Pune. 1st Year. December, 2021. 6th Issue
Pages : 32. Yearly subscription : Rs. 100

Jalasamvad

A Dialogue on Water

Editors: Dr. Datta Deshkar, Shri Satish Khade

Cover Story:

Aao, Nadiko jane.
Shri Vinod Bodhankar

1. सिंधुदुर्ग
2. कोल्हापुर
3. सागली
4. रत्नागिरि
5. सतारा
6. सोलापुर
7. पुणे
8. रायगढ
9. ठाणे
10. पालघर
11. अहमदनगर
12. उस्मानाबाद
13. बीड
14. लातूर
15. नांदेड
16. परमानी
17. जालना
18. औरंगाबाद
19. नाशिक
20. धूले
21. नदुरबार
22. जलगाँव
23. बुलधाना
24. हिंगोली
25. वाशिम
26. अकोला
27. अमरावती
28. यवतमाल
29. वर्धा
30. नागपुर
31. चंद्रपुर
32. भंडारा
33. गोंदिया
34. गढ़चिरोली
35. मुम्बई उपनगर
36. मुम्बई शहर

18 April 2021 to 15th August 2021
Nashik to Ahmednagar (18 Districts)
Mahasamvaad Yatra (3 Divisions)
Nashik, Amravati, Aurangabad

Tapi River Basin Samvaad Yatra
Aurangabad Division Samvaad Yatra
Amravati River Basin Samvaad Yatra
Wardha River Basin Samvaad Yatra

Derived
Parallel
Networks

IPRBC

VSA

Tree Plantation

■ People believe that there is a correlation between tree plantation and quantum of rainfall. There is no empirical proof showing this relationship. But one thing is certain that plantation gives stability to the rainfall.

■ One thing is certain that plantation helps water in very many ways. And that is why the famous saint Tukaram Maharaj says that trees and creepers are our associates and relatives. **वृक्ष वल्ली आम्हा सोयरी वनचरे** is a famous song or bhajan which is found in his literature.

■ When suddenly it starts raining, we run for a shelter and approach the nearest tree and take refuge there. There is a guarantee that at least for five ten minutes we would get protection from rains. Trees do not allow the rain drop to fall directly on the ground. That drop lands on the ground very slowly. Its force and speed is totally lost in this process. There is every possibility that, after touching the ground, instead of flowing that drop starts percolating in the soil. Thus trees or plantation help us to recharge the ground water. It is said that due to heavy cutting of trees the rain drops directly fall on the ground and the drop starts flowing.. That is reason why we are giving more importance to tree plantation.

■ When a plant grows, its roots go deep in the soil. In this process these roots break the rocks, even though they are very hard. This process is continuous and it helps faster rate of percolation. But since we have developed inimical relationship with Nature, we are cutting trees very fast and the impact is quite visible- falling ground water level.

■ The speed of runoff can be reduced in stages. Firstly we can make this running rainwater walk, then creep and lastly stop. Trees reduce the speed and make the running water walk. Then shrubs come in picture. They make the runoff creep and lastly grass makes it stop. There is a famous saying in Marathi. That is:

धावते पाणी चालते करा, चालते पाणी रांगते करा

रांगते पाणी थांबते करा आणि थांबते पाणी जिरते करा

■ There is one more advantage of plantation. Plantation reduces speed of wind. That is why, whenever there is a storage of water in a pond, plantation is done around that water storage. This plantation not only reduces the speed of wind but also reduces the temperature around. That reduces the evaporation. Thus, these plants keep the water safe and the evaporation losses are sizably reduced.

■ Greenery on both sides of the bank of rivers helps us in one more way. The roots of the plants hold the soil tight and do not allow the mud enter the rivers. Thus this stops soil erosion.

Jalsamvad

Mouth Piece of Bharatiya Jala Sanskriti Mandal

- **December 2021**

- **Founder Editors**
  Dr. Datta Deshkar
  Late. Shri. Pradeep Chitgopekar

- **Present Editors**
  Dr. Datta Deshkar - 09325203109
  Shri Satish Khade - 09823030218

- **Cover Design**
  Ajay Deshkar

- **DTP & Page Setting**
  Aarti Kulkarni

- Annual Subscription Rs. 100 /-
  5 Yearly Subcription 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/-

Contents

United Nations Climate Change Conference 2021

This conference was scheduled to be held last year but due to Corona Pandemic it could not be arranged. Now, since the danger is reduced, it was held at Glasgow from 31st October to 13h November 2021. 25000 delegates attended this conference representing 197 countries. 120 heads of different countries were present for this event. President Biden, Angela Markel, Emmanuel Macron, Justin Trudeau, our Prime Minister Shri Narendra Modi were some of the dignitaries who were present for the conference. Even Barak Obama attended the conference. It was surprising enough that China's leader XI Jinping and Russian Leader Vladimir Putin did not attend the conference. However they had sent their representatives.

Previous summits were sponsored by Fossil Fuel Companies. To reduce their involvement, It was thought proper to give this responsibility to those sponsors who could give real commitments to bring down the hazardous elements causing global warming to net zero. First three partners included British Energy Companies besides one banking company and one insurance company. The President of the conference was Mr. Alok Sharma-a British Cabinet Minister. The primary aim of the conference was to make enhanced commitments towards mitigating climate change-one step ahead of the earlier conference held at Paris. This conference was named as COP26. It is expected that every five years, the commitments have to be renewed. India and China weakened the move to end the coal power and fossil fuel subsidies. As a result the conference ended the adoption of less stringent resolutions as was expected. However it was firmly decided to reduce the importance of coal in power generation. It was also decided to encourage cuts in greenhouse gas emissions, provide more finance to developing countries to adapt to climate change impacts. On 6th of November a huge march was organized to show the resentment against the inadequate action taken by the conference. It was one of the largest protests organized in Glasgow.

Under the Paris agreement, countries submitted pledges called nationally determined contributions to limit their greenhouse gas emissions. As decided in the Paris conference each country was expected to submit enhanced nationally determined contributions every five years to ratchet up the ambition to mitigate climate change. Collective progress towards implementation of the Paris agreement in mitigation, adaptation and finance flows was to be reported so as to prepare a new framework. Some of the countries however did not do so.

The outcome of the Glasgow conference was that 197 countries agreed a new deal known as the Glasgow Climate Pact aimed at staving off dangerous Climate Change. It was decided to take all measures to have a control over the rise in the world temperature. Coal is supposed to be a single contributor to the Climate Change. In the earlier conferences, there was no pin pointed mention of coal, oil or gas as a major driver or major cause of Climate Change. But in Glasgow conference, it was for the first time that it was recognized that coal is the major trouble shooter and efforts should be made to phase down its use. India and China proved to be major hurdle in making strong comments in this respect.

Let us now take a brief review of various commitments made by different participants in this conference. 140 countries pledged to reach zero emissions. More than hundred countries pledged to reverse deforestation by 2030. Final text of the Glasgow Climate Pact includes a call to phase out inefficient fossil fuel subsidies. 34 countries pledged to stop international funding for unabated fossil fuel energy sector. Our prime minister pledged that by 2030 India would increase the use of renewable energy up to 50 percent and achieve carbon neutrality by 2070. Governments of 24 countries and a major group of car manufacturers like G.M., Ford, Volvo, Jaguar Land Rover and Mercedes Benz promised that they would introduce new models where the emission of carbon would be zero by 2040. But car manufacturers like Wolkswagen, Toyota, Peugeot, Honda, Nissan, Huyndai have not signed this agreement. New pledges for financial help for Climate Change mitigation and adaptation were also announced.

Major contributor for the rise in temperature is deforestation programmes carried out by some countries. Leaders of more than 100 countries with about 85 percent or forests reserves including Canada, Russia, Congo, United States agreed to end deforestation by 2030.

Finance for adaptation and mitigation was one of the principal topics for negotiation. Poor countries wanted more money for adaptation but the donors look at it as an opportunity to earn profits. In the Paris summit, it was decided that the developed countries would contribute 100 billion dollars every year till 2020 to assist the developing countries. However, the rich countries failed to fulfill their commitment. Scotland, however, was the first country to contribute to the fund created for this purpose.

As already discussed, coal is the main culprit in increasing Global Warming. Chile, Poland, Ukraine, South Korea, Indonesia and Vietnam have given a pledge that by 2030 they would phase out coal exports to developed countries and by 2040 even to other poor countries. Even today, India, China and United States are the major users of coal. It is for these three countries the decisions had to be diluted.

The most tragic part of the conference was that nearly 400 private jets arrived in Glasgow during the period of the conference carrying the delegates for the conference. Basic purpose of holding the conference itself was defeated when so much fossil fuel was used for this purpose. It is also reported that Saudi Arabia, Japan and Australia brought pressure on the UN to play down the need to move rapidly from the use of fossil fuel. Even some wealthy nations showed hesitation to fund poor countries. The worst part was a huge demonstration was organized on 6th November against the slow process of decision making. More than 1,00,000 people attended this demonstration.

The tragic part is that some countries want to move fast whereas some are interested in delaying the decisions.

Dr. D. G. Deshkar
Editor.

Story of Water

The Dams / No Dams Debate

Shri Chetan Pandit - (M) : 9423174594

Hi, it is me again. In the previous articles I have explained that India gets rainfall for only 4 months in a year; and also explained India's water budget. Now we are ready to examine a topic that generates a lot of heat, the arguments for and against large dams. First, the "for" argument.

Dams serve three main objectives, storage of water, generation of hydro-electricity, and flood control. Let us examine them all in some detail.

1: Storage of water. I will be repeating perhaps for the third time, that in India, in most places about 90% of the rainfall, and therefore about 90% of the annual flow also, occurs in just 4 months of monsoon. But water is required in all the 12 months. Therefore we need to store that water, for use in the remaining 8 months. Else it will run away to ocean. Reservoir created by the dam stores large quantities of water. Water is stored in aquifers also, but the annual renewable ground water potential is estimated at less than 500 BCM. Our total requirement is about 1200 BCM and there is no way to store 1200 BCM in ground water. Therefore, ground water recharge is not an alternative to large dams. We need ground water recharge also, and we need surface storages also, created by large dams of all sizes – small, medium, large. Not constructing dams is not an option at all. We have to construct the dams at every possible location, and increase our storage capacity as much as we can. This alone is sufficient reason to justify construction of dams.

2: Hydro-power. Hydropower is the cleanest, non-polluting, renewable, and cheapest source of electricity. Thermal power plants can not increase or decrease their output quickly, hydro power stations can. Therefore hydro-power is necessary to supply sudden increases in load during early mornings and evenings.

3: Flood control. About 33.5 million Ha of area in India is prone to floods, and of this about 7.5 million Ha actually suffers floods every year. Dams are the most reliable method of moderating a flood of a specified magnitude. The reservoir stores a substantial part of the incoming flood water and releases it slowly over a period of time, thereby reducing the intensity of flood in the downstream area. A group of dams in Damodar basin, and also the Hirakud dam in Mahanadi basin, are living examples of flood control by large dams. We are going to dig deeper in to flood control in a subsequent article.

