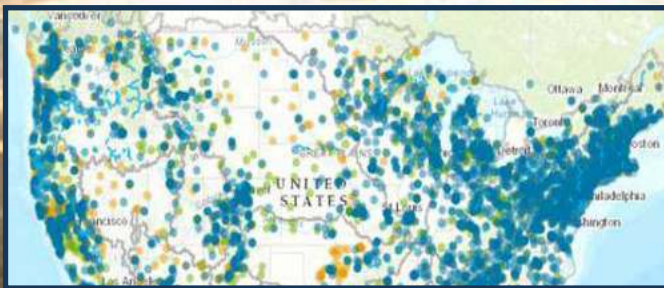




## Cover Story

### River Network - Vinod Hande



# Book Publication: Gajanan Deshpande



Dear water loving friends,

It gives me great pleasure while publishing my books - 'Jal-Susankrutatechya Dishene' 'जल-सुसंस्कृततेच्या दिशेने' in Marathi and "Towards Excellence In Water and Culture" in English during World Water Week celebrations on 23rd of August 2023 at the city of Stockholm, Sweden

We all know that the day 22nd of March is celebrated as 'World Water Day' every year and in that sense it has acquired a unique importance all over the world. It has become a new festival to be celebrated in a spirit of unity aiming towards a more water-civilized world.

Every year, a new theme is chosen for the World Water Day as a main stream for enlightenment of the global community that would shed light on the selected topic keeping in view the water-related problems faced by the world. On the occasion, public awareness programs are organized and efforts of implementation relevant to the topic are vigorously taken. This is going on for the past 31 years.

In fact, the book is a collection of my articles based on the themes of World Water Day published in 'Jalsamwad', a magazine dedicated to water, for last three years.

The main aim of that article series was to reach the seriousness and depth of these subjects to the general public and enlighten them on that topic. Dr. Datta Deshkar, editor of Jalsamwad, readily acknowledged the importance of it and asked me to take up this topic and accordingly I have been writing in it every month for the past three years. Special thanks to Dr. Datta Deshkar for this special endeavour.

Now that these articles are published in a book form, I believe that the general reader will be able to read them in a continuous way and will find that many internal threads related to water are integrated into one. Of course, I frankly admit that this interpretation is limited to the extent of my limited capabilities.

Gajanan Deshpande, Pune

# Jalsamvad



## Contents

### Mouth Piece of Bharatiya Jala Sanskriti Mandal

#### ■ October 2023

#### ■ Founder Editors

Dr. Datta Deshkar

Late. Shri. Pradeep Chitgopekar

#### ■ Present Editors

Dr. Datta Deshkar - 09325203109

#### ■ Cover Design

Ajay Deshkar

#### ■ DTP & Page Setting

Aarti Kulkarni

- Annual Subscription Rs. 100 /-
- 5 Yearly Subscription Rs.200/-
- 10 Yearly Subscription Rs.500/-

- You can pay your subscription by google pay id on dgdwater@okaxis

#### ■ Advertisement Rates :

Full Page : Rs.500/-

Half Page : Rs.300/-

Quarter Page : Rs.200/-

#### ■ Editorial / 4

#### ■ India will have to learn from its Veda or Finland to become paramount

Dr. Rajendra Singh / 5

#### ■ Organization - River Network

Shri Vinod Hande / 8

#### ■ World Water Day - 2019

Shri Gajanan Deshpande /13

#### ■ Un - 203 Water Conference

News / 15

#### ■ Are Clay Ganesha idols more harmful than PoP for our rivers ?

Anoop Jaipurkar / 18

#### ■ Palamaru Rangareddy Lift Irrigation Scheme - a game changer / 20

#### ■ What's the value of a tree ?

News / 22

#### ■ Stockholm Water Prize - 2017

Shri Gajanan Deshpande / 24

#### ■ Faster Disaster

Andrew King, Andrew Dowdy / 26

#### ■ Floodplain loss - Phlaha Roy / 29

#### ■ Biological indicators of successful watersheds

Dr. Chandrashekhar B. Pawar,

Dr Satish S. Patil, Dr. Arun Chandore,

Dr. Mrunali Gharge / 20

When I was a student 60-70 years before, one sentence from a text book on Agricultural Economics touched my heart. That was, Indian farmer takes birth in debt, lives in debt and dies in debt. Even today, there is no change in this situation. He continues to lead his life in the same fashion. One change has definitely taken place. That is, previously he used to die a natural death but now he has started committing suicide. In last several years lakhs of farmers have chosen this way to die. Is there no solution to this issue?

In most of the foreign countries, we find that necessities are produced on large scale and luxuries are produced in small scale. Farm size there is 1000 acres, 2000 acres or even more. When the size is big, advantage of economies to scale can be taken, control over supply and price also is possible, even new techniques of cultivation can also be adopted. If this activity is taken on small scale, producer loses the control over supply and also the price. As a result, agriculture cannot be a profitable proposition. Another result also is obvious. That is agriculture is dying and the cultivator also is dying. But our goal is, we want that both of them should survive.

In Economics, there is one concept by name 'optimum size'. Any unit of production can be viable only if its size is proper. A land piece of two-three acres is not a proper size for cultivation and all our efforts to make it profitable would prove to be futile. By doing so we are deceiving ourselves. One simple example will serve the purpose. Monthly expenditure of one farmer family, let us assume, is Rs.10,000. That naturally means that the farmer requires Rs. 1,20,000 to maintain his family for the entire year. Now tell me, can that small piece of land give him that much income after deducting all the farm expenses?

In our everyday life, number of changes have taken place. Our style of living has changed, our clothes have changed, our food has changed, our daily necessities have changed, our style of recreation has changed. But one thing has not changed at all. That is our way of cultivation of land. Every year lakhs of agricultural graduates come out of different educational institutes, they are taught new techniques of production. Where do they go? They go to agro-tech companies, insecticide companies, seed companies, Banks where loans are sanctioned to cultivators, but never return back to the lands where they are expected to go. And the results are apparent, organizations supplying inputs to the farmers are earning crores as profit at the cost of farmers. Operation of modern technology is successful but the patient for whom the operation is undertaken is dead.

We have miserably failed in value addition to the agri-products. Every value addition can result in better prices to the product, more employment to rural youth and prosperity to villages. There are number of countries in the world thriving on exports of agri-products. In the world, very few countries, due to climatic conditions, have the capacity to produce what they require and depend mostly on imports. This export market has remained untapped. There is a proverb in Marathi, Do not sell where you produce. Distant markets fetch better prices. We sell in those markets where the cost of production also is not recovered.

Should we appoint one Agriculture Commission to find out a solution the these problems?

**Dr. D. G. Deshkar**  
**Editor.**

## India will have to learn from its Veda or Finland

### to become paramount

Jalpurush Rajendra Singh (M) : 9414066765



Finland is the world's highest happiness living country. This is so pretty green. Its area is over 30000 islands in the sea. Helsinki, the capital of this country, was settled by the King of Sweden in 1550. More than 70% of the country's land has forest here. The lake (pond) existing around 80000. In the olden times, this country was the center of jute. Harbour used to be the center of their business. The Orthopad church here is very large and outdated. The business by walking line in the 16th century is very large and famous. Salt, fish and ice baking of this country is considered very special. Russia is very close from here. 70% of the energy in this country is recycled and used. Crackling agitated against Russia in 1944 and succeeded in liberating this country in 6 years after fighting. The president here shops like an ordinary man in the market. People here have a very deep connection with nature, so love nature very much. Their President, MPs, politicians, Prime Ministers have a lot of faith. It is because of love and trust that this country is paramount in happiness. This country is considered to be at the top of the world's joy because, the people here have deep faith in each other. They have no fear, when a country becomes fearless - fearless, peace, solution and joy begin to born in its mind. Finland is ranked top for enjoyment in the world for last 6 years. Officially the Republic of Finland is the Nordic country in the Finosco Canadian region of northern Europe. The border falls in the west in Sweden, Russia in the east, Norway in the north. Stonia is located in the south region. This is a country with a population of about 53 lakhs. Most people live in the south region of this country. Europe's eighth largest country by region.

The least population country in the EU based on census. The mother tongue here is the finish. The mother tongue of 5.5 percent of the population is Swedish. Finland was historically a part of Sweden. Russian Empire's inter dynamic grade was formed in 1809. Finland declared independence in 1917 after the civil war with Russia and Finland joined the United Nations in 1955, OECD in 1961 and the EU in 1994, Euro Zone in 1994. The weather here is very pleasant, charming. Summertime after 12.00 pm something dark, before around 10.00 pm it feels like it's already evening. While cold times are most dark in the day. In the afternoon, we can see the Sun God for some time. Helsinki is the largest city of this country. Religion here is Lutheran. Government is half presidential republic, President Savali Ministo, PM Sana Marin and Parliament President Paula Riscio. Finland got independence autonomous from the Russian Empire on 29 March 1809. Declaration of Independence on 6 December 1917. They were recognized on 4th January 1918. The total area of this country is 338424 square kilometers. This is the 64th country of Europe. The population is 55220885 in 2018. This is in population at number 115. The gross domestic product here is 238000 billion in 2017, 43482, human development index 24 and their currency is euro. The EU has 27 countries. The main reason for happiness here is that, he has gained his freedom by fighting again and again. First handsetic lee fought with the king of Sweden and won. Then fought with Russia. So many good things and events have happened when we look at the history here. It lives fearlessly, joyfully because of loving nature and having complete faith in our monarchy. There are

three national forest animal sanctuaries in this country. Summer starts here June 24th and it starts getting cold in November. People here make gold pots for bathing in their homes and when needed they heat it naked and then bathe in cold water. Gold pot means very hot water which cleanses their physical, mental intellectual. Go to hot water and then take a cold bath. This is a special reason for their good health. The water here is considered to be the cleanest in the world. This country is very known in the world for its water, forests and clean air. The food here is very good. Before the forests of here, there was a lot of paper pulp, it is considered very special in the world. People of all religions here but the Orthodox, the cemetery is all nearby. Looking at them it seems that they all believe in religion. Everyone respects religion. Shivolio in Parliament here was the first female MP in 1960 and 600 years ago this country had Shibolio culture, it had a lot of love and respect for nature. This country loves nature as much as it loves nature. This is a country with sports culture. Despite being a small population country, Olympic games were held in 1952 in this country. The most famous player here is PowerNornie three times winning the

