooding.

Contd.....



## Japanese water therapy: A natural approach

### to get glowing skin

If you want to have healthier and glowing skin, go for Japanese water therapy, which can also improve your overall wellness.

Your body is made up of 75 percent water, and your skin, being the largest organ, is impacted by any decrease in water levels. Your skin will become dry, flaky and lifeless if it does not get enough water. Wrinkles and age spots are more likely to appear on dry skin. You need to replace the water you lose through perspiration and sweating each day to keep your skin hydrated. So, make sure to stay hydrated to keep your skin healthy. You can even try Japanese water therapy, which involves drinking several glasses of room-temperature water the first thing every morning.

#### **What is Japanese water therapy and how does it work?**

Japanese water therapy is a wellness practice that involves drinking several glasses of water at room temperature when you wake up each morning for potential health benefits. You

need to consume four to five glasses of room-temperature water upon waking, before brushing your teeth, and waiting 45 minutes before breakfast. You also need to eat within a 15-minute window during meals and wait at least 2 hours before consuming anything else.

Japanese water therapy is centered on the belief that adhering to specific water consumption practices, particularly in the morning before eating, holds various health benefits, despite lacking robust scientific backing. It can help in morning hydration, activating bodily functions, and initiating metabolic processes. Additionally, syncing meal and water timings is thought to facilitate gut cleansing and potentially aid in the healing of certain health conditions.

#### **What are the benefits of water therapy for healthy skin?**

Incorporating water therapy could potentially enhance metabolism, assisting in weight management as consuming water on an empty stomach aids the body's natural detoxification process by eliminating toxins.

It improves digestion by clearing and preparing the stomach for the day's food intake, potentially boosting energy levels by initiating hydration and bodily functions.

Japanese water therapy might positively impact skin health, contributing to a clearer complexion, regulating bowel movements,





preventing constipation, and potentially balancing the body's pH levels.

Adequate hydration from this routine is also purported to benefit brain function, energy levels, and blood pressure, and could help prevent headaches, constipation, and kidney stones.

down four or six at once.

### **Does water therapy help in weight loss?**

Drinking water, particularly before meals, might indirectly aid weight loss by creating a sense of fullness, potentially leading to reduced calorie intake during meals, says Madhura L. Gurav, a



### **How to practice Japanese water therapy for healthy skin?**

- Drink at least four to six glasses of water as soon as you get up in the morning.
- Water should fill each glass to the top of 160–200 ml. Do this on an empty stomach.
- It should be at room temperature or lukewarm.
- Brush your teeth after you have had water.
- Do not eat anything for the next 45 minutes.
- Keep a two-hour window between each meal you consume during the day.

Additionally, refrain from eating or drinking anything during these two hours. For example, have your breakfast, lunch, dinner, and evening snacks within 15 minutes, and then for the next two hours, refrain from eating or drinking anything.

Take a little break every few minutes between each glass of water if you are unable to

specialised dietician. However, the precise techniques suggested in Japanese water therapy such as when and how much water to consume aren't universally proven as effective weight loss strategies.

Weight management involves a complex interplay of factors, encompassing diet, physical activity, genetics, and overall lifestyle. While maintaining proper hydration is crucial for overall health, solely relying on specific water consumption practices for significant weight loss is unlikely to yield substantial results. If considering Japanese water therapy or any wellness approach for weight loss, it is wise to seek advice from healthcare professionals or registered dietitians. Their personalised guidance, tailored to your health status, needs, and goals, can offer valuable insights.

### Are there any side effects of water therapy?

While Japanese water therapy is generally deemed safe, it is crucial to acknowledge the potential side effects of excessive water intake or sudden habit shifts. Overhydration, characterised by consuming too much water in a short span, can lead to hyponatremia, disrupting electrolyte balance and causing symptoms like nausea, headaches, and in severe cases, seizures.

For some, drinking too much water or overhydration on an empty stomach might induce discomfort, leading to bloating or nausea. Additionally, an imbalance in electrolytes due to excessive water consumption without proper electrolyte intake can occur. Increased urination frequency can also be an inconvenience with significant water intake.

Precautions should be taken, especially if on medication affecting fluid balance, as excessive water intake might interfere. Individuals with kidney issues or conditions impacting fluid balance should avoid this therapy altogether. Monitoring your body's response to the routine is crucial; if discomfort or adverse effects arise, adjusting or

discontinuing the practice is recommended. Recognising individual differences is vital; what works for one may not for another.

Consultation with healthcare professionals or registered dietitians before adopting Japanese water therapy, especially for those with underlying health concerns, is strongly advised. This approach ensures careful consideration of personal health status, preferences, and tolerance levels before making significant hydration or lifestyle adjustments.

Water consumption is one of the most popular remedies for practically every health problem, including skin care. There are several advantages of using water treatment. It enhances the skin's regular physiology while detoxifying, cleansing, and increasing skin density. While doing so, it promotes healthy, radiant skin.

But before beginning the therapy, you should speak with a doctor to determine how much water you need.

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## डॉ. दत्ता देशकर यांनी लिहिलेल्या विविध पुस्तिका

- (१) चला, जलसाक्षर होवू या.
- (२) संकल्पना शाश्वत शेतीची.
- (३) चला , जलपुनर्भरण करू या.
- (४) पाण्याचे गणित.
- (५) बळीराजा सावध हो, दुष्काळ भेडसावतोय.
- (६) वनशेती. (\* )
- (७) शेततळी. (\* )
- (८) पाणी वापरा, पण जरा जपून. (\* )
- (९) हिसाब, किताब, पानीका.
- (१०) चला, जलसाक्षर होवू या (चित्रमय पुस्तिका)



(\* ) ही पुस्तके महाराष्ट्र सरकारच्या प्रौढ शिक्षण संस्थेने प्रकाशित केली आहेत.

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