4: Other direct benefits. In most places, after the monsoon the flow in the river reduces to a trickle. Monsoon flow stored in reservoirs is the only way to provide environmental flow during the lean season. The reservoir enables fish farming on a large scale.

The benefits mentioned above are direct benefits. In addition to that there are indirect benefits, like irrigation increases agricultural output, which in turn provides rural livelihoods, earning of foreign exchange by export of agro-products, increased rural GDP; the more affordable hydro-electricity makes our products more competitive in international market; to name a few. For all these reasons, dams are and will continue to be constructed.

Now let us examine some of the arguments against the dams, and answers to them.

Loss of Forest. Yes, the lake formed by the dam

(reservoir) submerges some land, and part of it may be forest land. That said, please note that "forest land" does not necessarily mean a real forest with trees. Quite often is an area that is merely classified as "forest" in the records. It may have been a true forest some 100 or more years ago when surveys were done, got recorded as "forest" in the revenue maps, and that classification continues, though the trees may have disappeared long ago. But where did the forest and the trees disappear?

Do you have any wooden furniture, cupboards, wooden door frames, wooden doors, in your home? Or, have you seen these wooden artefacts in other homes/ offices/ hotels? If yes, then you know where the forest and the trees have disappeared. All that nice wooden furniture was at one time big trees, in forests. It is estimated that only 22% of forest loss is due to large dams. The rest 78% is due to everyone wanting the best Teak/ Mahogany/ Walnut wooden furniture, wooden doors, door frames, even wooden floor.

Another point to note is, compared to the total basin area the actual area of submergence is very small, miniscule really. Take for example Narmada basin. Lot of noise was made over the submergence caused by large dams on Narmada. To grasp the reality of how much area is submerged, you have to go beyond words and look at the numbers. There are five large dams in Narmada basin. Their submergence area, and some other features are in the table below.

Project	Submergence Area SqKm	Installed Power Capacity	Area Irrigated Ha. MW
Tawa	225	13.5	2,46,972
Bargi	267.97	105	2,45,000
Indira Sagar	913.48	1000	1,23,000
Omkareshwar	141.55	520	Hydro power project
Sardar Sarovar	375.33	1450	18,65,000
Total	1,923.33	3088.5	24,79,972

Catchment area of Narmada basin is 98,796 SqKm. The total submergence by five projects is 1,923 SqKm, which is only 1.95% of the basin area. For this submergence, these projects provide irrigation to 24.8 lakh Ha of area, more than 12 times the area submerged, and provide 3088 MW of hydro power.

Displacement. In the early years of dam construction, those displaced were given a monetary compensation, and that was unfair. But that policy has changed and now the displaced persons are rehabilitated. Anti-dam activists point out that those displaced are invariably the poor people. True. They are often the people who are barely subsisting, living in abject poverty, having no or little education, no modern health care facilities. Displacement with a proper rehab actually improves their living conditions. But this fact is carefully suppressed by the anti-dam activists. The anti-dam propaganda has been so loud and persistent that my words are unlikely to convince some readers. Therefore I will quote from the Supreme Court judgment of 18.10.2000 in the case filed by the Narmada Bachao Andolan against Sardar Sarovar Dam. [page 72 of judgment]

A properly drafted R&R plan would improve living standards of displaced persons after displacement. For example residents of villages around Bhakra Nangal Dam, Nagarjun Sagar Dam, Tehri, Bhillai Steel Plant, Bokaro and Bala Iron and Steel Plant and numerous other developmental sites are better off than people living in villages in whose vicinity no development project came in. It is not fair that tribals and the people in un-developed villages should continue in the same condition without ever enjoying the fruits of science and technology for better health and have a higher quality of life style. Should they not be encouraged to seek greener pastures elsewhere, if they can have access to it, either through their own efforts due to information exchange or due to outside compulsions. It is with this object in view that the R&R plans which are developed are meant to ensure that those who move must be better off in the new locations at Government cost. In the present case, the R&R packages of the States, specially of Gujarat, are such that the living conditions of the oustees will be much better than

what they had in their tribal hamlets.

Above is not my opinion. This is what the Hon'ble Supreme Court said, dismissing the petition filed by the Narmada Bachao Andolan against Sardar Sarovar Dam.

So, the point to note is, so far as poor people are concerned, displacement actually improves their lives. Further, dams are not the only cause of displacement, and are not even the primary cause. More people are displaced every year in search of employment. As per Indian laws, all the property gets divided amongst all children. Because of such repeated division in every generation, 86.2% of land holders now have land less than 1 Ha. And this will get further divided in the next generation. It is impossible to earn a living from 1 Ha or less land. As a result every year crores of people migrate to cities, in search of some employment. This too is displacement, and is far worse than the displacement caused by dams. Because, for those who migrate for economic reasons, there is no rehab package. Incidentally, people have been displaced even for the Tiger project, but no activist has taken up their cause. Clearly, the displacement of people is just an excuse to stop construction of dams, which play a vital role in India's economy.

Environmental Flow. The argument is - a dam stores water and immediately downstream of a dam the flow in a river is reduced. The law now requires assessment of the flow required to protect the flora and fauna in the river, called "Environmental Flow", and release it in the river in a stipulated manner. Thus, dams actually improve environmental flow.

Reservoir Induced Seismicity. It is alleged by the activists that large quantity of water stored in a reservoir causes earth quakes. This is just a falsehood invented by the anti-dam lobby. Earthquake engineering is a highly specialised subject, and I am yet to come across an NGO/ activist who is qualified to speak on earthquake engineering. Studies have been carried out by the Central Water Commission and other expert agencies, viz. IIT Roorkee, and the conclusion is, when the reservoir is filled for the first time, for a few years there may be an increase in micro-seismic activity, repeat micro-seismic only. Even this stabilizes after a few years. And there is no instance of a significant, far less major, earthquake triggered by a dam.

Dams are being dismantling in USA. This is a completely misleading and mischievous propaganda. The fact is - in USA dams have been privately built and owned for a long time. Small dams were often built as captive dams by some industries, for their own limited use. Some of these industries have shut down, they no longer require the dams they built, and the dams are in a dilapidated state. These dams are being dismantled. No one is dismantling large dams like the Hoover dam or the Grand Collie dam. But the activists hide which dams are being dismantling and why, and present a falsehood "dams are being dismantling in USA".

Wisdom of the Centuries. The activists argue that dams are not required, as our forefathers lived well without the dams. The water management practices of 100 or more years ago, are given an attractive label "wisdom of the centuries" or "traditional technologies", and are offered as an alternative to large dams. Let us examine these ideas.

Yes, our forefathers lived without the large dams, just as they also lived without electricity, smallpox vaccine, internet, refrigerator, CT-scan, mobile phones, car/scooter, TV, pressure cooker, multi-storied apartments, and thousands of other things. They lived without all these things, not because they considered these things are not required, but because they simply did not have the technology. Anaesthesia was invented in 1846. Before that, for hundreds of years surgery was practiced without anaesthesia. Does that make surgery without anaesthesia "wisdom of the centuries"? Would you agree to have a tooth extracted without anaesthesia just because your ancestors had used to have tooth extracted without anaesthesia?

But more important, it is a myth that our

forefathers lived well without the large dams. From ancients times and till the green revolution, India was a land of frequent famines and deaths. Between 1769 and 1944, there were 11 severe famines in which approximately 4 crore to 6 crore people died. And this despite the fact that the population then was a fraction of what it is today. The table below lists some major famines, and death toll.

Year	Famine Deaths (lakhs) Source Wiki
1769-70	20 to 100
1783-84	110
1791-92	110
1837-38	8
1860-61	20
1865-67	10
1868-70	15
1876-78	60 to 100
1896-97	50
1899-1900	30 to 100
1943-44	15


Famine Photo : bbc.com

During this era, when the farming was exactly what the activists hanker after now – no large dams, no canal irrigation, only rainwater harvesting, no High Yielding / Hybrid seeds, only Desi seeds, no chemical fertilizers, no pesticides - the land productivity for food grain was less that 1 T/Ha. This poor productivity not only resulted in food shortages, but also abject rural poverty and that in turn lead to practices like Zamindari, bonded labour, and such. The traditional farming with productivity of 1T/Ha could not feed a population of under 25 crores in 1800s, under 35 crores in mid 1900s, and there is no question of it producing enough food grains for a population of 138 crores now.

India was dependent on food imports till about 1970. There was a severe shortage of basic food items - rice, wheat, sugar, edible oils. People had to buy these from ration shops. Shortages caused a black market, which hurt the poor the most. The then Prime Minister Shri Lal Bahadur Shastri had to call on the people to observe fast for one day in a week, because of a severe shortage of food grains.

Soon after independence the government took up a program to increase the food grain production, which later came to be known as the green revolution. The green revolution was based on three pillars. Use of high yielding verities of seeds; use of chemical fertilizers; and extensive irrigation. The land productivity (of say rice) improved from less than 1T/Ha to over 4T/Ha, though it is still less than China at 7T/ha and USA more than 8T/Ha.

With this increased productivity, despite population having increased more than three-fold, we are not only self sufficient in food production, we have enough buffer stock of food grains, and we are exporting food grains and many other agro products. India's annual export of agro-products is now in the range of 1,82,148 crores per year. This comprises cotton (raw, yarn, fabrics, garments) 84,825 crores, basmati rice 22,718 crore, non-Basmati rice 15,129 crores, wheat 6,210 crores, sugar 10,200 crores, spices 28,100 crores, grapes 2,490 crores, tea 6,231 crores, and coffee 6,245 crores. This not only brings 1,82,148 crores worth of forex every year, but it also has increased per capita income of rural population. The agro-industry provides livelihoods to crores of people. As population continues to increase, our water requirement will also increase. And to supply that requirement, construction of large dams is unavoidable.

You may now be wondering, why is there

so much opposition to large dams? Actually, the opposition is not "so much". Opposition is only from a handful of activists who oppose not only the large dams, but any development activity in India. Opposing dams, thermal power projects, nuclear power projects, mining of coal and other minerals, industry, roads, any infrastructure in general, is now a full time profession. No information is available in the public domain as to who funds these NGOs. But only the very naïve will believe that this is really for the cause of environment.

Continuing with our study of hydraulic infrastructure in water management, in the next article we will examine a very important concept – trans basin water diversion, popularly known by its incorrect name, River Linking. Till then, even though Covid seems to be subsiding, do continue to take care and stay safe.

*****

Banda: From parched land to a water positive district

The paucity of water in Bundelkhand and subsequent suffering of human race has been the harsh reality of people in the region for long. But this cannot be said for Banda where community and administration joined hands for the cause of water conservation under the Kuan Talab Bachao Abhiyan started in 2019.

Most of the handpumps, ponds, and wells in the district were dysfunctional while the community connect to preserve and maintain the shared resource had been lost. Also, groundwater level in the district kept fluctuating with season.

The shortage added to water woes of the people who were clueless about their fate as they had no understanding of the problem. Also, the knowledge and sensitivity towards water conservation among people led to household stress, low commercial productivity and overall impaired societal growth.