Olympics. He won in 1920, 1924 and 1928 with India's Dhyanchand ji in 1928. In 1936 and 1932 our Dhyanchand won alone in Finland 200 MPs, President, Prime Minister and Parliament President all much love respect, trust giving country. That's why everyone lives in peace. Pittsburgh from Helsinki in 3.30 hours and Santa pole train arrives in 8 hours. The train here runs very fast. Here carbon free and pure ground water reserves are available all over the country. This country has kept its landwater reserves clean. Very small rivers here because there are lots of islands. These islands mix with small rivers into the ocean on rainy days. The structures of underground and groundwater here are mostly the textures of the earth. There are some mountains with deep streams. We lived in this country with a lot of scientists from around the world for three days. A profound combination of material science scientists and environmentalists took place in the capital of Finland. Love, faith, sports culture, religion, equality, simplicity is a lot in this country. The president here can go anywhere absolutely comfortable without any security. I am very happy to see this. We want our India to be the best on the path of this happiness. India was also



the best in enjoyment at some time. Indian Guru was the one who showed the way to the world in the prosperity of knowledge and economic and environmental environment. Today Guru is not there. Because we have started running very fast on the path of modern education, leaving our Indian basic education, nature and tradition. We should learn from the people of Finland. We know that, our population is more, water, forest, earth, nature is less but if we start living peacefully fearlessly, that will make us the best. Finland's free higher education is now on its way to education. Want to learn by doing everything from your experience. Want to live by your experience. This is free education to live. I visited their university and talked with their teachers. He thinks, there is a fundamental difference between their education and our education. What we call Vidya in our Vedas, is our old knowledge in their education. We have separated our Vedas from our education. If we restore our faith and faith in nature today, then faith, devotion will come into it. Then we will once again walk towards the best pleasure of the world. The greedy growth and profit we are heading towards today is turning us from our education and leading us on another destructive path. If India is to be saved from going on a destructive path, Finland can be a good learning place. We believe that, Finland is on the way to India of old Vedic times. India was a teacher who taught the world in its Vedic times. This thing is now authentically proven. India was a Guru till then he trusted five Mahabhutas as his creator. Only our love and trust towards them can lead us to number one index of happiness. Our life was in accordance with nature in Vedic times. Due to energy of nature, Raj system, Dharma, Vidya and health system went on smoothly. In Vedic times nature adaptation gave everything to India, so natural adaptation and life in our lives Problems were natural elimination. Ayurveda used to keep us healthy with all natural medicines. Healthy knowledge Ayurveda and our prosperity - our agriculture and industrial nature - preserving our health with holistic wealth - had kept us as the master of the world. We feel that today Finland is on

the same path. If this small low populated country is on the paramount path to happiness in the world, then even the world's largest populated India can cross the paramount of joy, just need to love nature and conservation by believing in the five greats Planting the seeds of equality in humanity and nature by adding love and faith in your life.

#TarunBharatSangh #watermanofindia #finland

\*\*\*\*\*



**Note :** While designing the issue of Jalsamvad - English we find very interesting news, information and articles specially on water and its management. That tempts us to include the same in our issues. Getting formal permission for this inclusion is that way difficult. Therefore our effort is to print them as it is in our magazine. We may kindly be excused for such inclusions. We express a deep sense of gratitude to the original writers.

Thanks.

## Organization - River Network

Shri Vinod Hande

(M) 9423677795

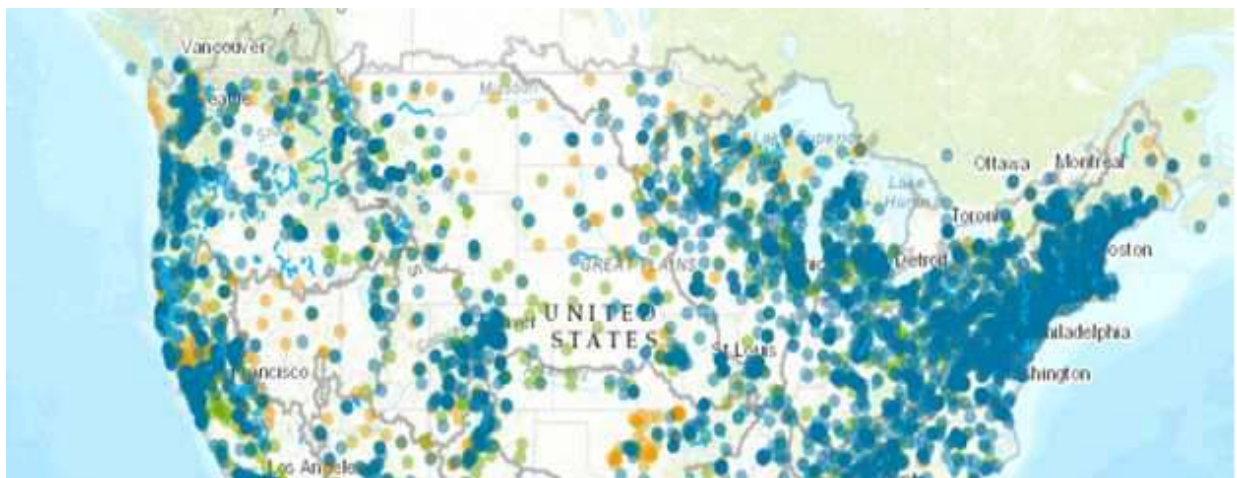


River Network predicts a future of clean and ample water for people and nature where local caretakers are well equipped, effective and courageous champion for our rivers. Since 1988 River Network has been at the forefront of expanding national interest in protecting the water of our country, encouraging diversity in the environmental movement and helping community members and local organizations for protecting their water. That time there were about 200 states with local watershed protection groups around US. But there were thousands of watersheds where there was no group at all.

River Network strengthens organizations and leaders to improve and protect their waterways, create climate resilient communities and ensure equitable access to safe and affordable drinking water. River Network believes ....Joy and hope for our planet flows through our rivers. All living beings share a common home and a fundamental right to clean water.

People, place and nature are interconnected and must adapt to survive in a rapidly changing world. Equitable and durable solutions start with community

River Network's strength lies, connecting river and water champions around the country with each other, empowering them and expanding their power. They are the only national organization with a aim related to clean water, ample water and strong champions. Organization offers one-on-one advisor, consultant, training conferences to strengthen the efforts of river and water champions. Scientists, water management, policy experts and lawyers are helping River Network in achieving their goal. River champions are facing complex challenges in US because half of the water sources are of poor quality and are not supporting healthy aquatic life. Our water sheds are stressed because our demand for water is exceeding than our natural supply. We must protect and restore our waterways and support heroes to guarantee a future of affordable clean water and healthy rivers





for all. River Network is spreading this awareness work through their website, River rally (this is annual conference) River voice (their quarterly e-magazine). They constantly work for strengthening their community.

The mission and Vision of River Network is of empowering, uniting people and communities to protect and restore rivers and other water bodies that sustain all life. They believe that everyone should have access to affordable, clean water and healthy rivers. River Network is having office head quarter in Boulder at Colorado with Jumana Vasi as the chair person. They are having field offices at fifteen places with talented and dedicated staff. Policy of River Network is as follows,

- Connect
- Strengthen and
- Transform

**Connect :** Their work bring together the nationwide network of water activists, leaders and protectors to share solutions, equity and build trust.

**Strengthen :** Groups and individuals across the network impress them daily with their power and passion. In turn organization strengthen their work through financial support, skill development and community events to bring a future of clean water for all every day.

**Transform :** River Network transforms the scope and scale of network through fresh solutions that drive organizational change, relationship change, data transformation, for holistic movement that goes above water.

#### **Achievement of River Network up to 2022**

- 8644 groups of water protectors across all 50 states.
- 3005 people trained and educated through 89 events.
- \$316864 spent to support 157 local groups.
- 6817 discussions among 915 users in their online groups.
- 109381 people connected through their website, newsletter and social media.
- 144 groups engaged to support policy
- 1087 hours provided in direct consulting with local groups.

- 50+ groups and individual agreed to engage in clean water act.

#### **Core values of River Network**

**Strength :** River Network unites and empowers big range of people, organizations, businesses and government to reach their goals of clean water and healthy rivers.

**Respect :** Organization listens and respects the contribution of all people working with them and also communicate with them respectfully, openly and directly.

**Integrity :** They commit to high moral and integrity in their work and hold themselves accountable to the public. This gives them pride.

**Balance :** They value human and ecological needs in connection to healthy rivers and clean water.

**Growth :** They are curious to grow their knowledge. With that knowledge they revise their approach.

**Inclusion :** Organization encourages inclusion of all people with an expectation of mutual understanding.

All people have a right to clean and ample water to sustain life. To achieve this right for all communities, it is important for river and watershed community to build a more varied, equitable and broad movement. River Network is working as catalyst in this transformation. River Network is committed to build history in working with others by taking up diversity, equity and inclusion in all areas to achieve their mission. Through their program they stay connected with all communities to increase the impact of their efforts to secure clean and ample water. They also interact with their partners working on above issue to seek guidance and develop collaboration. By expanding their reach, River Network intention is to go beyond traditional culture and social boundaries to become effective in river and watershed movement. They invite all communities to join them in this journey of transformation.

River Rally this is annual national conference held every year to develop awareness about river and clean water. It focus on providing practical education, inspiring courage and celebrating achievements, River Rally brings

together hundreds of people from across the United States and the world who care for their river and water issue. River rally gives its participants an opportunity to meet with other organization and environmental groups to highlight challenges and to bring our solutions for sustainable use of water. It is basically an education, inspiration and celebration program.



### River Rally 2017

River rally 2017 was held between 8-11 May at Grand Rapids, Michigan. 441 participants attended this rally from 44 states. Among them scholarship was granted to 199 participants. 60+ learning opportunities were there. Of 441, 96% gained knowledge, 95% made new connections. Topics covered during the period were 1) Affordability, Equity, and Drinking Water, 2) Rethinking Our Relationship to Urban Rivers, and 3) Lessons from standing Rock and Beyond.

### River Rally 2018

This was held during April 29th – 2nd May 2018, at Olympic Valley, California. This time 474 participants attended from 43 states. Scholarship granted to 141 participants. Learning opportunities were 80+. 100 % contents featured from EDI( Equity, Diversity, and Inclusive). Of 474 participant 98% gained knowledge and 98% gained confidence.

Similarly River rally 2019, 2020, 2021, 2022, 2023 were organized on different issues related to water. They have started registration for water rally 2024 to be held from May 13-16 at Grand Rapids, Michigan. There are so many companies and organizations who sponsor these rallies . They are Bridgestone, Coca Cola, Urban Water, Water

Foundation ,The North Foundation etc..



### River Network's approach

River Network connects local water organizations and empowers organizations and individuals with the tools, training and resources needed for success. To achieve their motto they focus on following points,

**Build Strong Champions :** To build strong champions they support four essential knowledge area, 1) Community watershed science, 2) Policy and civic engagement, 3) equity and 4) Organizational and coalition strength and impact. This is done through in-person training, distance learning, online discussions etc.

