



Cover Story

NM Sadguru

Water and Development Foundation

Shri Vinod Hande



जलसंवाद



जलसंवाद तर्फे इ पुस्तके

- (१) मी एक जलप्रेमी : डॉ. दत्ता देशकर
- (२) जाणून घ्या आपले पाणी : डॉ. दत्ता देशकर
- (३) जल-सुसंस्कृततेच्या दिशेने : श्री. गजानन देशपांडे (आगामी)
- (४) Towards Excellence in Water and Culture :
Shri Gajanan Deshpande (आगामी)
- (५) उद्योजकता : (स्वतःचे भविष्य स्वतःचे हाती) : डॉ. दत्ता देशकर (आगामी)
- (६) जलक्षेत्रातील यशोगाथा : संपादन : डॉ. दत्ता देशकर (आगामी)
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Jalsamvad



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When Khadakwasala Dam was completed, it was observed that the water collected was much more than the requirement. The problem faced was how to use that additional water. Taking this fact into account, it was decided to use that water for the cultivation of sugar cane. In this background sugar cane was introduced in this region. But this crop which was a guest to this region, it became a dominant crop and started getting the treatment of the owner. This crop gave good number of MLAs, MPs, Ministers and also the chief ministers. Thus it became a crop most favoured by politicians.

Taking inspiration from this experience, budding politicians in other regions of Maharashtra started developing a taste for this crop and in course of time, they also used this crop as a ladder to climb up and up in the political arena. In this process of competition, they forgot that this crop needed quite a sizeable quantity of water. And the result was devastating. Sugar cultivation in the districts like Ahmednagar, Aunagabad, Janla, Beed, Solapur which were known as draught prone districts also increased substantially.

To get adequate supply of water to develop this crop, the cultivators started following foul methods. Purchase of few gunthas of land near the percolation tanks, dig a bore well there and lift water from those wells and take to the farms by plastic pipes became a common practice in these regions. The basic purpose of constructing percolation tanks was to provide water to the small cultivators. This purpose itself was defeated by the sugar cane growers.

The cultivators can be divided into two groups here. i.e. sugarcane cultivators and other cultivators. If we study the proportion of these two groups, hardly five percent of these are sugar cane growers. Thus, 80 percent of water is being used by these sugar cane growers denying the opportunity to other cultivators who also have equal right in using this water.

You must be quite aware of the concept of virtual water. Whatever commodities we see in this world are representatives of water used for manufacturing them. Thus one ton of sugar is equivalent to the water used for manufacturing that much sugar. If we store that one ton of sugar in the godown, it naturally means that we have stored that much water in the godown. If we export that sugar in some other country, it is as good as exporting that much water to that country. When we are running short of water in our country, it would be unjust to export sugar to other countries.

We have studied earlier that major portion of water available is being used for producing sugar cane. That is an injustice to other crops and other cultivators who are not cultivating sugar cane. They have also equal right on water as water cannot be a monopoly of some brands.

When you are using so much of water, it is your moral responsibility to use that water judiciously. But the situation is totally different. When we observe that the world produces 100 to 125 tons of sugar cane per acre, our average production ranges between 35 to 40 tons. Water used per acre is more but yield is much lesser. We have our national objective of **More crop per Drop**. But here the situation is, so many drops are unnecessarily wasted, Is it that we have allotted this water use to inefficient hands?

What we need is that we should identify those districts where there is water shortage and discourage the cultivation of sugar cane in those districts. But the problem is who will bell the cat?

Dr. D. G. Deshkar
Editor.

Organization - N M Sadguru Water &

Development Foundation

Shri Vinod Hande, (M) 9423677795



“N M Sadguru Water & Development Foundation” is a non-government, non-political, non-profit, secular organization registered in 1974 under Public Charitable Trust Act and Society Act 1860. It is also registered under Foreign Contribution Act. Organization is recognized by the three states of Rajasthan, Gujarat and Madhya Pradesh under department Rural Development. The aim of the organization is of poverty reduction of rural and tribal community by way of Natural Resources Management. For this work it is receiving funds from above three states and from international funding agencies.