At this juncture, pressure groups knocked the doors of the district administration which was also suffering due to water crisis. In the quest for solution, it was decided that the gap between service providers and community members must be bridged by re-establishing the bond of people with their water bodies.

A structured tool of water budgeting using Jal Chaupal model towards democratization of water developed by WaterAid India, an international not for profit organization, was included for use under the campaign by the district administration.

In Phase-1 of the campaign, Bhujal Badhao Peyajal Bachao Abhiyaan, which was conducted from January to March 2019, at least 34,732 people participated in Jal Chaupal in 469 gram panchayats directly were made aware about their water budget (demand and supply), rates of groundwater depletion of various strata and changes in rainfall patterns observed by community over last 20 years. This also triggered community action towards shramdaan.

To ensure its success, we adopted a collaborative approach and prioritized mass ownership as the fundamental strength, starting off by creating a formal district-level water committee comprising key officials from all water related departments, civil society members and technical water experts.

As a result of the one-month long campaign, 2,605 contour trenches have been constructed by community members around 260 wells and 2183 hand pumps across eight blocks and 470 gram panchayats in Banda. These contour trenches have created additional 110001 cubic metres per annum.

The efforts were scaled up in the second phase. Success of the phase-1 of the campaign was showcased to people which had a ripple effect. Launched from April-November in 2019 as 'Kuan Taalab Jiao Abhiyaan' (Bring life back to ponds and wells campaign), the second phase of the campaign showed startling outcomes, including record increase in the average water table of Banda

(increased by 1.34m across Banda) by December 2020, which solved the drinking water crisis of the region.

Its impact also showed up in the form of an increment of 18.5% in the agricultural productivity of the place which improved the income generation of local population. Increased groundwater level also impacts climate change with higher water recharge, base-flow, and increased evapo-transpiration under dry conditions and high temperatures. This resulted in better rain cycle. Also, disputes around water used to create law and order challenge in the region but better availability led to a decline on this count.

The achievements invited recognition and accolades which reinforced the message. The campaign initiative received awards nationally and internationally including Smart Cities India Awards (2019), Habitat for Humanity India Innovation and Impact Award (2019), Limca Books of Records, Rajat Ki Boonden National Water Award (2020), Elets National Water Innovation Awards (2020), and Jal Prahri Award, among others. The biggest take away from the Banda model of water conservation is its ease of replicability that rests on the fact that empowering communities can do magic.

(The author is a civil servant who led the campaign as the DM of Banda)

*****

Aao Nadi Ko Jaane - Report 01

Shri Vinod Bodhankar

(M) : 9850230064

The corona pandemic caught us all by surprise. In the very beginning it brought everything to a standstill. The interactions between the dynamic people working to protect our rivers and the entire water cycle and portions of it also faltered for a bit. Physical visits became difficult to undertake. Meetings and conferences dwindled in the fear of spreading the virus or inviting the virus infection.

Discussions on phone happened more

frequently to find ways to continue the works on the ground on different rivers like Agrani River in Sangli District. In the year 2019, Vishwasanskruti Ashram Core Team had met together 89 times for discussions on the subjects studied at the Ashram. The core being the Metaphysics which integrated Science-Spirituality-Governance, in re-imagining human civilization for the Millennium 2001-3000 AD.

Works like Jalbiradari's River Protection and River Rejuvenation are great examples, on the ground, of decentralized civilizational processes which are the need of the times. Decentralized processes can lead to cluster-ecologies-economies which do not need to use costly transport but are regionally self sufficient. Hierarchical systems with human beings biased to anthropomorphism have kept us humans at the center and this lop sided vision of life has made us behave as though there are no consequences to our selfish human-centric actions. The entire model of development is flawed as it does not calculate ecological costs as economic costs to be paid as consequences of looting and raping the Resources of Nature.

If we see the planet as a Macrocosm, then a river basin ecology & economy, a forest ecology & economy, a mountain range ecology & economy, a desert ecology & economy, an estuarine ecology & economy, a mangrove ecology & economy, a coral atoll oceanic ecology & economy, an ice-bound ecology & economy… all become microcosms of the entire planet. There are so many types of these ecosystems, ecological-economic zones. The soil is the primary ingredient that shapes the depths and slopes by being the vessel in which water is held and flows. Soil also becomes the sponge in which water is held and through which water flows slowly. With soil as the all-present earth matrix below us and a portion of the soil elevated to be the hills, mountains and high mountains - which catch the precipitation of the nectar of life, water, which comes from the evaporation of oceans and all other water bodies exposed to sunlight - the water is seen clearly as the connecting matrix and medium, both. Water exists in solid, liquid and gaseous form - clearly sacrificing the luxury of having a fixed form in order to be a connector for bringing resources to life. Water also is the best solvent of materials found on our planet, being able to dissolve 70 % of the substances. Water brings Dissolved Oxygen to

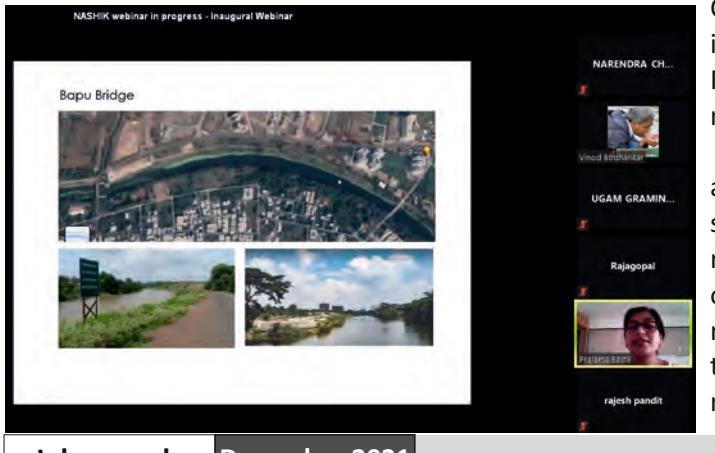
the life everywhere. And so, along with Soil, Water has always been a subject to study. With Sunlight Prime-Source-Energy and Air added, and with the vast volumes of Space and Time available to play in - the Plant Life comes into the picture - from the tiniest invisible and primal phytoplankton which still give us from 50 to 70 % of Oxygen by recycling it through photosynthesis, and the multicellular greenery in water and on land. Trees. Plants. Grasses. In greenery we find soil and water, energy and air and the lifetimes spreading in space and time. Dharti-Jal-Vaayu-Urja-Aakaash-Samay - the last as Space and we know this is Space-Time. We see these in awesome synergies in all the microcosmic ecological-economic systems mentioned before - inclusive of river basin, desert and mountain ecologies-economies.

As our experience is largely in river basin ecologies-economies - a small group of Jalbiradari Core Team Members took up the task of tackling the disruptive impact of the pandemic on our networking and intercommunication. For a while, it was assumed that direct field work sites would be difficult to visit. As we had already been familiar with twice a week sessions of Vishwasanskruti Ashram (founded 1977), and because the Ashram founders are already deeply involved with Jalbiradari activities from 2006, we took the initiative to create the webinar series "Aao Nadi Ko Jaane" after detailed series of webinar discussions with Dr Rajendrasingh and all members of the Core Group of Jalbiradari.

In 2018 and 2019, Dr Nilesh Heda of

Karanja-Lad, Washim, had designed a week long course "Aao Nadi Ko Jaane" under the guidance of Dr Rajendrasingh and other active members of the Tarun Bharat Sangh whose work in Rajasthan at the grass roots level is acknowledged globally as exemplary. This included TBS core members Moulik Sisodia, Chaman Singh, Gopal Singh, Suresh Raikwar and later included myself and Narendra Chugh and others as and when their expertise was needed, to enrich the 7 day Workshop conducted at Tarun Ashram of TBS, Bhikampura, in Rajasthan.

With Vishwasanskruti Ashram core team members providing the technical support through a licenced zoom application, on 14 June 2020, a few months into the corona virus pandemic, the first of an 11 month long weekly series of Aao Nadi Ko Jaane webinar series was inaugurated with Dr Nilesh Heda presenting the overview of the syllabus of the earlier week long course which had the central theme of "River Rejuvenation" - guided by the TBS and Jalbiradari theme of 'Decentralized Community-Driven Water Management' as innovated and implemented by the people of Rajasthan, and subsequently by an increasing number of people in India and abroad.



Every week, on Sundays there would be anywhere between 2 to 4 mentors called in to speak and share their experience. Over the next 11 months, up to 11 April 2021, a series of weekly talks happened in a lecture series model with question and answer sessions at the end. After 11 April 2021 we changed the model. Meanwhile what had happened in

these first 11 months?

With Dr Rajendrasingh as the primary guide and inspiration to the process of ANKJ (Aao Nadi Ko Jaane) we managed to bring in mentors that included Dr Nilesh Heda; Prof. Vijay Paranjape; Mohanbhai Hiralal; Madhav Kotasthane; Medhatai Patkar, Anupam Saraph; Prof Shriniwas Wadagbalkar; Ramkrishna Sawkar of GSI; Jayaji Paikrao; Dr Ajit Gokhale; Dr Gurudas Nulkar; Justice Gopal Gowda, Advocate Girish Raut; Dr Rakesh Kumar NEERI; Dr Basanta Kumar Das CIFRI; Dr Kalyan Rudra West Bengal-PCB; Ravindra Dharia - Vanrai; Rohit Jain OFIA; Suresh Desai ji & Pandurang Shitole - both rishis of organic farming; Dr Sayali Joshi - SERI; Kalpanatai Salunke and Dr Sonali Shinde; Anand Pusavale & Dr Sumant Pande of YASHADA Jal Saksharta Kendra; Vishwanath Shrikantaiah in an inspiring series of ecpositions and presentations and discussions. Representing dynamic and robust people-participation movements in river basins, we had amongst us mentors with decades of experience in river basins - Jayaji Paikrao (Kayadhu River Basin); Prakash Patil (Tilganga River Basin); Narendra Chugh (Agrani River Basin); Virendra Chitrav, Anil Gaekwad, Shailaja Deshpande, (Ramnadi Restoration Mission); Aniket Lohia and Lalasaheb Agale, Manavlok (Holna River Basin, tributary of Manjra River); Dr Kishor Moghe (Nirguda River Basin); Rajesh Pandit (Namami Gode); Rajni Dave; Anand Mazgaonkar; Norji Vasave, Kamlaben Yadav (Narmada Bachao Andolan); Sudarshan Das (Mahanadi River Basin); Advocate Vikrant Sharma; Advocate Dipesh Chaudhary (Hindo River Basin, tributary of Yamuna); Swami Avimukteshwaranandji & Swami Shivananda Saraswatiji joined us to share about the fateful days of July-October 2018, when Prof G D Agarwal fasted for 111 days and gave his life to protect the Ganga River; V Prakash Rao & Satyanarayana Bolisetty (Godavari River Basin in Telangana & AP)... It was a rich series of interactions and we realized how wide and deep are the issues and problems; solutions and obstacles; teams and synergies; healing visions and hurting visions; views and perspectives of people from government, from NGOs and from the villages and towns and cities.