**Strengthen the Network :** River Network strengthens bonds between groups and leaders that helps the network to take collective action. They provide virtual and in-person meetings, toolkits and resources, provides fund to support projects.

**Grow the Network :** River Network expands the network by including organizations, businesses and individuals committed to healthy rivers and clean water.

**Voice of Network :** River Network pave way to the bravery and impactful stories from their network to reach wider audience through social media, news letter and other publications.

### River Network's priorities

US is facing a water crises that includes security, affordability, quality and access. Over one third of Americans are at a risk losing affordability. Moreover flood risk and drought makes the situation more intense. River Network responds to

these crises through following four issues,

- Clean, safe, Affordable Drinking water.
- Resilient Cities and Communities.
- Healthy Rivers in Agriculture land area.
- Robust and Effective water laws and policies.

From last 35 years, River Network has worked with determination to become the foremost organization working in US to protect the water issues across the country. They are connected with 6000+ local NGOs, agencies, tribal groups to share their plans and action.

### **River Network's Drinking water Guide**

Among the programs of River Network towards the program of clean river and affordable water, drinking water Guide plays a important role. This is the first step in building national network for safe, clean, affordable and sustainable drinking water and drinking water system. This drinking water guide provides in-depth information, resources and case studies and provides answer to the following fundamental questions.

- Where does drinking water come from?
- How can we protect our drinking water?
- What does a drinking water system do?
- How do we ensure water is safe for drinking?
- How is drinking water calculated?
- How will climate change affect our water? What can we do about it?
- How can we support community and their engagement on drinking water issue?

River Network hopes that their guide will serve as a key source for groups and individuals to understand better.

### **Why River Network created the drinking water Guide?**

River Network believes that everyone should have access to drinking water at a cost does not affect other needs such as food, health care, housing, transport and education. Many households face affordability challenges. 15 million people in the US experienced a water shutoff. Cities with higher rate of poverty and unemployment had the highest number of homes with water shutoff. Water utilities struggle for maintenance fund and replacement of old pipeline. In California's Central

valley, many families face water access and affordability issue because of dry wells rising water cost.

**Project Rain Barrel** is another step of River Network towards providing clean and affordable water. Project rain barrel helps communities and households across US and Canada to reduce their footprints by providing free materials, support and helps for hosting educational rain barrel-making workshop. For rain barrel project, river Network has partnership with Coca- cola foundation, Coca-Cola bottlers and their members since 2011 to connect 150 communities with more than 10000



rain barrels.

Why rain barrel? Earlier it is mentioned that Rain barrel is for reducing water footprint. The average American family directly consumes nearly 110000 gallons of water each year and if we include water use for producing food, energy ect. that jumps to 1.9 million gallon annually. However a single 55 gallon rain barrel can save up to 1300 gallons of water annually. Rain barrels collect free rainwater and can be used for watering garden, trees and lawns. This save money on water bills and same way reduce energy bill for water treatment plants, limits storm water runoff, erosion and saves water to be use during drought. By installing a rain barrel one can reduce their water footprint and same way it helps recharge our rivers, lakes and aquifers.

Now who can host Rain barrel workshop. River Network's member organizations, community groups engaged in water education, management or conservation are eligible to hold workshop and also eligible to receive free materials. Workshop is hosted by local organization and are held in March, April and May.



**The ‘clean water’ Owner’s manual**

This ‘clean water act’ became law some 50 years back. It was written in 1972 and also available in Indian language. To protect waterways across US, River Network has updated Clean water Act Owner’s Manual. The updated manual provides main tools for interpreting and applying the Act, and highlights challenges and strategies for action to be taken. The president of River Networks says that their owner’s Manual is guidance to personal involvement in the most important decisions about our river, streams, wetland and lakes.



River Network offers careers and professional opportunities. Here variety of opportunities are available to improve rivers and water. One can get staff member’s job, contract job, internships and as a volunteer. They need who is

dynamic, highly organized, positive and motivated to bring power to their work. They should also have leadership development and communication skill, beside ability to manage multiple projects.

In view of River Network future of healthier rivers and clean water depends on us. Their business partners, sponsors, support community based solutions for cleaner and healthier rivers. Since 2000, they have removed nearly a million pounds waste from rivers, planted trees in river area, built garden. They have also distributed thousands of rain barrels and provided practical water education through workshop.

Ball, Anheuser-Busch, Coca-Cola, Patagonia, Bridgestone, Pradco are few from the business partners list who supports and helps River Network in achieving their mission.

River Network makes appeal to the donors to support river and water champions. Donation is tax free. You can be a recurring donors of monthly \$50, \$100, \$500, \$1000 or any amount preferred by individuals.

Below given the address and other contact details of River Network for getting further information.

**Address**

River Network  
 P.O. Box 21387  
 Boulder, Colorado 80308  
 Phone- 3037362724  
 Email: [info@rivernetwork.org](mailto:info@rivernetwork.org)  
[www.rivernetwork.org](http://www.rivernetwork.org)

\*\*\*\*\*



## World Water Day - 2019

Leaving No One Behind

Shri. Gajanan Deshpande, Pune -(M) : 9822754768



Leaving No One Behind  
(Water as a Human Right and Refugees)

(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.)

The Sustainable Development Goals set for water are clear: water for all by 2030. This means no one should be left behind to fetch water. Today, billions of people still live without safe water. Under these conditions, they work in their homes, schools, workplaces, farms, and factories and are constantly struggling to survive and prosper. This includes women, children, refugees, indigenous people, the disabled, and many others. They are generally ignored, and they also have to face discrimination. As a result, they struggle to get the necessary safe water and manage that water. Many conflicts are ignited due to this. To tackle this serious water crisis, special efforts have been made on the occasion of World Water Day 2019, and the theme of the human right to water has been taken up so that everyone can get their unalienable right.

### **The current situation :**

- Today, 21 crore people are living without safe water.
- Globally, 80% of people who use unsafe water sources live in rural areas.
- The responsibility of collecting water in eight out of ten households where no water is available rests with women and girls.
- One in four primary schools does not have access to drinking water. Many students use unsafe sources or are thirsty.
- About 15 million people collect their drinking

water from surface water sources such as lakes and streams.

- Nearly 70 million people are forced to leave their homes because they do not have water. There are problems with providing safe water services to them.
- About 4 billion people face acute water scarcity for at least one month of the year.
- More than 700 children under the age of five die every day from diarrhea caused by drinking unsafe water and inadequate sanitation.
- Over 800 women die every day due to complications during pregnancy and childbirth.
- By 2030, severe water scarcity is expected to displace 70 million people worldwide.

Why do people lag behind?

- People are left behind without safe water for various reasons. There are following 'grounds of discrimination', due to which they have to face special disadvantages in accessing water.
- Sex, Race, Religion, Birth, Caste, Language and Nationality.
- Disability, age and health status.
- Property, residence, economic and social conditions.
- Other factors such as environmental degradation, climate change, population growth, conflicts, forced displacement and migration may also affect marginalized groups through water-related impacts.

### **Water is a human right :**

It is against this backdrop that the United Nations declared in 2010 that the "Right to safe and clean drinking water and sanitation" is a fundamental human right essential for the full enjoyment of life and all human rights. The human

right to water represents a commitment to ensure that everyone has access to adequate, safe, acceptable, physically accessible, and affordable water for personal and domestic use without discrimination. This includes drinking, personal and household hygiene, laundry, food preparation, etc. Considering this essential need for water, various international laws have been passed.

Whoever you are, wherever you are, water is your human right. Access to water underpins public health and is therefore critical to sustainable development and a stable and prosperous world. We cannot move forward as a global society when so many people live without safe water.

In India too, the Supreme Court of India has protected the right to water as a fundamental human right as part of the right to life under Article 21 of the Indian Constitution. The human right to water is indispensable for living a life with dignity. It is a prerequisite for the realization of other human rights.

Water to be supplied as a human right should have the following properties.

#### **Sufficient Availability :**

The human right to water requires that every person have an adequate and continuous supply of water for personal and domestic use. These uses commonly include drinking, personal hygiene, laundry, food preparation, and personal and household hygiene. According to the World Health Organization, 50 to 100 liters of water per person per day is the minimum required to meet most basic needs and not cause health problems.

#### **Safe Water :**

Safe water is water that is available in our locality as needed and is free from contamination. The water required by everyone for personal or domestic use must be safe and clean, free from microorganisms, chemical substances, and radiological hazards, so as not to pose a health risk.

#### **Acceptability :**

Water made available to everyone for personal or domestic use should be acceptable in terms of colour, smell, and taste.

#### **Physically easier :**

Everyone has the right to access water and sanitation services, which must be physically accessible or close to their home, educational institution, workplace, or health facility. According to the World Health Organization, the source of water must be within 1,000 meters of the house, and the collection time should not exceed 30 minutes.

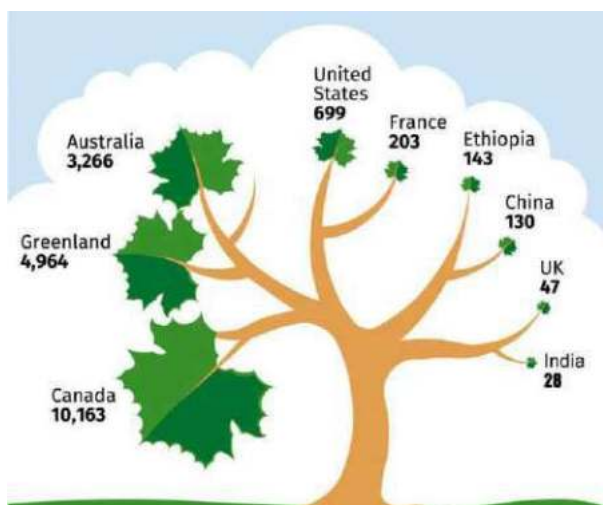
#### **Financially affordable:**

Water and water facilities and services should be affordable to all, and their cost should not exceed 3 percent of household income.

So that no one is left behind, our efforts should be focused on the marginalized or neglected. The needs of marginalized groups should be addressed through social services related to water. Also, their voice should be heard and included in the decision-making process. Regulatory bodies and legislation should recognize the right of all people to water and ensure that adequate funding is available to those who need it most.

The day called on States and international organizations to provide safe, clean, and affordable drinking water and sanitation facilities and financial resources for all, particularly in developing countries, to support capacity-building and technology transfer.