The main objectives of organization are to improve the living conditions of rural and tribal people by developing environmentally sound land and water resources programmes. The project area is classified as a drought prone semi-arid region of the country and dominated by poorest section of our society. The project area covers the 16 districts of Gujarat, Rajasthan and Madhya Pradesh. The centre

point of this program is sustainable development through Natural Resources Management(NRM). The organization has a potential to impart training, capacity building and technical inputs to large numbers of government and non-government organizations at training centre at Chosala Dahod, Gujarat. This is excellent training centre with highly qualified and experienced teaching staff. Staff of government and non-government organizations from 20 states of India come for training. Some international groups also come for training in this institute. Institution also received ISO 9001-2015 certificate. Mrs. Sharmishtha Jagawat is a founder and Executive Director of the organization. Head office of Sadguru Foundation is at Chosala in Gujarat state.

To achieve their goal N M Sadguru works in following fields in their working areas. And the fields are,

- Water Resources
- Agriculture & Forestry



- Community Building and
- Training and Education

Water Resources - Under water resources program following works are being carried out as listed below.

- Community Lift Irrigation Scheme
- Small-scale Masonry Check Dam
- Micro watershed Development
- Wells Development and Recharge
- Drinking Water Schemes

Community Lift Irrigation Scheme :

Sadguru Foundation has been implementing lift irrigation schemes for the tribal and rural poor in western Indian states. Lift irrigation helps bringing irrigation to the fields that are not near to the surface water resources such as river, lakes or canal. So far foundation has been completed 401 lift irrigation schemes for command area of about 52344 acres which benefitted 27200 households and created long-term impact on the livelihood of the beneficiaries. The important point of this program is that these are managed by community without support of govt. or by any organizations. Tribal people pay for the operation and maintenance of project. 10 new lift irrigation systems are installed by sadguru Foundation which will create irrigation potential for 794 acres.

Small-scale Masonry Check Dam :

As there is ample rain and rivers in working area of foundation they are having scope for harvesting water through construction of masonry water harvesting structures. So far 376 check dams



are in operation and are irrigating 56976 acres of land benefitting 24418 households. Check dams constructed by the foundation are bigger in size than those constructed by government and other NGOs. Most of their structures have a storage capacity from 20 mcft to 350 mcft. The total storage of check dams constructed organization is over 2000mcft in collaboration with NGO and government. For each check dam 1 local group is formed from the community benefitting from the check dam. This group monitors the physical condition of dam and manages gate operation during monsoon. Many check dams are connected to Lift Irrigation schemes hence managed by Lift irrigation co-operatives.

Micro watershed Development :

Micro-watershed development can be considered as one of the best programs in rural development. It improves the quality of life of villagers through increased productivity of land, availability of water, improving in the vegetation cover that results in improving the cattle health means more milk production. Overall environment is improved by tree plantation. Over the years Sadguru Foundation has treated 104633 acres of land. Foundation has undertaken various watershed development programs in three states i.e. in Gujarat, Rajasthan and Madhya Pradesh with funds provided by NABARD, Govt. of Rajasthan, Govt. of Madhya Pradesh, Coca-Cola Foundation and Anandana Foundation.

Wells Development and Recharge :

Foundation executes ground water development through wells and recharging of wells. Foundation has developed recharge of 18459

wells in their project area of three states. The



Central Ground Water Board has acknowledged that ground water level has increased due to foundation's efforts. A recent study by INREM (India Natural Resource Economics and Management) Foundation under the guidance of NRM(Natural Resources Management) experts have found that as foundation's check dams are bigger in size ground water improved from 5-10km on the both sides of structure. This directly benefited existing open dug wells and naturally to the farmers of the region.

Drinking Water Schemes :

This is a new program of Sadguru Foundation. So far 99 drinking water schemes have been installed by the Foundation. One drinking water scheme benefits 25 households. These installations are managed by community controlled by women known as Pani-Samiti. Sadguru Foundation planned to expand this scheme provided they get funds. In collaboration with Tata



trust Foundation planning to implement better program for drinking water in Dahod.