The conclusion: The people asking questions and answers were doing amazing work on the ground, it was time to listen to them. The experts had their say. Now the people would speak about their grass roots projects and the experts

would be the panel to listen and to guide and also to continue their own learning - for the people working on the ground are often amazingly inventive and innovative, practical and low cost in their approach.

The immediate decision: From 18th of April 2021 we would start a Physical Yatra through the 36 districts of Maharashtra, not to teach or guide, but to learn from those working at the grass-roots. Unfortunately, the second wave of the corona pandemic hit India so hard at that time that any travel on the ground was seen to be impossible for at least 4 months!

The decision changed because of the pandemic: So we re-imagined the Aao Nadi Ko Jaane series of physical visits to the 36 districts of Maharashtra to a series of webinars and doubled it in number - 2 webinars a week with one webinar session for planning, making it 3 webinars a week. We decided to approach each of the 36 districts of Maharashtra State and to bring about 2 round table webinars-conferences per district. In these we decided to ask the People of the District - to narrate their district to us as the sacred ground where they lived; to give us an ecological and economic and social overview - along with any other subject they wished to share about their punyabhumi.

The Webinars: We started with Nashik District 'Online Samvaad Yatra'on 18th of April 2021 as we had earlier decided to launch our physical ground yatra of 36 Districts of Maharashtra from Trymbakeshwar, Brahmagiri, Nashik District. In the sequence which was to be the first physical phase of the planned land-yatra we progressed through the districts online, on zoom webinars. The format was thus, and continues to be so:

Friday 5.30 pm an informal round table on zoom, online, to plan the speakers and subjects regarding the district line up this week.

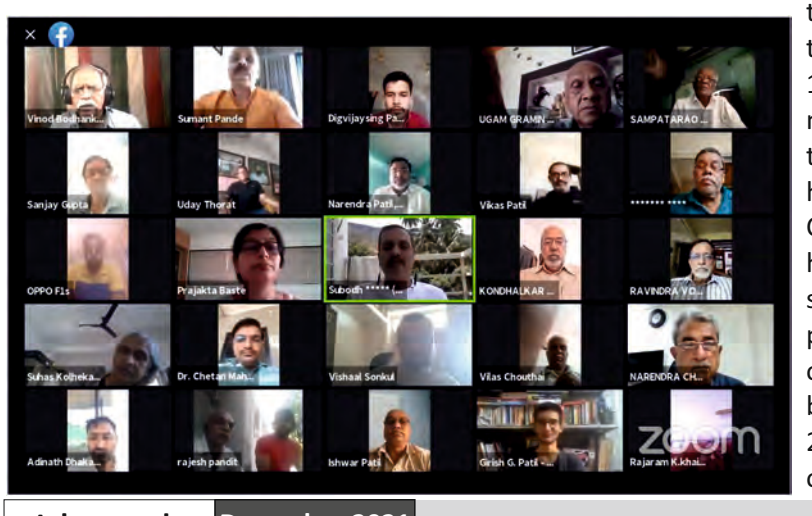
Saturday 5.30 pm - Day One of the District Online Yatra where the speakers would be only and only from that district. All experts and mentors from outside the district would visit to learn from this district.

Sunday 10.30 am - Day Two of the District Online Yatra.

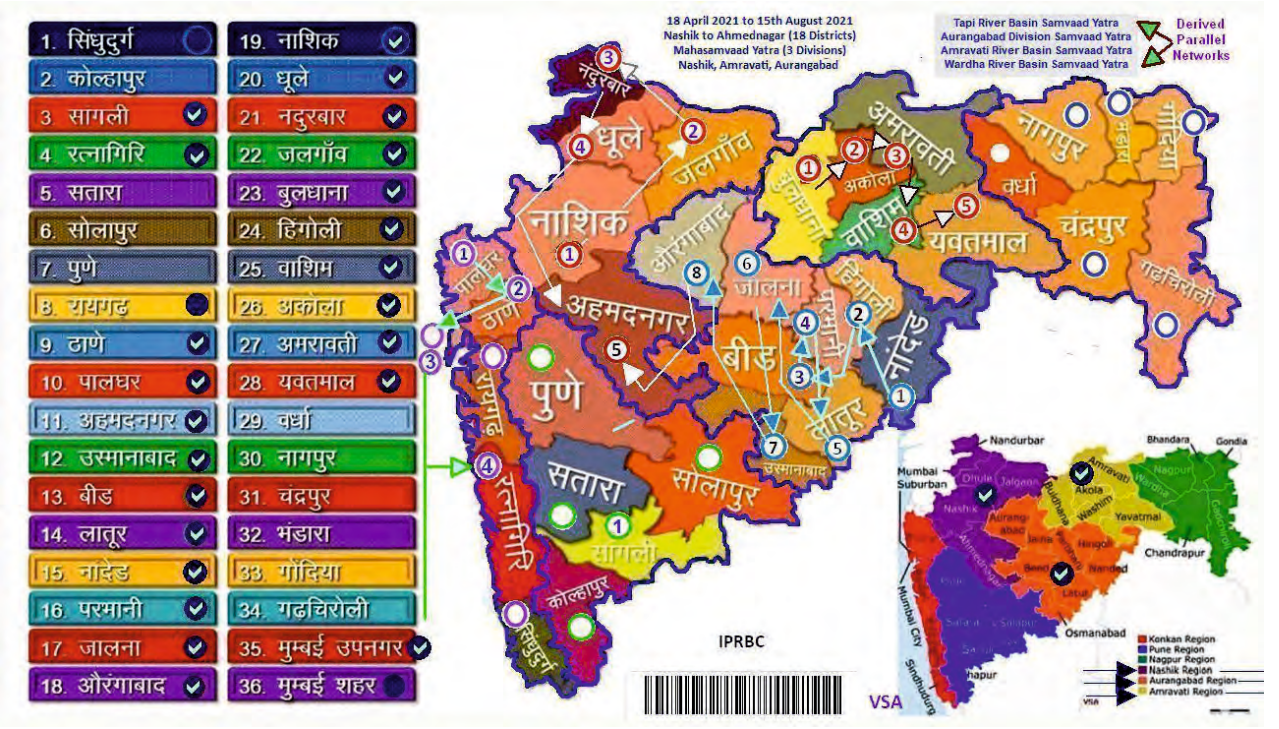
After going through Nashik, Jalgaon, Nandurbar, Dhule, Buldhana, Akola, Amravati and Washim Districts in the first 2 months - we realized that the 36 District journey online must be completed without missing a single week, unless we had larger meetings between several districts or several states lined up intermittently.

Today, Monday 15 November 2021, we have completed 23 Districts Online Samvaad Yatra Webinars. These Samvaad Yatras are also Samanvay Yatras. These have taken the form of round tables between the mentors who work in the district - and there is a robust sharing of best practices.

This first article is one of a series. I will be writing each month on the learning from this webinar series Aao Nadi Ko Jaane. A few of the primary lessons we learned are listed below, but this very short list does not exhaust the amazing gains which were made:



1. So effective is the acceleration in meeting colleagues and co-mentors that a Jalbiradari which would have had at the most 4 State level Land Conferences before the pandemic has now met through 104 synergy sessions, not counting the 52 planning sessions and the hundreds of phone calls throughout the week between the weekend webinars.
2. The moment the pandemic eased off, we visited Trymbakeshwar for a 3



day physical meeting. Such physical meetings, derived from increased sharing over the online medium, are going to accelerate. In the very first Nashik Meeting on the ground, Jalbiradari members from other states were also invited. On 28th July 2021 was formed Indian Peninsular River Basins' Council - Gujarat, MP, Chattisgarh, Orissa, Maharashtra, Goa, Karnataka, Telangana, AP, Kerala, Tamil Nadu and 4 Union Territories of Diu-Daman; Andaman-Nicobar; Puducherry & Lakshadweep as members. Chairman: V Prakash Rao (Telangana) & Convenor: Vinod Bodhankar (Maharashtra). Core groups comprising known and newly met mentors from these States are being formed rapidly through daily follow ups and weekly IPRBC webinars. One of the first guidelines to each of these state level core teams is to conduct some or the other version of regular online review meetings like Aao Nadi Ko Jaane as an ongoing synergy medium for review of ground level transformational works. Webinars cannot replace ground work but act as excellent acceleration in conducting rapid-and-regular reviews and in building further ground synergies.

3. 30th August 2021 was formed Indian Himalayan River Basins' Council with all states north of Peninsular Council member-states. Today, November 2021, a 20 day physical journey across 6 river basins in Tamilnadu is in progress. In December 2021 there is a National Convention in Uttar Pradesh; In January first half there is an IPRBC and IHRBC joint national conference on the banks of the Mahanadi, with more than 300 delegates expected on ground.

4. What started as a attempted synergy of 36 districts of Maharashtra has become a vision and mission of weaving a deeper and more robust and WEEKLY online synergy and MONTHLY offline on-the-ground synergy between all the states and union territories of India.

5. This series, Aao Nadi Ko Jaane, will be reporting on this river of people, who are joining their heads and hearts and hands in a confluence of experiences - to stand together in protection of our river basin ecologies-economies. This will be only a single type of synergy. I have already mentioned the vast array of ecologies-economies - including forest, desert, mountain, coastal and other systems which will also be approached to network with. This is not about discussion leading to groundwork

but about people with ground work experience coming into more frequent discussions, online and offline to create improved policy changing and implementation improving synergies. It is good that we begin tracing this process as it has just begun and continued, over these few initial 16 months, during and throughout the challenging times of the pandemic. The plan is to complete the 1st phase of continuous tri-weekly webinars in 12 years. That would access every river basin on our planet. We must dream rich and not poor. If we are poor even in our dreams then that is the most unnecessary poverty of all.

The subject is vast. Dr Datta Deshkar said it will take a series to even begin to tackle the myriad issues, myriad Indian river basins of 1st to 4th order, the mentors and teams working on all these rivers, tributaries, catchments and basins; it will take a series to monitor the government and non-government teams, working on these rivers - and to nurture and to fortify an effectively-transformative ground-synergy of Samvaad between all these pioneers. What better forum than Jal Samvaad to report this on? It will be a great learning experience to write about the synergies formed by people who seek to set right the entire flawed anthropocentric model of development - because these fellow mentors and co-mentors and their wonderful teams on the ground DO calculate ecological and economic costs which have been paid and the human costs which are being paid as consequences of choosing a development model that believes in unthinkingly looting and raping the Resources of Nature. Thank you for this opportunity to pen this series.

*****

Earthquake helps growth of trees, reveals study

Earthquakes are usually regarded with fear and though technological and scientific advances have enabled us to study the natural phenomenon in greater detail, there is still no way to predict earthquake with pinpoint precision. Major earthquakes can cause devastation to cities and earthquakes on the ocean floor can trigger tsunamis which can cause damage in even greater area.