\*\*\*\*\*



## UN - 2023 Water Conference

---

### News

---

---



**UN**  
**2023 WATER**  
**CONFERENCE**

**NEW YORK**  
**22-24**  
**MARCH**  
**2023**

#### Introduction :

The United Nations 2023 Water Conference was held from March 22 to March 24 at the United Nations Headquarters in New York. This significant event, marking the first UN Water Conference in a generation, was co-hosted by the governments of the Kingdom of the Netherlands and the Republic of Tajikistan. It served as a pivotal moment to rally Member States, the UN system, and various stakeholders towards taking action and implementing successful solutions for SDG 6 on a global scale.

The official website of the Conference provides access to various resources. This includes statements made during the Plenary Sessions, summaries of the Interactive Dialogues, Special Events and Side Events, as well as a Stakeholder Engagement and Impact Report of the UN 2023 Water Conference. Furthermore, recordings and UN Webcast links for numerous events can be found online.

#### For more information:

- Press Release | Historic UN Conference marks watershed moment to tackle global water crisis and ensure water-secure future
- Plenary statements
- Interactive Dialogue summaries
- Special Events summaries
- Side Events summaries
- Exhibitions summaries
- Stakeholder Engagement and Impact Report of the UN 2023 Water Conference
- PGA77 Summary for the UN 2023 Water Conference
- Watch the Conference on UN Web TV

#### Water Action Agenda

To catalyse action, a key outcome of the UN 2023 Water Conference was the Water Action Agenda, which has captured over 800 commitments as of July 2023. The Water Action Agenda is a collection of water-related voluntary commitments that will accelerate progress in the second half of the Water Action Decade 2018-2028, towards achieving SDG 6

by 2030. The Water Action Agenda signifies the resolute determination of the global community to address water challenges through a more coordinated and results-driven approach.

Building upon ongoing efforts and harnessing the political momentum generated by the UN 2023 Water Conference, the Water Action Agenda remains open and will mobilize action across nations, sectors, and stakeholders to achieve the global goals and targets related to water and sanitation. Member States, the UN system, and all stakeholders are encouraged to continue to contribute to the Water Action Agenda by adding their voluntary commitments to the database.

**Blueprint for Acceleration:** Sustainable Development Goal 6 Synthesis Report on Water and Sanitation 2023

**'Blueprint for Acceleration:** Sustainable Development Goal 6 Synthesis Report on Water and Sanitation 2023' aims to provide a strategic response to the outcomes of the UN 2023 Water Conference by providing a "blueprint" to accelerate progress on water and sanitation, including the implementation of Water Action Agenda commitments. As a blueprint, the report will be a concise guide to delivering concrete results – offering actionable policy recommendations directed towards senior decision-makers in Member States, other stakeholders, and the United Nations System to get the world on track to achieve SDG 6 by 2030.

The report, written by the UN-Water family of Members and Partners, provides a forward-looking collective vision for sustainable and resilient water and sanitation management in the second part of the 2030 Agenda. The publication will be made available here in July 2023.

SDG 6 at the High-level Political Forum in July  
The High-level Political Forum (HLPF), held under the auspices of the United Nations Economic and Social Council (ECOSOC), is taking place at the UN

headquarters in New York from 10-19 July, 2023. The programme will include thematic reviews of certain Sustainable Development Goals, including SDG 6 on water and sanitation. The HLPF will support the mid-term review of the SDGs and the preparations of the 2023 SDG Summit in September 2023.

**During the HLPF there will be multiple SDG 6-focused events:**

SDGs in focus: SDG 6 and interlinkages with other SDGs – Clean water and sanitation, Tuesday, 11 July 2023, 10:00-13:00, UN HQ, Conference Room 4

This meeting will ask what integrated policies and partnerships can accelerate the achievement of the targets on clean water and sanitation? How can the interlinkages with other Goals be fully realized to ensure more impactful policies? How can the SDG Summit advance the follow-up to the UN 2023 Water Conference? More information is available [here](#).

SDG 6 & Water Action Agenda Special Event, Monday, 17 July 2023, 10:00-18:00, UN HQ, Conference Room 5

This Special Event will allow for an in-depth discussion on the findings of the SDG 6 Synthesis Report 2023, provide an analysis of water-related progress, across sectors and global frameworks, showcase the success stories and lessons learned, and generate new commitments to the Water Action Agenda. The Special Event will start with a youth takeover, where youth organisations will review the UN 2023 Water Conference and discuss how the perspectives of young people can be included and strengthened going forward. This will be followed by a Keynote segment, with inputs from high-level speakers, including an analysis on the Water Action Agenda and a presentation on the SDG 6 Synthesis Report on Water and Sanitation 2023. The following discussions on the implementation of the Water Action Agenda will be



organised thematically according to the accelerators of the SDG 6 Global Acceleration Framework: Governance, Innovation, Data and Information, Capacity Development and Financing. The event will be webcasted on UN Web TV. More information is available here. The page is being continuously updated.

#### 2023 Data Drive for SDG 6 to improve evidence-base and inform on acceleration needs

In March this year, the UN-Water Integrated Monitoring Initiative for SDG 6 (IMI-SDG6) launched its third round of global data compilation on the SDG 6 global indicators, the 2023 Data Drive. Seeking to close data gaps, improve data quality and enable an analysis of trends and acceleration needs, it involves countries collecting and reporting data on SDG 6 indicators 6.3.1-6.6.1 to UN custodian agencies, coordinated by UN-Water.

In the past months, country focal points have received a request for updated country data, together with different types of capacity support, such as methodologies, helpdesks, webinars and workshops. Custodian agencies are currently accepting data submissions, which are then validated together with the countries. The updated data will be published in 2024, in the SDG global database, the SDG 6 Data Portal, and in indicator-specific progress reports.

Other national, basin, regional and global stakeholders are encouraged to engage in the 2023 Data Drive, to raise awareness and support country focal points in their efforts. For more information, please contact [monitoring@unwater.org](mailto:monitoring@unwater.org).

#### New data and progress report on WASH in households (SDG 6.1.1-6.2.1)

The WHO/UNICEF Joint Monitoring Programme (JMP) 2023 update report, Progress on household drinking water, sanitation and hygiene 2000-2022: Special focus on gender, presents data on global progress towards achieving universal access to safe drinking water, sanitation and hygiene (WASH, SDG

6.1.1-6.2.1), while revealing the unique risks that women and girls face from inadequate access to safe WASH.

The report shows that in 2022, 2.2 billion people (or 1 in 4) still lacked safely managed drinking water, 3.5 billion (or 2 in 5) lacked safely managed sanitation, and 2 billion (or 1 in 4) lacked basic hygiene services. Achieving the SDG 6 targets for universal access to WASH will now require a six-fold increase in current rates of progress for drinking water, a five-fold increase for sanitation, and a three-fold increase for hygiene.

The report also shows that globally, women are most likely to be responsible for fetching water for households, while girls are nearly twice as likely as boys to bear the responsibility, and spend more time doing it each day. Women and girls are more likely to feel unsafe using a toilet outside of the home and disproportionately feel the impact of lack of hygiene.

\*\*\*\*\*



## Are clay Ganesha idols more harmful than

### PoP for our rivers ?

Anoop Jaipurkar

Retired Scientist says Clay Idols Not Eco -Friendly -

**Nagpur :** Plaster of Paris (PoP) Ganesha idols may be less polluting than clay idols, believes a retired scientist of National Chemical Laboratories (NCL) Pune.

Paromd Moghe, who worked on river water pollution at NCL, says opposition to PoP lacks scientific basis. PoP is heated gypsum, known to man for over 5000 years. He quotes, Material Safety Data Sheet to say gypsum does not harm human health or life in water bodies.

The Material Safety Data Sheet is an international standard that lists information relating to occupational safety and health for use of various substances and products for humans and other living organisms.

PoP idols can actually help protect our water bodies instead of polluting them, says Moghe, adding gypsum is used in medicines, food products and also in agriculture inputs. It finds use in tofu (condensed say milk), plaster used to join broken bones, and agricultural fertilizers to neutralize acidic soil.



Moghe says PoP idol is not ideal but better than clay (shadu), because PoP can be recovered and reused several times to make fresh idols next year. Industrial units can crush it for use in false ceilings. However, clay or shadu idol when



immersed in water results in it getting dispersed. Clay does not dissolve in water, but settles at the bottom as sediment. In rivers, this blocks the pores in the riverbeds, stopping vital exchange of nutrients and resources necessary to maintain

life, he said.

Synthetic paints applied to idols do pollute water, says Moghe, but natural colours can be used. So, ideally a PoP idol painted with natural colours can be immersed in a artificial pond or in a container at home. The gypsum can be recovered after a couple of days and reused, Moghe said.

Shailaja Deshpande, who has been working to create awareness about keeping Mula - Mutha rivers in Pune clean, agrees with Dr. Moghe. We urge devotees to install idols made of silver or steel or stone or wood, so water pollution is ruled out.



Clay or shadu does more harm to water bodies because it contains heavy metals like silica, maganese, manganese etc. which affects potability, she said.

Deshpande said devotees should refer to the Jeevitnadi website (jeevitnadi.org) to clear misconceptions about

Ganesha idol immersion.

How much pollution can a clay idol cause ?

If 1000 clay idols, each weighing 2 kg, are immersed in a stream, about 2 tonnes of sediment is added to the water body. This clay in river may

result in death of fish or other aquatic animals. It also impacts surface and groundwater interactions, affecting the ability of river or stream to purify itself. What is PoP ?

Gypsum, a naturally occurring material, is composed of water, calcium sulfate and oxygen. PoP is gypsum with low water content, named after the plaster - like material first found in areas close to Paris, France. Calcium sulfate is legally used in so many day to day products like toothpastes.

\*\*\*\*\*

## Rhino Linings

Solutions in Coating and Linings

- Water Proofing
- Expansion Jt Sealants
- Wall Coating
- P.U. Epoxy Flooring
- Wood Coating
- Clean Room Concept
- Anti-Corrosive Treatments
- Decorative Fantasy Coating

**Umesh Naik**  
9370146778  
8600146778

Samadhan 1243/1, Apte Road,  
Deccan Gymkhana, Pune 411004.

Contact : 9822403873  
Email : rhinolinings@rediffm 91/92 1

## **Palamuru Rangareddy Lift Irrigation Scheme**

**- a game changer**

Telangana agriculture minister S Niranjana Reddy said the project would make one million acres of parched lands in erstwhile combined Mahabubnagar district into fertile lands.

After Kaleshwaram, one of the largest lift irrigation projects of the world built on river Godavari at a cost of nearly ₹1 lakh crore in Telangana's Jayashankar Bhupalpally district, the state government is all set to commence Palamuru-Rangareddy Lift Irrigation Scheme (PRLIS) built on the Krishna at a cost of ₹35,000 crore in Nagarkurnool district.