Agriculture & Forestry :

In India Tribal community is not traditionally farming community. They are associated with farming work since 150 years whereas other farmers are farming in India from



last 5000 years. Tribal community depends on forest for their livelihood. They are struggling with agriculture. Their agriculture output is very low. Sadguru Foundation started working with tribals by helping them in adopting better agriculture practices through suitable technology. More than 65000 tribal households are covered under agriculture development Kharif and Rabi season of 2014-15. In large numbers of households production has been doubled due to foundation's effort. With the influence of Sadguru about 20000 farmers have opted for vegetable crops and as a result of this Dahod district in on the way to become vegetable hub.

under this scheme works carried out are ,

- Horticulture
- Vegetable- Trellis
- Vegetable – Open field
- Floriculture
- Agro Forestry
- Agriculture Productivity Enhancement
- Seed Production

Horticulture :

To provide sustainable income to small land holders Foundation started this program in 1998. They are roughly 32000 wadis in their project area which are supported by NABARD. Here major

plants are of mangoes like Kesar, Langada and Rajapuri. Dahod farmers who are under this project collectively earn between 50-100 crore. Experts of Sadguru Foundation are studying in this field for better results. 1117 households are benefited through horticulture development.

Vegetable- Trellis :

Majority of farmers continue to grow seasonal vegetable under traditional open farm method but trellis system. It has been found to be of improved quantity and quality for creeper vegetables and thus making it more profitable. In addition to creeper vegetable growing on trellis farmers used the underneath to grow spices like Ginger, Turmeric, Garlic and Onion. Sadguru has helped to set up 5000 trellis over 5000 acres benefitting 29000 people. From ¼ acre yield is approximately Rs.40000/- and from 1 acre land is it Rs.75000/-. Annual cumulative income from this trellis is more than Rs.32 cores. 4946 trellis systems are installed by Sadguru. 4857 households are benefitted by crop planted through trellis system.

Vegetable – Open field :

This is net house and much more expensive project. Apart from this some 190 farmers have opted for this new technology. This program is supported by government. The farmers are motivated to raise nurseries of high quality chilli,



brinjal and tomato. Under these nurseries 500000 seedling (sprouts) were raised and supplied to 1000 farmers. 277 acres are covered for such type of cultivation. 1820 vegetable crops planted.

Floriculture :

Under this program of foundation has helped very small land holding farmers to grow



flowers like rose, marigold and jasmine. There are permanent and seasonal plots for this purpose. As per foundation there are total 5679 plots of floriculture. Mostly plots are of 0.05 hectare in size and farmers earn between Rs.40 to 60 thousand a year. Cumulative earning to the farmers through this project ranges between Rs.22 to 34 crores. In 2014-15, 146 new permanent plots were developed for this purpose and 830 new farmers opted for floriculture plots. There are total 5679 plots in project area of Sadguru Foundation.

Agro Forestry :

For restoration of tree cover and eco-system and proper use of land, tree plantation has been taken up by foundation since 1982. Every year 1500000 + forest plants are planted by tribal farmers on their wasteland, field bunds etc. Under this program of foundation 6,75,38,564 plants have been raised. Monitoring survival rate of trees is very difficult as area is huge and scattered. Even though foundation claims 50 percent survival rate. This provides massive tree cover in the area. As per survey 131 villages each have tree cover of over 1 lakh. Over 30000 farmers have used their own wood in the construction or renovation of their houses.

Agriculture Productivity Enhancement-

This program was taken up by Sadguru Foundation at large scale. This program achieves enhanced agriculture productivity, agriculture diversification and intensification through proper package of practices (PoPs) and community based organizations(CBOs). Orientation meeting, technical training, group training, wall painting

activities were conducted in the beginning. Farmers properly follow activities like seed treatment, plant protection and other agriculture practices to enhance productivity. So far 40605 farmers were involved in crop productivity enhancement program.