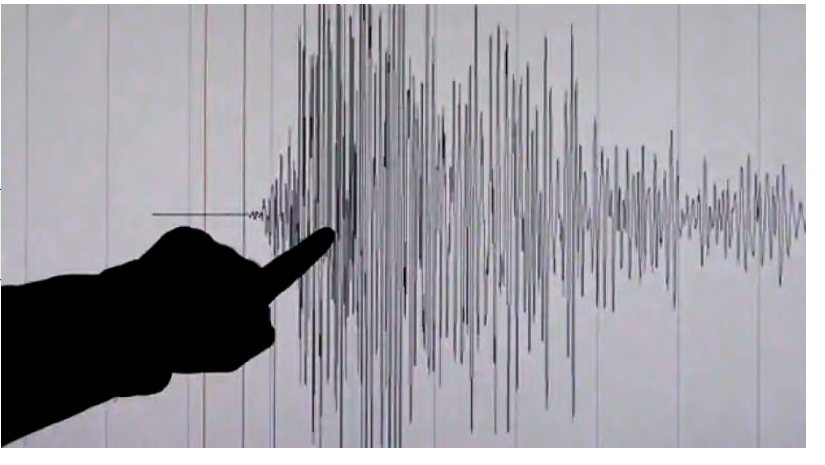
But scientists have found that earthquakes have a positive effect as well. It has been found that earthquakes help growth of trees. Trees growing on flat ground are benefitted more than those growing on slopes like mountainsides.
Result of the study has been reported in journal JGR Biogeosciences.

The researchers led by hydrologist Christian Mohr from the University of Potsdam in Germany studied Pinus radiata trees in Chile in the aftermath of a powerful 8.8 magnitude earthquake that hit Maule region in Chile in 2010. Trees growing in valleys as well as on mountainsides were studied.

Tree core samples taken in 2014 showed that trees growing in valleys showed temporary increase in growth. The increase in growth was less among trees growing on mountainsides.

The researchers are ascribing the effect to altered grondwater streams in the aftermath of the earthquake.

*****



NISARGBET

Shri . Upendradada Dhonde

(M) : 9271000195

NISARGBET, understand Watershed eco-hydrogeology before taking any plantation drive
Upendradada Dhonde, Sahaj Jalbodhkar, Pune

Why to understand? Because watersheds have structural and functional characteristics that can influence how human and natural communities coexist within them. Hence Watershed eco-hydrogeology is an essential knowledge.

The gross structure of a watershed is its 'head to tail' area, varying slopes, water bodies, soils and bed rock composition/minerals, native plants and animals etc. It is the raw material for all the human activities that occur in Watershed area. The natural processes like rainfall, runoff, infiltration, evaporation are important ones which continuously affect structural or functional characteristics of watershed over time and provide beneficial services to society when functioning properly.

Whereas watershed ecosystem has a certain degree of organization and order, it also exhibits constant change and disturbance at varying levels mostly relatively small, frequent disturbances. But when the intensity of these processes drastically changes, they may cause large, infrequent so-called "catastrophic" disturbances/disasters like droughts, flood, earthquakes etc. Also when humans misunderstood the catchment characters and interfere knowingly or unknowingly then same results in 'intensifying natural disasters and/or create new ones'.

Hence it is crucial for people to understand watersheds and how they work before they make decisions or take actions that may affect important components of watersheds as ecosystems.

To understand watershed ecohydrogeology, we need to have an accurate information about,

a) Climate: temperature, humidity, and precipitation (including type and amount), winds, and cloud cover, measured over an extended period of time. Climate heavily influences watershed vegetation, stream flows, water temperature and many other key watershed characteristics.

b) Hydrogeology: study of water in relation with various earth structures/landforms, processes, compositions, characteristics especially important to understanding the formation and alteration of the streams or river. it is the science of water in all its forms (liquid, gas, and solid) on, in and over the land areas of the earth, including its distribution, circulation and behavior, its chemical and physical properties, together with the reaction of the environment (including all living things) on water itself.

Vegetation is an important component of watershed ecohydrogeology and is dependent on bio-geographical patterns based on climate, physiography, soils, disturbance regimes and their interactions. The "rain shadow" of Marathwada and heavy rain area of Western ghat is a common, basic example of how vegetation varies with physical position. Based on different environmental conditions, there are hundreds of vegetation patterns like manmade agriculture and natural ones, where a few species of plants dominate and establish a characteristic form or structure within which a potentially large number of less abundant organisms also exist.

Few vegetation patterns based on their growth form are, Forests (deciduous, evergreen and mixed), Shrublands, Grasslands, Forbs (broad-leaved herbs). These categories are commonly found on land cover maps likely to be available in the GIS data for most watersheds and can be consulted to give a general sense of vegetation patterns in the watershed. Human activities such as urbanization (residential, commercial, industrial, mixed), agriculture (row crops, field crops, pasture), transportation (roads, railroads, airports), mining etc. fragmented many of the natural vegetation patterns that formerly covered our watersheds.

Severely degraded watersheds means they have lost several of their components and functions and as a result they provide fewer benefits (or even harm) to human and natural communities. So it is clear that recognizing rules of the watershed ecosystem and working toward protecting its critical components/ functions are key to sustainable watershed management.

Large portions of the world are characterized by shallow soil underlain by weathered bedrock or cemented soil horizons. The implications of this substrate condition for ecohydrological processes have not been systematically explored, but misrepresentation in models could have profound consequences for climate prediction and global vegetation modelling. An issue of particular uncertainty is the characterization of water storage for these regions.

A limited number of case studies have shown that plant water uptake is not restricted to shallow soils but can involve uptake from rock layers below. The mechanisms governing root–rock interactions are only beginning to be investigated.

In semi-arid regions with low to moderate rainfall in the range of 400 to 700 mm/year, the annual precipitation may not even suffice to meet the existing water demand, and droughts may occur with regular frequency due to variations in rainfall. The evapotranspiration losses in these areas are quite high and even though 5 to 10 percent of water gets infiltrated into the ground, the total ground water recharge will be very limited because of the low rainfall.

The stream flow in these regions is mostly restricted to the rainy season. Most of such areas have deeper ground water levels and the best option is to store as much of the water available as possible in the form of surface reservoirs, shallow aquifers and deep aquifer recharge structures for either direct use or to be used as source water underneath during non-monsoon periods. The scope for artificial recharge in an area is basically governed by the thickness of unsaturated material available above the water table in the unconfined aquifer and depth to water level data.

The important of current practices for Restoration of watershed ecology are one, water conservation and other afforestation. By planting 2.82 crore saplings in a single day, Maharashtra walked into the Limca Book of Records. Almost 90% of the saplings planted in Ambazari forest on July 1, 2016 during this 2-crore plantation drive have died due to lack of watering and frequent forest fires Since then, we continuously hear about mega-plantation drives (also to compensate loss of green cover for govt. projects: rule of 10 for 01), if these massive afforestation drives be succeeded in past most parts of the state would have turned into a dense forest by now, but the ground fact looks different.

What do you think, what we need for plantation drives to be successful? Only seeds-saplings, watering and fertile soil, is it enough? It is very much evident that inspite of availability of these three components still plantation drives fail. So there is a need to think about many other aspects of afforestation techniques that are critical for the success of the efforts and one of the most often overlooked aspect is the temperature of the root zone.

Yes, water capture from below the soil horizon is still ecosystem's most overlooked component which affects plants of more than 03 year's age as use of water from deep weathered bedrock substantially been affected due to deep ground water levels especially in dry seasons when

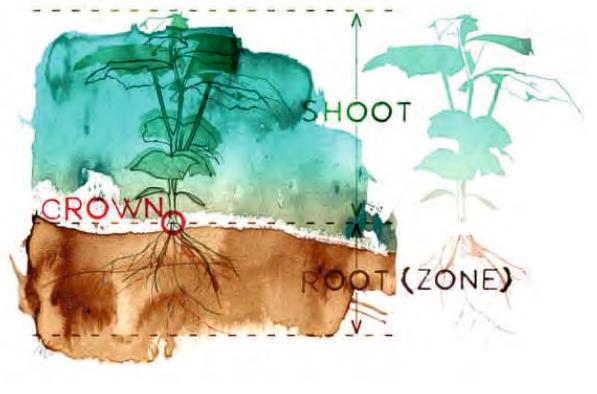
soil water has become depleted beyond the plant extraction limit. And this is the basic reason of failure of plantation drives.

After lakhs and crores of saplings plantations how many sustain after 05 years? You can just observe in your area (don't expect real data from govt.). I am not here pinpointing Govt's or NGO's failure but my concern is that there must be an integrated eco-hydrological model for regions with less rainfall, shallow soils, deeper GW levels and heterogeneous hydrogeology and the answer is NISARGBET wherel submit this as a new direction for eco-hydrological research which promises to achieve a more general understanding of the rules that govern plant development, form, and function, particularly of plant roots, and improve the way that increasingly accurate and extensive soil data can be incorporated in hydrogeological models.

Principle behind is root temperature and hydrogeology :

There are two main parts of a plant, the roots and the shoots, and one main intersection known as the crown. While composed of similar material, components and engineering their roles are basically, opposite.

The basic purpose of a root, is to take in water and those elements the plant needs to function that are available in the root zone. Other purposes include anchorage/ support and storage, which may be more important functions than uptake in some plants.



The 'shoot' (part of the plant above the surface) regulates its temperature through transpiration. The temperature range in the shoot can therefore be larger and it can change faster.

The root zone is not able to regulate its temperature at all. The temperature range is therefore smaller and the roots need to stay cooler. The root has to guard itself against too much of some things coming in and against the loss of what is inside. In doing so it must respire, take in oxygen (O2), and use it to reduce the carbohydrates made in the photosynthesis process in other areas of the plant, to release the energy for use in its processes.
Roots or shoots, chemical reactions inside the cells of the plant tissue give off heat. They also require a certain level of temperature to start and continue; when these temperatures get too high, the reactions go haywire. Roots take in water and they do their best not to give it up and as such do not transpire to cool the tissue but instead transfer the excess heat generated in these reactions (latent heat) to the surrounding medium.

Dense mediums such as soil, sand, even water, have a large temperature buffer that make the 24 hour swing in temperatures a root will see very minimal under natural conditions. The top itself can slow transpiration or increase it as needed to maintain a temperature in the production tissues, but the roots must be functional enough in their constant range of conditions to provide everything the top needs, and then does not need, as it goes through a rapid daily change.

Soil, natural or artificial, changes its ability to give up or retain heat based on material, depth (volume) and moisture level. Shallow rooted plants work with bigger temperature changes whereas deeper rooted plants deal with smaller fluctuations and cooler temperatures than this average.

The plant root does not regulate its own temperature, and once temperature in the medium goes outside the perfect zone for reactions to occur, can no longer supply the rest of the plant with ideal levels of materials. This is true high or low. The greater the fluctuation in

temperatures in a 24 hour period, the more stressed the root system becomes. The more stressed a root system is the more problems a plant will have both physically and pathologically, and will become increasingly susceptible to pathogens and insects. Even a nutrient issue can develop in a properly fed plant where root zone temperatures are outside of the range. It is a much more complicated story than laid out here.

The root and shoot systems have different sets of needs when it comes to temperature: one can function in a bigger range with warmer and faster changes, and the other in a much smaller, cooler, and stable range.