Telangana chief minister K Chandrababoo Naidu will formally inaugurate the project by switching on the motor at the first pump house to lift water from the river into the intake well of the project at Narlapur village of Kollapur block on September 16.

Describing the completion of Palamuru-Rangareddy lift irrigation scheme is the biggest achievement of the century for the drought-prone Mahabubnagar and Rangareddy districts, state agriculture minister S Niranjana Reddy said in a statement that the government had taken up the project with its own financial resources without expecting any money from the Centre, after overcoming several hurdles in the last nine years.

He said the chief minister would address a big public rally at Narlapur, after dedicating the project to the nation. "The project will transform the fate of southern Telangana in the coming days," the minister said.

Reddy said the project would make one million acres of parched lands in erstwhile combined Mahabubnagar district and 250,000 acres in Rangareddy and Nalgonda districts into

fertile lands. "It is a historic occasion to complete the project, which was neglected in the combined Andhra Pradesh regime," the minister said.

An official release from the chief minister's office on Thursday said KCR had called for celebrations in every village in the erstwhile combined Mahabubnagar and Rangareddy districts on September 17. "Let us perform special prayers at the Krishna river and wash the feet of deities in the temples in every village under the project," he said.

The chief minister said some forces had created many hurdles in completing the PRLIS by moving the National Green Tribunal and other courts. But the government had overcome all the hurdles and completed the lift scheme after obtaining the environmental clearances.

The officials explained to the chief minister that as many as eight "Bahubali" motors, each of 145 MW capacity, were erected in the lift irrigation scheme for drawing 90 tmc of water in a span of 60 days. "The weight of each bolt of the pumps is about 12 kg and its router weights 80 tons," the CMO official release, quoting the officials, said.

The PRLIS envisages lifting water from the foreshore of Srisailem reservoir at Yellure village of Kollapur block in Nagarkurnool district to the K P Laxmidivipally reservoir of Kondurg block in Rangareddy district with 5 stage lifting and then utilizing water by gravity.

It proposes to irrigate around 12 lakh acres in Mahabubnagar, Narayanpet, Rangareddy, Vikarabad, Nagarkurnool and Nalgonda, besides providing drinking water to en route villages and Greater Hyderabad Municipal Corporation and also for industrial use.

The foundation stone for the PRLIS was laid

by the chief minister on June 11. The project was planned to be executed in two phases. Under Phase – I, drinking water will be provided to 1226 villages in 70 mandals (blocks), while Phase – II is planned for addressing irrigation requirements in drought-prone districts.

As part of Phase I, six balancing reservoirs, including Anjanagiri (Narlapur), Veeranjaneya (Yedula), Venkatadri (Vattem), Kurumurthyraya (Karivena), Udandapur and KP Lakshmidivipally were constructed. This also involves construction of five stages of lifting of 90 tmc during the flood season from the foreshore of Srisaillam reservoir on

River Krishna.

From Anjanagiri reservoir, water will be lifted to Veeranjaneya reservoir, Venkatadri reservoir, Kurumurthyraya Reservoir, Udandapur Reservoir and finally into KP Lakshmidivipally reservoir from where it would be released into the canals through gravity.

\*\*\*\*\*



**Palamuru-Rangareddy Lift Irrigation Scheme has been built on the Krishna at a cost of ₹35,000 crore in Nagarkurnool district. (HT Photo)**



## What's the value of a tree ?

### Age multiplied by Rs. 74.5 k, SC panel

#### News

New Delhi : A tree's monetary worth is its age multiplied by Rs. 74,500, a Supreme Court – appointed committee has submitted in a report, setting a guideline, for the first time in India, on the valuation of trees.

The five member committee of experts added that a heritage tree with a lifespan of well over 100 years could be valued at more than Rs. 1 Crore, and that the monetary value of a project, for which hundreds of trees are cut, is sometimes far less than the economic and environmental; worth of the felled trees.

The report was submitted before a Supreme Court bench, headed by Chief Justice of India (CJI) SA Bobde, that had asked the committee members in January last year to determine the economic value of trees, based on cost of Oxygen they release, and other benefits to the environment.

The bench, which also included justices AS Bopanna and V Ramasubramanian, stressed on the necessity to do away with the evaluation of trees only on the basis of their timber value and rather focus on the positive impact of trees on the environment.

For this purpose, the court, while hearing a case relating to cutting down of 356 trees for construction of five railway over bridges (ROBs) in West Bengal, appointed a committee of five experts – Nishikant Mukherji (managing Director, Tiger Environment Centre), Soham Pandya, (Secretary and Executive Director at the Centre of Science for Villages), Sunita Narain (Director, Centre for Science and Environment), Bikash Kumar Maji ( Assistant Chief Engineer, ROB Unit West Bengal Government) and Niranjita Mitra (Division Forest Officer, North

24 Parganas).

According to the report filed in February last year but was made public only some time back, a tree is worth Rs. 74,500 a year. Out of this, the cost of oxygen alone is Rs. 45,000, followed by cost of biofertilisers, which are worth Rs. 20,000. Upon adding costs of micronutrients and compost, the report stated, living trees will more often than not outweigh the benefit of the most of the projects they are felled for.

Commenting on the West Bengal governments plea to cut 356 trees, some of which were heritage trees, the committee evaluated their worth at Rs. 202 crore, which is more than the cost of the ROB project by the state government.

The committee also suggested that instead of cutting trees for highway projects, the governments should first explore alternatives such as using existing waterways and railway lines to facilitate traffic and transport infrastructure.

In case trees must be removed, the committee said, the first endeavor should be to relocate them, making use of modern technology, and if they must be felled, it also added that planting five saplings in lieu of one tree was not good enough since a 100 year old tree cannot be equated with a few fresh saplings. It recommended that for a tree with small crown size, 10 saplings should be planted. 25 saplings for a tree with medium crown size, and 50 saplings for a tree with large crown size. Crown is the top part of the tree from which branches grow above the stem.

The bench, during the hearing , commended the committee's efforts, adding that it was inclined to lay down certain new guidelines for all future projects which required felling trees in

view of the report. The committee's recommendation will make every government go bankrupt. So, we need to fine tune a few suggestions, the bench observed.

It found favour with the recommendation that a developer must look to use existing waterways and railway lines before insisting on a road project that required cutting trees. The top court further expressed its displeasure at a central government notification that did away with the need for an environment impact assessment (EIA) for a road project of less than 100 km. We will examine validity of your notification, the bench told additional solicitor general Aishwarya Bhati, who appeared for the Union government in the matter.

\*\*\*\*\*



चला जलसाक्षर होऊ या  
**जलसंवाद रेडिओ**  
(सर्व काही पाण्यासाठी)

Google Play

आपणही ऐकू शकता हा रेडिओ आपल्या मोबाइलवर :  
गुगल प्ले स्टोअरवर जाऊन

**Jalsamvad Radio**  
हे ॲप डाउनलोड करा

आणि ऐकत राहा आपला हा रेडिओ आणि पाण्यावरील विविध कार्यक्रम  
२४ तास, आणि तेही विनामूल्य  
**डॉ. दत्ता देशकर**  
संपादक, जलसंवाद मासिक  
<https://jalsamvad.com/>

Jalsamvad monthly is owned & published by  
Datta Ganesh Deshkar  
Published at A/201, Mirabel Apartments,  
Near Pan Card  
Club, Baner, Pune - 411045.  
Editor - Datta Ganesh Deshkar

जलसंवाद हे मासिक मालक व प्रकाशक डॉ. दत्ता  
देशकर यांनी  
ऐ - २०१, व्यंकटेश मीराबेल अपार्टमेंट्स,  
पॅनकार्ड क्लब जवळ, बाणेर हिल्स, पुणे -  
४११०४५ येथे प्रसिध्द केले.  
संपादक डॉ. दत्ता देशकर  
e-mail - [dgdwater@gmail.com](mailto:dgdwater@gmail.com)  
मासिकाची वेबसाईट - [www.jalsamvad.com](http://www.jalsamvad.com)

## Stockholm Water Prize-2017

Prof. Stephen McCaffrey, 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.)

Prof. Stephen McCaffrey of the USA was awarded the 2017 Stockholm Water Prize for his outstanding contribution to the development of international water law. Prof. Stephen McCaffrey is an Adjunct Professor of Law at the McGeorge School of Law at the University of the Pacific in Sacramento, California. He is considered to be the only and most respected authority figure in this field who is globally recognized. His work has had a major impact on scholars, jurists, and policymakers and has greatly contributed to the sustainable and peaceful management of shared waters across countries.

In its citation, the Stockholm Water Prize Nominating Committee described Professor McCaffrey as "a strong directional leader and scholarly figure in international maritime law". He has made unique contributions in three specific areas, including his seminal work on treaty negotiations in two countries. His many scholarly works, including his book on International Watercourses Law, profound leadership, being a wise expert legal advisor, and training in complex negotiations with various stakeholders are included.

Prof. McCaffrey serves as legal counsel in negotiations related to interstate shared water resources. He has acted as counsel in interstate disputes between several countries over shared water resources. For example, Argentina and Uruguay, India and Pakistan, Slovakia, and Hungary have been heard by international courts and tribunals.

He has provided legal guidance in many protracted inter-country negotiation processes regarding transboundary reservoirs or rivers. For example, the Nile and Mekong rivers flow through many countries. Despite first-hand experience of potential conflict over freshwater resources, he remains optimistic and often points to studies showing that freshwater is more of a catalyst for cooperation than conflict.

Prof. McCaffrey has worked as a special correspondent of the United Nations for the International Law Commission. As a result of McCaffrey's effective diplomacy, the 1997 United Nations Conference on Bilateral Agreements on the Non-Traffic Use of International Watercourses led to the adoption of his draft, whose principles are today the basis for adjudicating international water disputes and planning long-term management in countries sharing international waters.

For studies, research, or professionals in the field of maritime law or diplomacy, no one today can be unaware of McCaffrey's contribution to the conceptual and practical elaboration of many legal concepts and principles.

Earlier, Professor McCaffrey's prolific writings presented important views on the human right to water, which was later recognized by the United Nations General Assembly in 2010 as a fundamental human right. In addition, he has provided important insights from his work over the years in the areas of policy coherence of water laws, conflict resolution, benefit sharing, and environmental protection.

Prof. McCaffrey says one of the most pressing challenges facing the international community in the 21st century is implementing this



right in both developing and developed countries. Prof. McCaffrey adds, "Nearly 40 percent of the world's population lives in river basins shared by many countries. Alleviating this increasing stress on water resources globally requires fair and equitable use of trans-boundary waters, with good

management of these waters reducing the potential for conflict, promoting socio-economic development, promoting shared benefits, and supporting healthy ecosystems and services."