Seed Production :

Improved varieties of seeds give higher return per unit area. Even smaller portion of land gives high yield with improved variety of seeds. Maize is a staple food of tribal people of Dahod. Food security is a major problem in this area. To



achieve food security it is necessary to increase production of maize. So to achieve sustainability improved seed production program is important to stabilized maize production. With proper use of fertilizer, pesticides and irrigation production of maize can be improved up to 20-25 percent by improved seeds says Sadguru Foundation. Total 476 farmers are using their plots for seed production in

Dahod. 15700 farmers were supplied improved variety of wheat seeds. For vegetable crops quality seedlings were supplied to 5600 farmers. Quality seeds supplied to farmers for kitchen gardens and regular cultivation.

Community Building following activities are carried out under this program.

- Lift Irrigation Federation
- SHG Federation
- Horticulture Cooperative
- Milk Production Cooperative
- Farmer’s Producer Organization
- Pani-samiti.

Lift Irrigation Federation :

This federation provides support to primary lift irrigation cooperatives which are operative. Manage and maintain their Lift irrigation schemes. Lift irrigation federation in Dahod and Banswara have shown improvement in agriculture particularly in the production of improved seeds and also ensured the use of these improved seeds by large number of farmers. Some LI federations are involved in business activities. They have installed sprinkler system in 2000 hectares of 1200 farmers. This federation has installed sprinkler and drip irrigation in the fields of 7000 tribal farmers.

SHG Federation :

SHG federation is very active in agriculture related activities. Thousands of farmers under this federation took up vegetable and spices cultivation on a massive scale. There are 1600 women SHGs with a membership of 17500 women.

Activities of SHGs groups are involved in floriculture, vegetable cultivation, vegetable under trellis system, drip irrigation, seeds production etc.

Horticulture Cooperative cultivation program -

Sadguru Foundation have seven taluka level horticulture cooperatives. These cooperatives are involved in expansion of horticulture programs that also includes expanding vegetable and spice

cultivation programs by ladies farmers. Hi-tech horticulture training programmes are conducted by Sadguru's institution for tribal youth.

Milk Production Cooperative :

This is a new program taken up by Sadguru which is gaining momentum now. There are 96 milk producers cooperatives with 6225 members.

Farmer's Producer Organization :

Farmers as producers are unable to realize the right value of their produce. The absence of adequate marketing strategy, presence of middle man, lack of collective efforts leads to less earnings. Sadguru is working on to promote 24 Farmer's Producer Organization to cover about 9000 farmers of more than 100 villages with the support of NABARD.

Pani-samiti :

Sadguru foundation started its involvement in drinking water in 2009-10. So far they have implemented about 100 decentralized drinking water schemes in 50 tribal villages of Dahod district. From the experience Sadguru Foundation learned that huge centralized drinking water supply schemes for entire village are not successful as households are scattered in a village and they also lack ownership. Pani-samiti manages the drinking water supply scheme consisting of 20-35 women members. Collection of water charges, regular chlorination of the sources, operation and maintenance of the system are role and responsibilities of the members of the Pani-Samiti. Regular supply of water equally to each household and regular collection of water charges are success sutra of the Pani-Samiti.

Training and Education :

Sadguru Foundation have advanced level training centre at their head quarter in Chosala. It has a capacity to accommodate 200 participants in residential training and another 100 participants in non-residential training. They have highly qualified and experienced teaching staff who can give training in subjects related to Natural Resources Management. Training helped watershed development program in 68.95 lakh acres. Government and NGOs from 20 Indian states take benefit of this training centre. Training centre have

a facility of On-Field Training, On Campus Training, Master Training for NGOs. So far 379 training programs are covered by foundation. Aim of these training is to transform lives of tribal people in the project villages of foundation.

Axis Bank, Tata Trust, Navinchandra Mafatlal Trust, Govt. departments, NABARD, BIRD Lucknow, SIRD-Rajasthan and L&T are the supports of Sadguru Foundation

As a CM Sh. Narendra Modi visited the foundation in 2013.

At present they have 17 projects in hand. Further details about foundation's work and their activities are available on Sadguru's web site. For interested readers their contact details are given as below.

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Over 25,000 kgs of garbage cleared from river

PASIGHAT, 13 Jul: A new benchmark in river cleanliness was set on Saturday as over 25,000 kilograms of garbage were removed from the Pane Korong River in Banskota area here in East Siang district in a massive cleanup drive.