So solution is Nisargbet,

it is a afforestation model or enviro-architectural theme for creating natural forests. This is an endevour committed to shoulder the responsibility of carrying forward the legacy of the great Indian traditions of Afforestation like Panchavati and Devrai. Nisargbet, is one step ahead with addition of hydro-structural planning as a part of the plantation drive. The concept of Nisargbet was introduced by Sh. Upendradada Dhonde, a Hydrogeologist and social activist based in Pune, Maharashtra. The Methodology principle applied here is," growing mixed layers of trees with respect to their root system classification, with proper understanding of watershed direction and soil/rock formations underneath".

Nisargbet theme believe that, 'plantation can never sustain by simply providing water by tanker, drip etc.it can not be sufficient for plant growth. Hydrogeological part of the area must be considered for sustainability of the forest. Hence, any plantation project must be coupled with hydrogeological survey of the area. The plants to be grown must be selected as per native rock-soil type and the Ground water levels underneath the area must be maintained.

We plan to create maintenance free, self sustainable, native forests, particularly in water scarce areas. We think this is one of the best startups in the field of plantation and will soon become one of the most impactful practices all over in India.

The Nisargbet plan can be prepared for a plot as small as 10,000 square feet (10 Gunthas) and for as big as entire watershed area i.e. many acres of land. The expenses involved are varying and flexible according to local conditions.

Steps involved in Nisargbet making

1. Preparation of lay-out plan of the project area on an appropriate scale.
2. Determination of the number of structures required for recharge.
3. Identification of tentative locations of proposed structures
4. Preparations of design specifications and drawings
5. Working out the time-schedules for completion of various stages of the scheme.
6. Planning of financial aspects such as source of funds, allocations required at various stages, schedules of repayment etc
7. Preparation of Report of the Scheme :Reports are to be prepared separately for each scheme or project, reflecting various considerations made during the planning process.

On 04th year, Nisargbet plantation will be a self -sustainable and water independent forest. The big size projects will even contribute to watershed. The Nisargbet is a unique methodology proven to work irrespective of soil and climatic conditions. A completely maintenance-free, wild and native forest after the first three years. A completely chemical and chemical fertilizer free forest that sustains itself and supports local bio-diversity.

*****

Stockholm Water Prize 1995

Gajanan Deshpande, Pune

(M) : 9822754768

WaterAid, Great Britain

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

The 1995 Stockholm Water Prize was awarded to the British Water Aid, a social organization in England working in the field of water. Worldwide, about 25,000 children die every day from contagious waterborne infections. Similarly, two billion people are at risk every day from waterborne diseases. Eighty percent of the world's diseases are theoretically caused by poor quality water and inadequate sanitation.

British WaterAid, a social charity, works to educate people living in poor conditions on how to maintain clean water. In particular, before starting such training, care is taken to ensure a permanent supply of pure water to the people of the village. This tangible change helps the women of the village, on whom the organization pays special attention, to better understand the importance of cleanliness than words. Also, reducing the distance they have to walk to get clean water is another fundamental element of the organization's goal. Every household in the UK has a copy of their water bill with a copy of the appeal to support Water Aid projects. All the agencies involved in the establishment of the organization have full confidence in their work and therefore find it heartwarming to appeal to the 23 million families to whom water is supplied.

There is a sense of respect for WaterAid at every level - from the government to the aid agencies and the local people. In 1995, the organization was nominated for the Stockholm Water Prize and WaterAid was chosen as the winner of that year. The award was accepted by John Lane, then director of the organization.

The organization is polite about this success. It works in collaboration with the Ministry of Rural and Health and seeks to use affordable but effective technology to combine local knowledge with practical methods. Another important objective of each such project is to develop a sense of responsibility among the local people for their limited water resources. E.g. They should pay for every bucket of water they use. All the money paid by the people is deposited in the co-operative bank account, which is used for maintenance and repairs of water supply system and pumps.

Special squads, known as 'Wamma Teams' have been formed for WaterAid-assisted projects in Tanzania, bringing together people from the Ministries of WaterAid, Water-Health and Social Development. The work is carried out by these teams. These teams go to the villages and hold meetings about the projects, helping the villagers to set up water committees. They also help to appoint a supervisor and a technician to operate the pump. They also organize training for the villagers on water conservation and hygiene.

WaterAid is committed to providing sustainable support for development. It is the policy of the organization to hand over the entire responsibility of the projects to the villagers and the Wamma Teams once they learn how to manage their own water. By 1995, three million people in the Third World would have access to abundant pure drinking water through waterAid-supported projects. It helped more than half a million people in Tanzania who did not have adequate water

supply over the period 1983-95.

The methods used by WaterAid in Tanzania and twelve other African and Asian countries have proven to be effective in treating unsafe water issues around the world. Since receiving the award, WaterAid has expanded its programs in the areas of water and sanitation, with an estimated 8 million people in Africa and Asia benefiting from their safe water service. The prize money has been used to establish a 'dedicated research policy and advocacy department'. The development goals have been set to pursue the growth of equitable as well as technically sound and sustainable water supply and sanitation services at the national and international levels.

*****

Organization- Blue Planet Network

Shri Vinod Hande

(M) : 9423677795

'Blue Planet Network' founded in 2002 with ambitious goal to ensure that 200 million people need access to safe drinking water. Organization worked to build awareness and funds for water projects. In 2007 'Blue Planet Network' arranged first global relay run for safe drinking water. A book "Race to provide safe drinking water to the world" published by 'Blue Planet Work' is a powerful book that tells the human story of water through photos and essays connected people of the world to the water crises and how they could solve it. 'Blue Planet Network' realized that all the water crises awareness in the world would not help if people could not easily find great implementing organization, water project plans and get support from them.

'Blue Planet Network' continue to operate and grow its online collaboration platform and network of 100+ organizations. 'Blue Planet Network' is empowering over 200 million people in 27 countries with safe drinking water. On asking what makes clean water so important it replied,

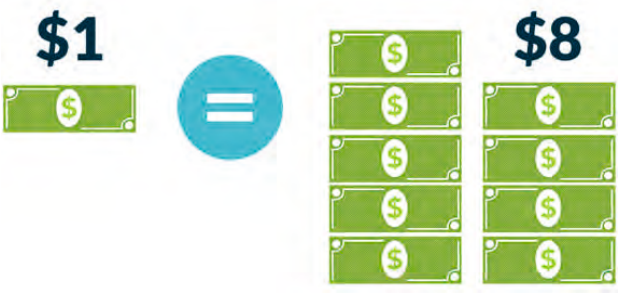
- Unsafe water is the leading cause of sickness and death.
- Unsafe water kills 200 children every hour filling half of the hospital beds in the world.
- 3.41 million people die from water, sanitation and hygiene related cause each year.
- Half of the world's hospital bed are filled with people suffering from water related illness.

It is estimated that nearly 10 % of the global disease burden could be reduced through improving water supply, sanitation, hygiene and water resource management.

'Blue Planet Network' thinks that water impacts everything. Safe drinking water sends children specially girls back to school, empowering women, improves community health and promotes economic development. In just one day, 200 million work hours are consumed by women collecting water for their families. This productivity loss is greater than the combined number of hours worked in a week by employees at Walmart, McDonald's and IBM. Without clean water and sanitation it is impossible to deal with poverty, hunger or AIDS.

'Blue Planet Network' says nearly a billion people are in need of fresh water that's one out of nine people in the world. As per WHO/UNICEF joint monitoring program 780 million people lack access to an improved water source. By 2050 at the rate we are going, it is estimated two third of the world will be living with water scarcity or total water deprivation. Creating access to safe water for everyone is achievable because lack of access to safe water is not a technical problem, it is human made, funding and efficiency issue. The world has money to make it happen. In fact it would take 1/3 what the world spends on bottled water in one year to pay projects providing water to everyone in need. But it is also estimated that lack of community causes 50% of projects to fail. The return on investment in water and sanitation is

enormous. For every $1 investment in water and sanitation, the United Nations Development Program estimates return of up to $8 depending on the region and technology.



Small team of 'Blue Planet Network' working in US and Australia which is getting support from global community of members and over 100 experienced field staff, empowers communities with clean water and sanitation.

Some achievements of 'Blue Planet Network' are listed below,

• 800000 people enabled by safe drinking water or sanitation.

• $30 million of project data managed online.

• Network of 77 members working in 24 countries.

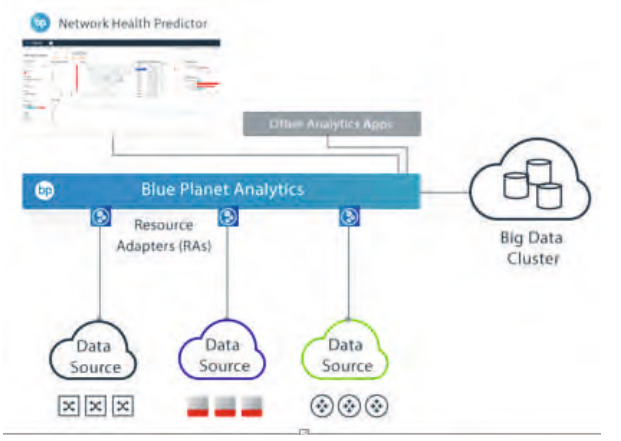
Head office of 'Blue Planet Network' is in Oakland , USA and John Anner is the Chief Executive Officer of the organization. Mission of the organization is to exponentially increase the impact of safe drinking water programs for people around the world. In 'Blue Planet Network' program for the prosper of networks connect funders, NGOs, the public and communities in need to improve the planning, selection, management and monitoring of water and sanitation programs.

'Blue Planet Network's approach towards works mainly based on 1) partnership Collaboration, 2) Building capacity and 3) Focus on performance.

Obtain results are the mile stone of 'Blue Planet Network',

• 2 million people in 3611 communities have access to safe drinking water and thus more productive life.

• 110 organizations working on water and sanitation access in 27 countries use 'Blue Planet Network' services to improve their impact.



• 1950 member water sanitation project totaling $45 million are tackled 'Blue Planet Network' network.

• 'Blue Planet Network' offer innovative solutions to difficult problems faced by poor families and communities around the globe. Since 1988 more than 5.9 million individuals have been benefited in health, water sanitation and education .

• The organization has invested over $106 million in developing solutions in Asia. Organization operate their programs in Vietnam, India, Myanmar, Philippines, Timor-Leste. Organization has launched programs in West Africa also.

Between the period 2009-2013 Organization received following awards,

1. 2009 California Association of Non-Profits Innovation Award
2. 2010 Intel Environment Tech Award
3. 2011 World Bank Water Hackathon Prize
4. 2012 World Summit Award
5. 2013 mBillionth Environment Award

'Blue Planet Network' helps there members to track water and sanitation projects to increase quality, impact and sustainability to work system longer. The organization has taken up projects in India in Mahandulwadi village. Let us see what the happy villagers say about the project. Mahandulwadi is a hamlet of the main village of Mandavgaon in Shrigondha block of Ahmednagar district of Maharashtra. This village is a part of 6-7 small villages. The village falls in drought prone area and faced constantly acute drinking water shortage. Despite implementation of Government

regional drinking water scheme in 2012 , the available local wells lack sustainable water source and run dry in summer months.