\*\*\*\*\*





**ADVANCED FUEL ADDITIVE**

## PROVEN Fuel Savings!



Nari Mumbai & Mangalore

Water Saving Devices with Pressure Controlling aerators



flow, stop and go!



Savings 16-26%+  
✓ Turbo Charge Your Car  
✓ Longer Engine Lifespan  
✓ Lower Maintenance Cost  
✓ Less Emission & Go Green  
✓ For All Liquid Fuels





Savings 15-20%+



Savings 15-20%+



Savings 15-20%+



*more kilometers per liter of fuel*



**Certified Environment Friendly with REACH Compliance**



**100% BIO**

Usually taps are with flow rates between 9 to 27 liters/minutes (LPM). The ideal flow rates for different outlets should be in range of:

 Hand Wash 2 LPM	 Kitchen Sink 6 LPM
 Health Faucet 5 LPM	 Overhead Shower 9 LPM

- ✓ Saves more than 50% water
- ✓ NEOPERL water saving technology assure optimal water consumption
- ✓ NEOPERL water flow regulator ensures a constant flow rate irrespective of the pressure fluctuation.
- ✓ It saves consumption of motive power
- ✓ We provide aerators, flow regulators, restrictions, etc... for practically every application.
- ✓ Also, this technology makes the aerator 'pressure compensated' thus helps to determine the flow rate.

Return on investment within 6 months

**Jal Hain, Toh Kal Hain.**

**SARIN INDUSTRIES**  
SARIN INDUSTRIES PVT. LTD.  
+91 9820513261, +91 9820157585  
info@sarin1971.com / www.sarin1971.com

## Faster disaster

---

Andrew King, Andrew Dowdy

---

News

---

Faster disaster: Climate change fuels ‘flash droughts’, intense downpours and storms

The run of extreme weather events around the world seems to be never-ending. After the northern summer of extreme heat and disastrous fires, we’ve seen more exceptional autumn weather over Europe with record-breaking heat in the UK.

Meanwhile, record-breaking rain and intense flash floods struck Greece before the same storm devastated Libya, with thousands dead.

Almost 20 per cent of Africa is estimated to be in drought, and drought conditions are returning to parts of Australia. To top it off, we’ve seen several hurricanes intensify unusually quickly in the Atlantic.

We know climate change underpins some of the more extreme weather we’re seeing. But is it also pushing these extreme events to happen faster?

The answer? Generally, yes. Here’s how.

### Flash droughts

We usually think of droughts as slowly evolving extreme events which take months to form.

But that’s no longer a given. We’ve seen some recent droughts develop unexpectedly quickly, giving rise to the phrase “flash drought”.

How does this happen? It’s when a lack of rainfall in a region combines with high temperatures and

sunny conditions with low humidity. When these conditions are in place, it increases how much moisture the atmosphere is trying to pull from the land through evaporation. The end result: faster drying-out of the ground.

Flash droughts tend to be short, so they don’t tend to cause the major water shortages or dry river beds we’ve seen during long droughts in parts of Australia and South Africa, for example. But they can cause real problems for farmers. Farmers in parts of eastern Australia are already grappling with the sudden return of drought after three years of rainy La Niña conditions.

As we continue to warm the planet, we’ll see more flash droughts and more intense ones. That’s because dry conditions will more often coincide with higher temperatures as relative humidity falls across many land regions.

### Flash floods and extreme rainfall

Climate change can cause increased rainfall variability. Some parts of the world will get a lot wetter, on average, while others will get drier, increasing the variation in rainfall between different regions. For Australia, most locations are generally expected to have intensified downpours of rain, as well as intensified droughts. So we might be saying more often “it doesn’t rain, it pours!”.

We’re seeing exceptionally extreme rainfall in many recent events. The recent floods that submerged villages in Greece came from a sudden downpour of over 500 millimetres in a single day. Hong Kong was

hit last week by the heaviest rains in 140 years, flooding subway stations and turning streets into rivers.

### **But why does it happen so quickly?**

Sudden extreme rains fall when we have very moist air coupled with a weather system that forces air to rise.

We've long known human-caused climate change is increasing how much moisture the air can hold generally, rising by about 7 per cent per degree of global warming. That means storms now have the potential to hold and dump more water.

Notably, the impact of climate change on rain-bearing weather systems can vary by region, which makes the picture more complicated. That means, for instance, climate change may lead to more extreme rain in some places, while other places may only see an intensification in really short extreme rain events and not for longer timescales.

We can safely say, though, that in most parts of the world, we're seeing more intense storms and sudden extreme rainfall. Sudden dumps of rain drive flash floods.

More moisture in the air helps fuel more intense convection, where warm air masses rise and form clouds. In turn, this can trigger efficient, quick and intense dumps of rain from thunderstorms.

These short-duration rain events can be much larger than you'd expect from the 7 per cent increase in moisture per degree of warming.

Flash cyclones? Hurricanes are intensifying faster. Last month, Hurricane Idalia caused major flooding in Florida. As we write, Hurricane Lee is approaching the US.

Both tropical storms had something odd about them – unusually rapid intensification. That is, they got much stronger in a short period of time.



Usually, this process might increase wind speeds by about 50 kilometres per hour over a 24-hour period for a hurricane – also known as tropical cyclones and typhoons. But Lee’s wind speeds increased by 129km/h over that period. US meteorological expert Marshall Shepherd has dubbed the phenomenon “hyperintensification”, which could put major population centres at risk.

Rapidly intensifying tropical cyclones are strong and can be very hazardous, but they aren’t very common. To trigger them, you need a combination of very high sea surface temperatures, moist air and wind speeds that don’t change much with height.

While still uncommon, rapid intensification is potentially getting more frequent as we heat the planet. This is because oceans have taken up so much of the heat and there’s more moisture in the air. There’s much more still to learn here.

**Australia’s El Niño summer in a warming world**  
 Spring and summer in Australia are likely to be warmer and drier than usual. This is due to the El Niño climate cycle predicted for the Pacific Ocean. If, as predicted, we also get a positive Indian Ocean Dipole event, this can heighten the hotter, drier weather brought by El Niño. After three wet La Niña years, this is likely to be a marked shift.

If it arrives as expected, El Niño would lower the risk of tropical cyclones for northern Australia and reduce chances of heavy rain across most of the continent.

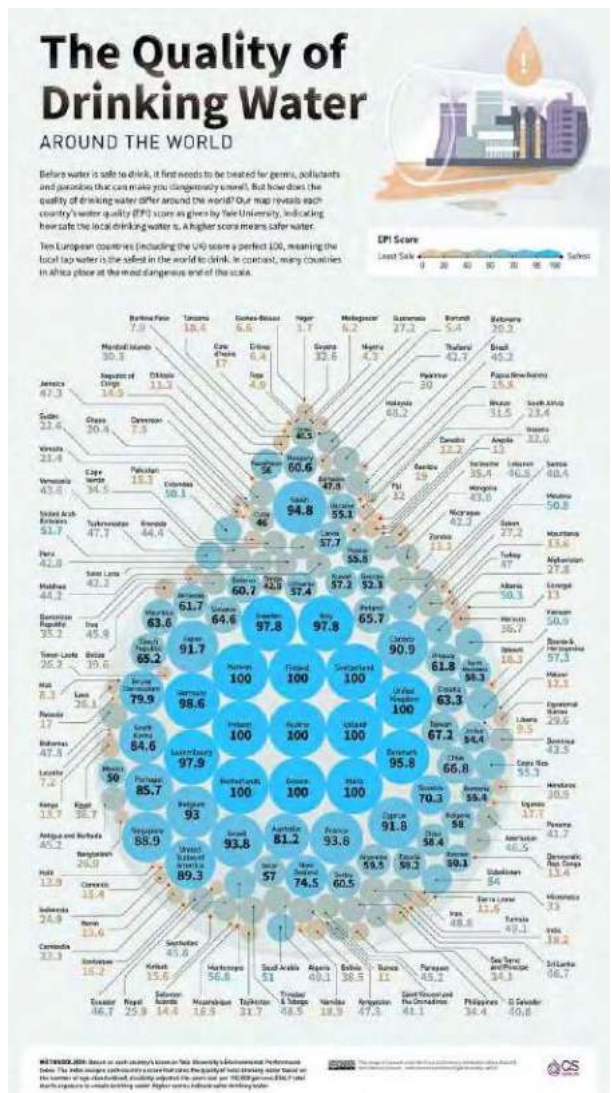
But for farmers, it may help trigger flash droughts. Prevailing warm and dry conditions may rapidly dry the land and reduce crop yields and slow livestock growth.

Drier surfaces coupled with grass growth from the wet years could worsen fire risk. Grass can dry out much faster than shrubs or trees, and grass fires can start and spread very rapidly.

Climate change loads the dice for extreme weather. And as we’re now seeing, these extremes aren’t just more intense – they can happen remarkably fast. **The Conversation**

Andrew King, Senior Lecturer in Climate Science, The University of Melbourne and Andrew Dowdy, Principal Research Scientist, The University of Melbourne

This article is republished from The Conversation under a Creative Commons license. Read the original article.



## Floodplain loss

Pulaha Roy

News



Floodplain loss: Basins of Irrawaddy, Tapi, Indus, Cauvery rivers flowing through India altered most due to human activities

The July deluge in Delhi along the Yamuna stretch highlighted the critical role of floodplains, not just in the capital city but across all river basins in India. It demonstrated how human activities can impact the natural flow of a river.

In that context, a group of researchers, for the first time, has “developed the first publicly available global dataset that quantifies human alterations in 15 million square kilometres of floodplains along 520 major river basins during the recent 27 years (1992-2019)”.

A floodplain, according to the Federal Emergency Management Agency, is “any land area susceptible to being inundated by floodwaters from any source”.

According to the report titled Human alterations of the global floodplains 1992–2019,

over 460,000 square kilometers of floodplain area was lost to agriculture, while another 140,000 square kilometers was redeveloped to new areas over the existing floodplain during the study period.

Continent-wise, Asia lost the biggest area of floodplains — a little over 200,000 square kilometers — among all the continents. It was followed by South America (92,000 square kilometres) and Africa (73,000 square kilometres).

Further, the study highlighted specific floodplain alterations like the one they identified in the Amazon and Yangtze river basins, which translates to proportional increase in agricultural extent and subsequent decrease in forest area.

Down To Earth accessed the dataset to identify which river basins in the Indian subcontinent had the highest floodplain loss due to human activities.

River basins often share drainage areas with neighbouring countries. The Indus, for instance, flows from India and into Pakistan and the Brahmaputra flows across three countries. So, it was not possible to independently calculate the actual floodplain loss in India.

But river basin-wise, Irrawaddy witnessed the highest alteration (4.6 per cent loss), according to the data. While Irrawaddy majorly flows across Myanmar the river-basin extends to some parts in Northeast India (seen in the map).

The July deluge in Delhi along the Yamuna stretch

highlighted the critical role of floodplains, not just in the capital city but across all river basins in India. It demonstrated how human activities can impact the natural flow of a river.

In that context, a group of researchers, for the first time, has “developed the first publicly available global dataset that quantifies human alterations in 15 million square kilometres of floodplains along

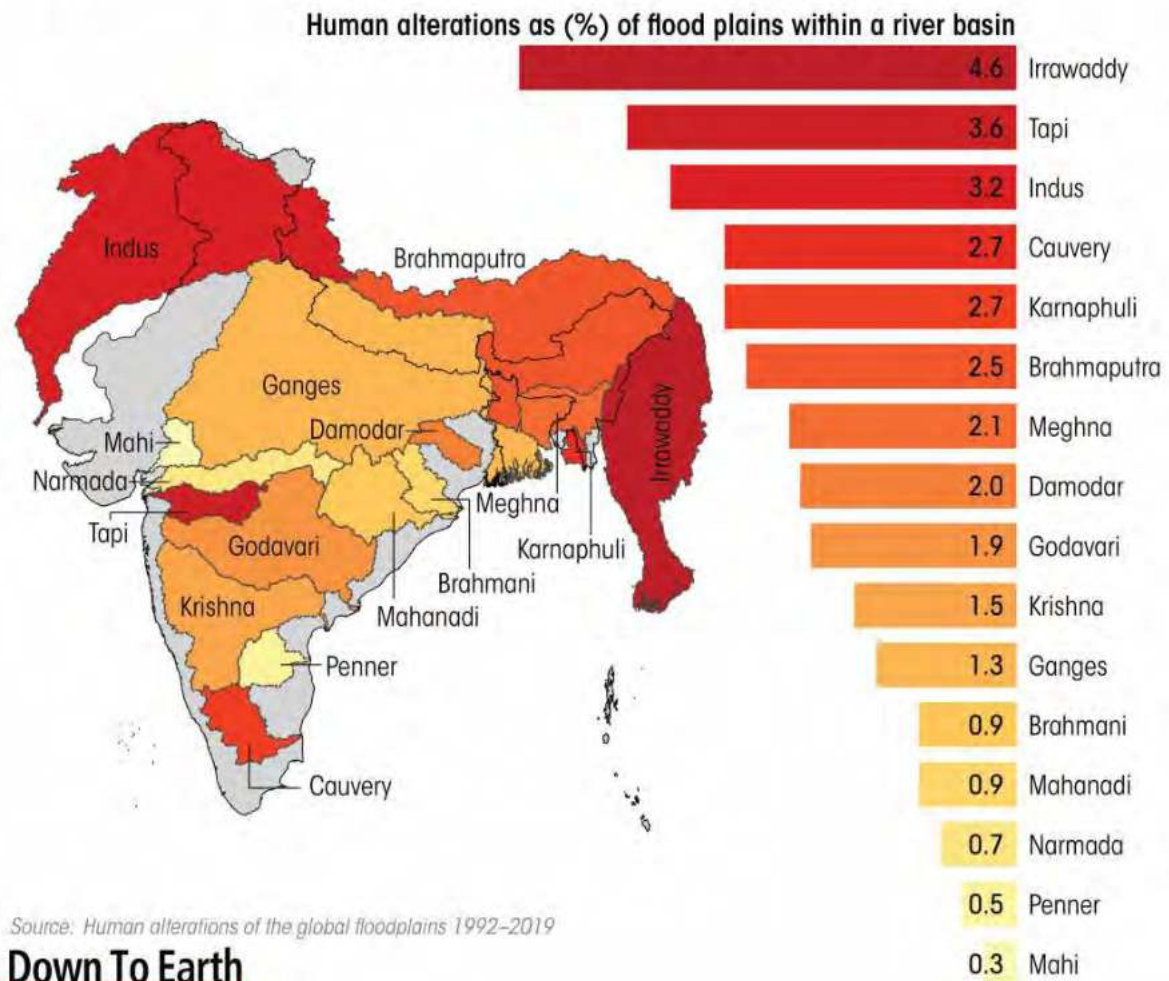
520 major river basins during the recent 27 years (1992-2019)”.

A floodplain, according to the Federal Emergency Management Agency, is “any land area susceptible to being inundated by floodwaters from any source”.

According to the report titled Human alterations of

## FACTSHEET: HUMAN-INDUCED FLOODPLAIN CHANGES

Flood plains play a critical role in minimising future flood-risks. In a first, a study conducted by a group of researchers quantified human alterations over 15 million sq. kms along 520 major rivers in the world. Down To Earth accessed the data with a focus on river basins in and around India and analysis of the spatial data suggests the Irrawaddy river basin had the highest alteration due to land use change from 1992 to 2019, followed by Tapi and Indus.



the global floodplains 1992–2019, over 460,000 square kilometers of floodplain area was lost to agriculture, while another 140,000 square kilometers was redeveloped to new areas over the existing floodplain during the study period.

Continent-wise, Asia lost the biggest area of floodplains — a little over 200,000 square kilometers — among all the continents. It was followed by South America (92,000 square kilometres) and Africa (73,000 square kilometres).

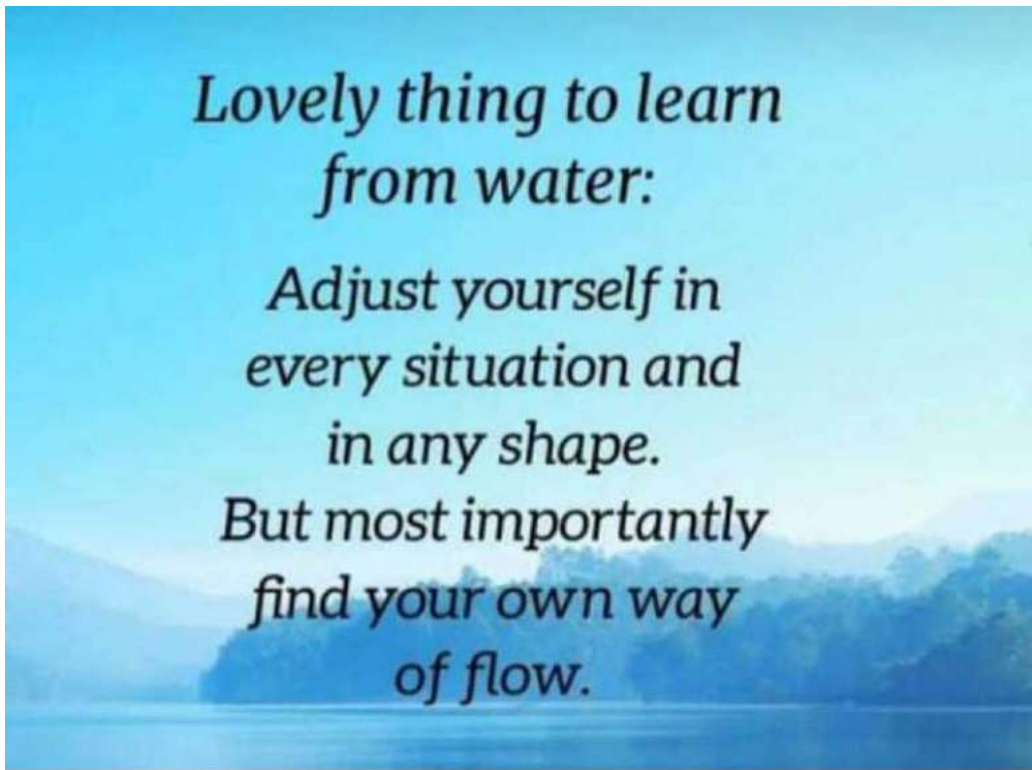
Further, the study highlighted specific floodplain alterations like the one they identified in the Amazon and Yangtze river basins, which translates to proportional increase in agricultural extent and subsequent decrease in forest area.

Down To Earth accessed the dataset to identify which river basins in the Indian subcontinent had the highest floodplain loss due to human activities.

River basins often share drainage areas with neighbouring countries. The Indus, for instance, flows from India and into Pakistan and the Brahmaputra flows across three countries. So, it was not possible to independently calculate the actual floodplain loss in India.

But river basin-wise, Irrawaddy witnessed the highest alteration (4.6 per cent loss), according to the data. While Irrawaddy majorly flows across Myanmar the river-basin extends to some parts in Northeast India (seen in the map).

\*\*\*\*\*



## Biological indicators of successful watersheds

Dr. Chandrashekhar B. Pawar, Dr Satish S. Patil,

Dr. Arun Chandore, Dr. Mrunali Gharge

Biological indicators of successful watersheds (Lentic ecosystems) - A cases from the watershed program implemented in drought prone areas in Maharashtra, India.

Watersheds are proven powerful tools to rejuvenate the food chain and food web in drought prone areas. Many floral and faunal species have been reported in the drought prone regions of Western Maharashtra. Effective implementation of watershed activities potentially sustains the fragile ecosystem towards stabilization, along with water demand of human beings. The observed floral species in post conditions of various watersheds identified with expert opinion. Authors are tried to explore ecological role these identified species in this research paper.

- Assistant Professor, Indira College of Commerce and Science, Pune.
- Prof, Dept. of Environmental Science, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- Associate Prof, Rayat Shikshan Sansthas, Arts, Science and Commerce College, Mokhada Dist-Plaghar, Mumbai.
- Assistant Prof. Arts, Commerce and Science, College, Wakad, Pune.

### Introduction :

Developed and well managed watersheds plays a very crucial role in rejuvenation and operation of short term, sometimes long term smaller aquatic ecosystems. Unfortunately, India is well known for land of drought and shrinking natural resources. The surface water and groundwater resources of the country play a major role in agriculture,

hydropower generation, livestock production, industrial activities, forestry, fisheries, navigation, recreational activities, etc. (National Water Policy,2000) in the planning and operation of systems. Water allocation priorities should be broadly as: (i) drinking water, (ii) irrigation, (iii) hydropower, (iv) ecology (v) agro-industries and non-agricultural industries and (vi) navigation. Surface and ground water are dynamic natural resources with both ecological and economic values and is of vital importance for sustaining life, health and integrity of ecosystems. The ground water resources increasingly threatened by over abstraction which has insidious long-term effects. Scarcity and misuse of ground water pose a serious and growing threat to sustainable development and livelihood. (GSDA Report, 2007-08). Water harvesting programs had have implemented by the government of India since long time to meet up challenges of recurring drought through the ministries and funding agencies. A very scanty literature is available on scientific assessments of watershed structures from the perspectives of ecosystem.