There was no government plan to solve their water needs. So villagers of Mahandulwadi approached 'Blue Planet Network' members, Watershed Organization Trust (WOTR) for assistance. The project was planned in January 2014 and completed on 31st December 2014 with the help of villagers and members of 'Blue Planet Network'. The project required awareness generation, planning and organization of the community work and identification of water source. Over 900 people of villagers got clean drinking water said Ms. Housabai Popat Pawar. For distribution of water old 25000 litre tank was repaired and existing distribution pipeline was used. Water committee was formed for proper distribution of water. Ms. Pramila Kashinath Deokar formed the Ambika Women's Self help Group. Through education provided by WOTR, Ms. Pramila able to teach the Self Help Group members how to purify their water. Cases of typhoid and diarrhea came down due to availability of clean water.

'Blue Planet Network' has also taken up project with Pondicherry government of disilting of existing ponds under the National Rural Employment Guarantee Program. Organization also provided and installed 30 numbers of siphon water filters in government run primary and middle school premises in Sethubavachatram block of Tanjore district of Tamil Nadu.

Stephanie Hellman has worked with 'Bluewith Planet Network' since 2012. She raised over $15000 for safe drinking water project. Her " Hope For Water" events at schools in Northern California raised awareness and inspired thousands of school children to help bring safe drinking water to people around the globe. Fund raiser Stephanie Hellman became water advocate and community leader. She said 'Blue Planet Network' has a clear vision, mission and strategy coupled with effective team. With 'Blue Planet Network' she hosted another water event for 400 kids in school of San Anselmo. With this meaningful event one girl student donated money which the girl received on her birthday for this good cause.

On asking why She is working in India, she replied "India has long been on my bucket list". She was ready to get closer to the water issue and understand the mechanics of well engineering. She wants to continue hosting hope for water events because she saw lot of potential for her project Hope for water. She said 'Blue Planet Network' has a best working team with leadership and support which what she needed.

'Blue Planet Network' is having three headquarters namely in USA, Asia and in Africa.

Global offices in Africa and Asia

In Africa	In Asia
Cotonou, Benin	Phnom Penh, cambodia
Accra, Ghana	New Delhi, India
Kigali, Wawanda	Vientiane, laos
	Yangon, Myanmar
	Manila, Philippines
	Da Nang, Vietnam
	Ho Chi Minh City, vietnam

Achievements of the organization,

- 1.6 million people empowered with safe drinking water.
- 1.6 million women and girls empowered with life skill education.
- 2800 middle school students mentored.
- 140000 hygiene latrines with septic tanks built.
- 80000 newborn and young children received healthcare.
- 550000 people benefited from healthier living conditions.
- 530000 women, children and young adults accessed educational opportunities.

Generating revenue for programs and projects is very difficult task. Source of money to the organization is shown in table below,

Source	Revenue in percentage
Business/Corporation	1 %
Community Organization	4 %
Individual	13 %
Government/ International agencies	13 %
Foundations	69 %

There's big list of donors who donate to the 'Blue Planet Network' ranging from $1000 to $100000 and above. One can donate to the organization on one time donation or recurring gift basis because clean water keeps people healthy, helps girls stay in school and empower women to earn income for their families.

Contact details of 'Blue Planet Network' USA headquarter are provided to know more about organization and their work.

'Blue Planet Network'
1611 Telegraph Avenue,
Suite 1420,
Oakland, CA 94612,
USA.
Phone- 510-763-7045
www.blueplanetnetworks.org

*****

World Water Day-1997

The World's Water: Is There Enough?

Gajanan Deshpande, Pune - (M) : 9822754768

(A new series of articles 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.)

On the occasion of World Water Day-1997, the main topic "Global Availability of Water" was put before the people for consideration and for that a slogan "World Water: Is It Enough?" was created. Only 2.5% of the total water on earth is pure usable water and only 0.26% of it is available for use in lakes, rivers, streams and dams. As this amount of water is available for domestic, industrial and agricultural use, there are increasing tensions and problems in various communities to get it. Water pollution is adding to this. Also, as water consumption is increasing day by day, everyone has to think seriously about its availability and especially its value. The work of drawing people's attention to this has been done through this theme.

It is time for society to seriously consider whether the world's available water can meet the demand for water. Increasing water supply is not in our hands; because it is subject to nature. For this, if we want to strike a balance between supply and demand, we have to think about demand. Can we save water in each of the various uses of water? This is the real question of the hour. In short, it is a theme that encourages water conservation.

India is a region of sacred rivers, numerous lakes and reservoirs. The rivers originating from tall Himalayas in North India are perennial rivers. The rivers get water due to rain and due to melting of ice as well. This is the perception of common Indians for generations. But changed circumstances have pierced this fact. Freshwater availability has declined sharply, especially in North India and East India. This problem has become so serious that if immediate planned steps are not taken, the situation is likely to become more worrisome in the future.

Changes in the monsoon are one of the reasons for the declining availability of water. But, that is not the only or major reason. On the other hand, the declining water availability here can be linked to human industries. Unrestricted groundwater abstraction is one of the major causes. In some parts of northern and eastern India, the rate of groundwater depletion is 3 to 6 cm per year. Perhaps one year's statistics don't give an idea of its severity. However, every decade the groundwater level is going down there by one to two feet permanently. This matter is serious. In areas of India where the groundwater level is steadily declining, the availability of fresh water is a serious problem.

In this context, the overall groundwater use in India needs to be given a serious thought. In India, rivers traditionally provide water for agriculture and other purposes. Large lakes were used where there were no rivers. However, these are the sources for surface water. In places where these sources were not available, man depended on groundwater. We still depend on this source in many regions. Groundwater is important for whole of India, including Maharashtra.

Groundwater depletion figures for the whole of India for the year 2011 are available. It says that in 2011, the country pumped 2 lac 45 thousand million cubic meters (245 billion cubic meters) of groundwater. That was about 25 percent

of the world's total groundwater abstraction that year. Another fact is that the area of India is only two and a half percent of the total area of the world and one quarter of the total ground water of the world is extracted on this region. This is enough to make you realize the seriousness of the situation. Now what exactly is 2 lakh 45 thousand million cubic meters of ground water extracted in a single year? Koyna is currently the second largest dam in Maharashtra which has useful reserves of 2835 million cubic meters. This means that in 2011, the people of India pumped enough groundwater to fill 86 Koyna dams.

The overuse of this resource is the main reason for the shortage of drinking water in the context of India. Groundwater abstraction increases when surface water sources for agricultural, industrial-urban needs or other purposes become unavailable. Substitution is done regardless of the amount of recharge. Now that the technology of pumping water from the depths is at hand, the groundwater level is going even deeper very fast.

Water pollution should be deliberately discussed in conjunction with unrestricted groundwater depletion. Take the example of rivers in Maharashtra or lakes in cities other than Bangalore. Water pollution is a major problem in all areas. It has no state or province exception. In fact, when the river passes close to the population, it becomes polluted. The larger the population, the higher is the pollution. Therefore, it is a disgrace to the citizens that this water source cannot be used even though it is a pillow. Such water sources are also being destroyed. The same problem is happening with groundwater now. In many areas, it has already happened. This is compounded by the growing number of unplanned cities. Lack of water planning, rain-fed cities, recyclable wastewater, water-saving irrigation systems, crop planning based on climate-water availability - all of these seem to have become a thing of the past. In the future, we will have to pay close attention to all these things and plan in detail.

*****

In Bharat, we grow some traditional oil seeds for edible oils

Mustard, Ground nut, Sunflower, Coconut, Sesame, Safflower and Linseed are the major crops. All these crops are mainly rainfed crops. Some of these are irrigated in certain stages of growth.

These contain 40 percent of the requirement and rest ie 60 percent,is imported such as Palm oil etc.

Recently GOI.declated that large investments will be done to promote palm plantation.some11000 Crs are earmarked.

In my personal but sudied view there could be a better alternative.

1..Identify all oil seed crops as cash crops.

2..Provide micro irrigation to each Hectre of these crops,alongwith fertigation.

3..Reprogramme,or update the Agronomy and water requirements.

4..Update from number of plants and kgs of seeds per hectre to elavated productivity per plant!,as that is to be a right step towards precision farming.

To conclude,If we revisit our oil seeds cultivation to by adopting the above mentioned measures.our farmers will help process all the remaining 60 percent of our edible oil requirements.

Nay..the healthy cold pressed edible oils can be exported.

The author is a senior non graduate,agro consultant from Maharashtra.

Has contributed by growing excellent and record crops on drip on number of farmers fields.

In the forth coming Rabbi season,good number of farmers of their choice,without any govt.support,to grow Safflower on Drip irrigation.

With regards

Dileep B. Pendse
9730910272.

About Dr Snehal Donde

A Water Activist

Being a guiding epitome is not what everyone can become; it comes with inherent passion and unconditional zeal to make a better future for others. Dr. Snehal Donde has been doing the same as an Environment Conservationist and Education Administrator with a significant experience of being a Head of Institution affiliated to University of Mumbai for last 15 years. Sharpening her work profile as a lecturer with specialization in Zoology & Management Studies, she has efficiently dressed herself in the merits of a professional through enriching educational qualifications, dynamic work experience and extension services. Presently she is Dean Administrative Affairs of Bhaktivedanta Vidyapith Research Centre (BVRC) for Vedic studies and conducting projects on Environmental Vaishnavism.

For community extension work she started as Mumbai University NSS Programme officer in 1993 and continuing same as Hon. Chief Research officer of Goverdhan Ecovillage, at Hamrapur Manor, Palghar, which is a model sustainable village of ISKCON. For her immense contribution in Nature awareness programmes and river rejuvenation water conservation initiatives, Dr Snehal Donde is recognized as Jalnayak by Water Literacy Department, Yeshada (Yashwantrao Chavan Academy of Development Administration) Government of Maharashtra. At National level she is associated with Dr Rajendra Singh Water Man of India as Core Member of Indian River Basin council and is Chief Convenor of Jalbiradari Aviral Ganga Mission (West Bengal & Tripura) for resolving erosion, siltation issues and rehabilitation of displaced population in affected areas. At International level she is active member of World Water Council, making efforts to curb corporatization of water.

She has conducted aerial survey of Ganga from Bihar to West Bengal and as a solutionary, under her leadership along with a team of Scientists she has conducted social and environmental assessment of ganga basin from Farakka to Malda-Murshidabad districts upto Ganga Sagar in West Bengal and Tripura State and have taken up the issues with Office of Prime Minister and President of India for resolution. In Maharashtra she has been painstakingly working for rejuvenation of western flowing rivers such as Kamvari & Arjunali (Bhiwandi Taluka), Bhatsa (Kalyan Taluka), Waldhuni & Ulhas (Ambernath

taluka), which are severely encroached, polluted and mainly shrinking into nallahs. Being a Researcher and environment activist, she has vastly studied issues of over-damming in Maharashtra which is affecting biodiversity, fishery and livelihood of displaced people. She has extensively conducted survey for understanding the efficacy of government policies and status of implementing Rain water Harvesting policies in Mumbai city and its suburb, and followed up with Water department authorities for ensuring its effective implementation as an alternative for water crisis. She and her scholars have carried out studies on Mithi river and Dahisar creek for mangrove carbon sequestration to recommend government effective formulations of policies and strategizing mangrove conservation.