### Study Area-

The Sangli district is one of the southern-most district of Maharashtra state. The maximum of its eastern part is lies in drought prone region. It is situated between the latitudes of 16°45' N and 17°33' N and longitudes of 73°41' E and 75°41' E. Sangli district is made up of 10 Talukas including 730 villages and 8 cities. During the drought-prone situation of 2002-2004, district administration adopted watershed development approach to cope up with drought conditions.



## Materials and Methods :

A total of 100 villages have been selected by the district administration for implementing watershed development programs with ridge to valley approach. The village have been taken for the assessment of food chain and food web are the Tadsar, Khambale- Nerli villages (Kadegaon) Renavi, Revangaon (Khanapur) and Kargani (Atapadi) in Sangli district. The watershed structures like Cement Nall bunds, Soil nall bunds and adjoining portions. These ecosystems are called as lentic (standing water) ecosystems. The open assessment has been done through the field observation method. The observed changes in some floral and faunal species have been reported and set for its taxonomic classification.

## Results :

The species identified in the field observation (Year Monsoon 2007 to 2018) are photographed and discussed below.

**1. Lycoperdon Perlatum :** Is one of puffball species of fungus, is an edible fungus at young stage and becomes unsuitable for eating after turning to yellowish. Puffball species are widespread and common in Britain and Ireland. The puffball species is also very common and widespread throughout mainland Europe and Asia as well as Africa, Australia and South and Central America. The grass portion in backwater of CNB and ENB is favorable for establishing the population of puffball species.



**Puffball mushroom. *Lycoperdon* sp. Village – Tadsar (Sangli)**

Usually, these species may be existed in remote species, and I never be observed before the

watershed development program. During frequent visits in post monsoon conditions, some of local respondents reported that it is edible. There may be possible food chain and food web with puffball species.

## 2. Marselia Quadrifolia :

Marselia Quadrifolia is one medicinal herb reported in Southern – Western part of India, Central and South Europe, Caucasus, Western Siberia, Afghanistan, China, Japan and Vietnam. This herb is considered as weed in some parts of United states, where it has been established in the northeast for over 100 years. Marselia Quadrifolia harvested in Asia continent for food source and ethnobotanical medicine plants, is also described in the Ayurveda. Some of Marsilea species is of fern found in Southeast Asia. It is an aquatic four-leaf clover. Leaves floating in deep water, somewhere they associated with terrestrial surface.



**Marselia Quadrifolia / Crenata – Village Tadsar/ Renavi/ Revangaon**

## 3. Alysicarpus sp :

Alysicarpus sps is one of reported species of flowering plant spread across the part of drought-prone region and plateaus of Western Ghat in India. Some portion of North-East India, Bangladesh, China, Pakistan, Taiwan, Thailand, Myanmar, Srilanka, Jawa, Lesser Sunda etc. also have reporting of Alysicarpus Sps. This species is described as a perennial herb. The adjoining portion of mostly Soil nall bunds supports the growth of Alysicarpus species. The flowers are red and yellowish. This plant plays a crucial role in managing local food chain and food webs.



*Alysicarpus sp- Kadegaon / Khanapur/ Atapadi*

#### 4. *Exacum Pumilum* :

It is called as a Little Persian Violet, a small herbaceous plant. This species is native to India and parts of Maharashtra (Ahilyanagar, Dhule, Nashik, Pune, Raigad, Ratnagiri, Satara, Sangli, Some parts of Karanataka, Kerla and Tamilnadu also. This species is also classified for ornamental purposes. As the flowers are dark bluish, shiny green foliage. A lot of researchers are trying to the hybridize interspecific high fertility in progeny and future crop transformations. A very scanty literature is available regarding the ecological role of *Exacum* species. It blooms in the adjoining areas of soil nall bunds. It plays a very important role in maintaining local climate. Watershed structures provide a very great habitat for *Exacum* species.



*Exacum Pumilum*

#### 5. *Limnophila Indica* :

Indian Marshweed is perennial herb can live in water and land both. As it grows very well in

shallow portion of Soil nall bund and cement nall bunds. As water levels in SNB and CNB declines they stands on land surface. *L.Indica* is widespread in the African and Asian tropics, growing submerged or semi submerged water sites in different types of flowing and stagnant waterbodies. It get rooted after the water bodies became dry, and regenerated after monsoon.

#### 6. *Limnophila Heterophylla*

*L. Heterophylla* species appears to be restricted to some of the tropics. It is native to Asia (India, Malaysia, Philippines, Sri-Lanka, Thailand, and Vietnam). These species are treated as weeds in rice fields. It is listed as serious weed in India. These species have potential to change the water characteristics.

#### Conclusion :

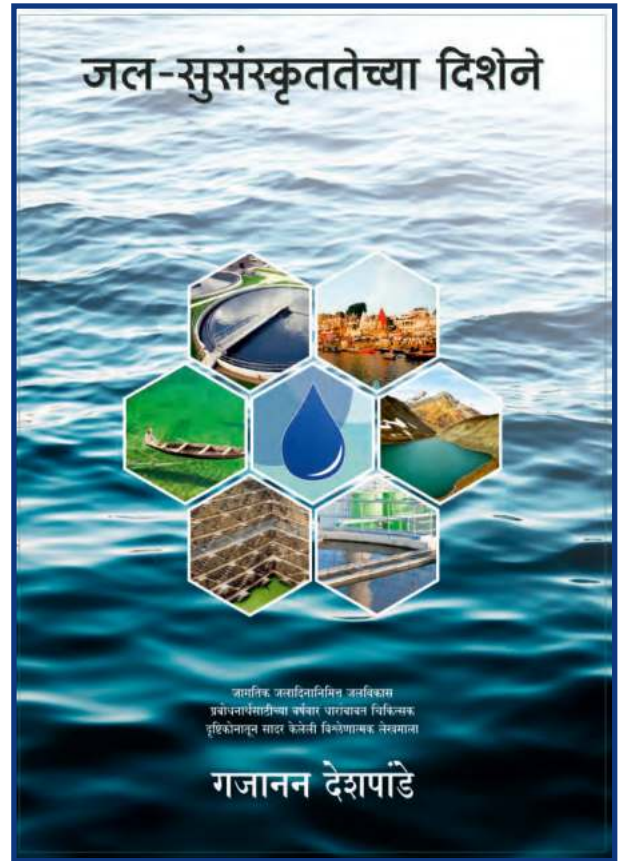
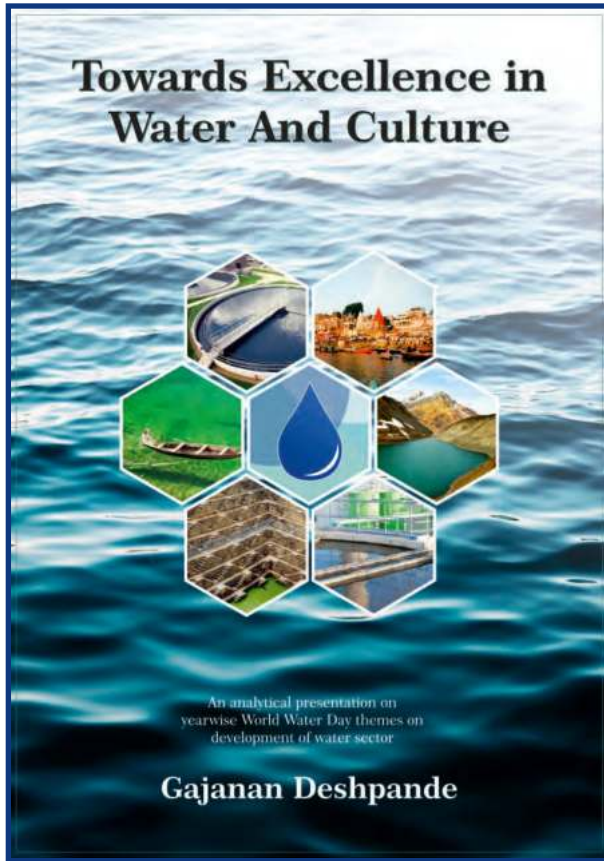
The maximum species described above are observed during the post monsoon period of every year. Maximum of these species are observed flourished in the SNB and ENB waterlogged areas. Both structures play a crucial role in developing lentic ecosystems which supports the large number of floral species at developed locations. Development of canopy of described species may be treated as biological indicators for declaring successful watersheds. There is lot of scientific assessments done by researchers, based on physical, socio-economic and sustainability indicators. We have enlisted some of above-described species, may be treated for impact assessments. However, more investigation is required for their ecological role in managing the local environment.

#### References :

1. Fascinated by Fungi, 2nd Edition, Pat O'Reilly 2016, reprinted by Coch-y-bonddu Books in 2022.
2. Ref- [www.Flowersofindia.net/Catalog](http://www.Flowersofindia.net/Catalog).
3. <https://fishkeeping.info/one-and-only-guide-for-marsilea-crenata-plant>.
4. WSSA. Net- Holm et al., 1979; Islam, 1989; Moody, 1989; Yong and Goh, 1997

\*\*\*\*\*

## Book Publication: Gajanan Deshpande



# Heartiest greetings form the Jalasamvad family

Members of our family:

**जलसंवाद** (Jalasamvad - Marathi Monthly)

The only monthly magazine published in Maharashtra on the subject of Water  
18th Year, Annual subscription Rs. 500 only, pay on: dgdwater@okaxis

**जलोपासना** (Jalopsana - Diwali Issue)

Thought provoking, in depth analysis on the subject of Water - published for 10 years



**जलसंवाद रेडियो:**

The only web Radio that relays issues around Water 24 x 7  
Download the **Jalasamvad Radio** app from your Google Play-store and enjoy free!



**यू ट्यूब वर जलसाक्षरता:**

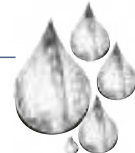
Subscribe to the **Jalasamvad** 'You Tube' channel  
Search us by typing Jalasamvad and listen to a series of 10 minutes clips on water

**जलसंवाद वेब साइट:**

Log on and get e-copies of Jalasamvad, Jalopasana,  
Booklets on water written by Dr. D G Deshkar, etc.

[www.jalsamvad.com](http://www.jalsamvad.com)

**Jalasamvad**



A monthly magazine that provides a platform for seamless dialogue on Water  
Editor: Dr Datta Deshkar: 9325203109, dgdwater@gmail.com