She is a dedicated academician, an able distinguished administrator and activist, with a futuristic vision for leadership, who inspires people around to strive for quality and excellence in Education as well as fighting for the cause of water crisis. She is very passionate about any work she undertakes. She is double PhD one in Science (Zoology) and other in Humanities (Management). And presently pursuing for third doctoral studies on Hinduism and ecology. She is recognized PhD/MPhil/PG guide in Zoology and Education Management from University of Mumbai, SNDT, AMET Chennai, JJT Rajasthan. 9 students have been awarded PhD degree under her able guidance and four are pursuing. She has authored 10 books and six chapters in books published by international publisher. 50 papers are published in peer reviewed Journals of National and international repute. Her main focus area in research is Education policy, Riverine ecosystem, Environmental pollution and biodiversity studies. Through research work she is making efforts to bring change in archival policies as she firmly believes that effective policy can bring quality change and thus forwards recommendations to appropriate regulators for policy guidelines. She has presented several papers in international and national conferences and travelled extensively across India and visited many states of foreign countries like US, UK, Canada, Thailand, Mauritius, Srilanka, Brazil France etc. Among many few awards to mention is that she is recipient of Green Crusader award by UNEP Ministry of Environment and Bhamla Foundation, Dr Belsare Medal from Zoological Survey of india, Best Educator Award (Twice), Best Extension work Teacher awarded by University of Mumbai for community services, received several Awards for excellence and contribution in water literacy, conservation and river rejuvenation, Membership and vocational excellence award conferred by Rotary Club and has successfully completed Leadership Academician Programme sponsored by Ministry of HRD, GOI.

She has created mass movement for cleaning water bodies and rejuvenating rivers and continues to mobilize and educate students, teachers and NSS volunteers of colleges and universities across India. She has conducted Ganga peace march, human chain formation and river rallies for awareness among local public. She regularly conducts workshops and orient Talathi (Kisaan Sevak) for judicious use of water by making them understand crop pattern and rain pattern and use of drip irrigation, also orient Gram Sevaks, Gram Sarpanchs for water literacy and joint meetings with authorities of Tehsil, Grampanchayat, Zilla Parishad, Collector office, Municipal Corporations, MMRDA, MPCB for emphasizing performance report and accountability. She is instrumental in

closing down few companies releasing effluents and polluting Kamvari river. With an integrated approach and as an RTI activist she has resolved several issues of environment and education. She has delivered recently a session on water conservation and river rejuvenation in Richmond, US and given talk shows on TV channels which include Mindalia TV show and interview by Walking Water organization in USA. A multi-dynamic individual she has proven that nothing can stop you from acquiring knowledge, learning, environmentalism and contributing in community for social action and sustenance.

*****

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 अपार्टमेंटस,
पॅनकार्ड क्लब जवळ, बाणेर हिल्स, पुणे –
४११०४५ येथे प्रसिध्द केले.
संपादक डॉ. दत्ता देशकर
e-mail - dgdwater@gmail.com
मासिकाची वेबसाईट - www.jalsamvad.com

The Great Green Wall Initiative

Information collected from google

What is the Great Green Wall?

The Great Green Wall is a symbol of hope in the face of one of the biggest challenges of our time – desertification. Launched in 2007 by the African Union, this game-changing African-led initiative aims to restore Africa's degraded landscapes and transform millions of lives in one of the world's poorest regions, the Sahel. Once complete, the Wall will be the largest living structure on the planet – an 8,000 km natural wonder of the world stretching across the entire width of the continent.

The Great Green Wall is now being implemented in more than 20 countries across Africa and more than eight billion dollars have been mobilized and pledged for its support. The initiative brings together African countries and international partners, under the leadership of the African Union Commission and Pan-African Agency of the Great Green Wall.

Objectives :

By 2030, the ambition of the initiative is to restore 100 million ha of currently degraded land; sequester 250 million tons of carbon and create 10 million green jobs. This will support communities living along the Wall to:

- Grow fertile land, one of humanity's most precious natural assets
- Grow economic opportunities for the world's youngest population
- Grow food security for the millions that go hungry every day
- Grow climate resilience in a region where temperatures are rising faster than anywhere else on Earth
- Grow a new world wonder spanning 8000 km across Africa

Key Results (2020 data)

The Great Green Wall snakes the Sahel region from Senegal in the West to Djibouti in the East of Africa. Several achievements have been recorded in most of the GGW member states, with some countries being more successful than others.

While some ccountries started the implementation of the GGW activities as early as 2008, others joined as late as 2014, when the GGW declaration was ratified.

The 11 countries selected as intervention zones for the Great Green Wall are: Burkina Faso, Chad, Djibouti, Eritrea, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal, and Sudan.

Country	GGW Intervention area (Ma)
Burkina Faso **	13.3
Chad**	3.0
jibouti**	0.34
Eritrea ***	12.4
Ethiopia *	13.2
Mali *	44.4
MauritaniaNiger *	1.65
Nigeria *	47.3
Senegal **	17.4
Sudan **	0.8
Total	2.3
chart	156.1

The total area of the GGW initiative extends to 156 Mha, with the largest intervention zones located in Niger, Mali, Ethiopia and Eritrea.

Since its launch in 2007, major progress has been made in restoring the fertility of Sahelian

lands. Key examples of countries the GGW has carried out restoration activities include:

How is the UNCCD supporting the initiative?

FLEUVE Project – The Local Environmental Coalition for a Green Union (2014–2018)

The Global Mechanism (GM) of the UNCCD implemented a flagship initiative under the Great Green Wall called FLEUVE. The project was financed by the European Commission in the amount of about seven million Euro and was implemented from 2014-19.

FLEUVE aimed at strengthening the capacities of local communities to help boost investments in land restoration and created employment opportunities or 'green jobs. The project was driven by local people themselves to strengthen community resilience to land degradation, drought and climate variability.

Micro-investment projects were implemented under FLEUVE in 23 communities across five Sahel countries – Burkina Faso, Chad, Mali, Niger and Senegal. The project was complemented by regional-level activities on capacity building and the dissemination of good practices on sustainable land management and innovative financing.

The Global Mechanism of the UNCCD is also supporting the development of sustainable value chains, where it is working with the private sector who guarantee purchase of dryland products in the Sahel. This leads to the creation of land-based jobs for thousands of rural women in the Sahel.

Irish Government

The Global Mechanism is simultaneously implementing a EUR 1.2 million grant from the Irish Government in support of the Great Green Wall.

This work is based on two pillars:

The elaboration of a "State of the Great Green Wall" Landmark Report, which will provide a big picture overview and authoritative analysis to assess the state of the Great Green Wall, a decade after it was launched

Development of a portfolio of transformative projects along the Great Green Wall for future donor funding

Public Awareness Campaign

The UNCCD has launched a public awareness campaign on the Great Green Wall, called "Growing a World Wonder." The campaign aims to boost global awareness of the initiative in public spheres, policy debates, as well as media and cultural sectors with a clear view towards inspiring long-term public and private investment in the initiative.

The campaign aims to inspire a global popular movement to deliver this urgent African-led dream by 2030. It centers on the core narrative that the Great Green Wall is an urgent symbol of hope in the face of the greatest challenges faced by mankind this century from climate change to food security, migration and resource-driven conflict. It is a compelling example of man and nature working together to create a unique legacy – a new world wonder for the next generation.

The campaign has already reached millions of people through mass media outreach, virtual reality, high-level events and civil society involvement. Among the future highlights is the release of the Great Green Wall documentary produced in collaboration with an Oscar nominated filmmaker Fernando Meirelles and Malian singer Inna Modja.

Partners

Permanent Inter-State Committee for Drought Control in the Sahel
European Union
Food and Agriculture Organization of the United Nations
Global Environment Facility
United Nations Convention to Combat Desertification
International Union for Conservation of Nature
Sahara and Sahel Observatory
World Bank Group

*****

Water Pollution:

As it is, potable water is available in a small quantity but unfortunately we are polluting it and thus reducing the quantity still further. Show me a single river or lake where the water is not polluted. Every individual is having his own contribution in increasing pollution. Let him be a household, a farmer or even an industrialist, he has his own contribution in increasing water pollution.

Before the dams were constructed on rivers, there was a free flow of water in the rivers. Every year during annual rainfall, there was a flood like situation when the rivers used to clean themselves. Thus, there was a natural flushing system. But now, when the dams are there, that free flow has come to an end and the stagnant water accumulated behind the dam wall is getting polluted. There is a saying in Sanskrit, Gangarpanamastu, (modern) meaning thereby, whatever is not needed put it in the river and get rid with that. Every individual, may be a household, a kisan and even an industrialist, with or without any intention, is putting all unwanted things in water bodies and are polluting water.

Out of the total quantity of water every person is using every day, huge waste water is created. I am tempted to say that every human being more or less is a machine which converts potable water in waste water. While taking bath, cleaning utensils, washing clothes, flushing the toilets, etc. waste water is generated. In fact, if one takes a small precaution he can reuse the same and reduce pollution but he feels that water can be used in any way he likes since it is available in plenty. A time has come now when we are required to purchase water like other commodities. And hence judicious use of water has become essential.

Water is used for irrigation. In the cultivation process the cultivators use chemical fertilizers for increasing the yield and insecticides for protecting the crops. These things get mixed up with water and pollute it. This polluted water either flows to the rivers or percolates in the soil. Both ways, the quality of surface water so also the ground water deteriorates and is harmful for human consumption. Not only that, quality of food grains produced by using this water also are affected and if consumed they are harmful to the human body.

Industries are also major consumers of water. Water is one of the inputs and is used in the production process. Part of water is consumed in the production process where as the residue created is dumped in rivers or lakes by the careless industrialists. There are various laws passed by the Government as to how this waste water should be disposed of. But unfortunately nobody takes care and the ultimate result is water pollution.

If such is the case, what is the solution? The only solution is that the person who has polluted is has to find out the solution. There is a saying in English – Polluter must pay. And now the polluter is really paying for it by consuming that polluted water!

Heartiest greetings form the Jalasamvad family

जलसंवाद (**Jalasamvad** - Marathi Monthly)
The only monthly magazine published in Maharashtra on the subject of Water
17th Year, Annual subscription Rs. 500 only, pay on: www.payyoursunscription.com

जलोपासना (**Jalopsana** - Diwali Issue)
Thought provoking, in depth analysis on the subject of Water - published for 8 years

जलसंवाद रेडियोः
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 जलसाक्षरताः
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 साइटः
Log on and get e-copies of Jalasamvad, Jalopasana,
Booklets on water written by Dr. D G Deshkar, etc.
www.jalsamvad.com

Jalasamvad

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