The initiative was spearheaded by the Youth Mission for Clean River (YMCR) and the Rengging Baane Yameng Kebang (RBYK), and saw active participation of over 150 volunteers.

Pasighat MLA Tapi Darang participated in the cleanup and commended the YMCR's efforts, acknowledging the significant awareness it has raised by coming from Itanagar to address the pollution in Pasighat.

"This initiative serves as a wake-up call for the people of Pasighat," Darang said. "We must learn from such cleanup drives about the severe environmental impact of the waste we generate." He urged the Pasighat Municipal Council, the executive engineer and the commissioner to take immediate and tangible actions to tackle river pollution and waste management. "It's crucial for the local community to maintain the cleanliness of our rivers and streams," he emphasised. "Proper waste management and reducing plastic use in daily life are essential steps," the MLA added.

Darang also highlighted the long-term benefits of such initiatives. "A clean environment not only enhances the beauty of our town but also promotes health and wellbeing among our citizens," he said, adding that "we need to cultivate a culture of

environmental responsibility and pass this legacy on to future generations."

He expressed admiration for the volunteers and organisations involved. "The dedication and hard work shown by YMCR, RBYK, and all the volunteers are truly inspiring," Darang noted. "This collective effort demonstrates the power of community action in addressing environmental issues," he added.

Darang also pledged to support such initiatives. "We will continue to support and collaborate with organisations like YMCR to ensure the sustainability of our natural resources," he assured. "I look forward to seeing more such cleanup drives and environmental projects in Pasighat."

RBYK representative Dr Kombong Darang stressed that the responsibility for maintaining clean rivers lies with every individual and not just with specific organisations.

"Every individual must contribute to keeping our environment clean. It's not enough to rely on occasional cleanups; we need to adopt a sustainable lifestyle that reduces waste at the source. Our community must take ownership of this issue and work together to protect our rivers for future generations," Dr Darang said.

He also highlighted the cultural significance of the rivers. "Our rivers are the lifeblood of our community, both environmentally and culturally. Preserving them is preserving our heritage," he added.

Giidang Angong Society spokesman Tobom Dai praised the YMCR for its role in raising public awareness about river pollution across the state. "The waste we removed today comes from our own households," he noted. "By managing and reducing this waste, we can ensure a cleaner and healthier Pasighat."

Dai emphasised the importance of community engagement in environmental conservation. "The future of our rivers and environment depends on the active participation of each one of us," he said. "We need to adopt sustainable practices in our daily lives to mitigate the impact of pollution."

Dai also highlighted the broader impact of river pollution on public health and the ecosystem, saying, "Polluted rivers are not just an environmental issue; they are a public health crisis."

"Clean water is essential for our survival, and we

must do everything in our power to protect it. Our actions today will determine the quality of life for future generations," he said.

East Siang District Legal Services Authority's retaining lawyer Sunny Tayeng highlighted the DLSA's efforts to support environmental initiatives. "We are committed to supporting endeavours that promote environmental protection and legal awareness," Tayeng said.

YMCR chairman SD Loda expressed gratitude for the collaborative effort. "The overwhelming support from the people of Pasighat and local organisations has been incredible," Loda said.

"Today's cleanup is a testament to what we can achieve when communities come together for a common cause," he added.

"Removing over 25,000 kilograms of waste from the Pane Korong is not just a record but a milestone in our mission to protect and restore our rivers. We hope this inspires other communities to take similar actions," he said.



Loda further elaborated the YMCR's vision, stating, "Our mission goes beyond just cleaning rivers. We aim to foster a culture of environmental responsibility and sustainable living. I urge the citizens of Pasighat and beyond to adopt sustainable practices, reduce waste, and protect our natural resources for future generations."

A plantation drive was also conducted at the Independent Golden Jubilee Government Higher Secondary School after the cleaning.

Among others, representatives of the Bogong Banggo Yameng Kebang and the Women Against Social Evil spoke on the occasion.

The cleanup was supported by various Pasighat-based organisations, including the Bogong Banggo Yameng Kebang, the Women Against Social Evil, the Arunachal Pradesh University Students' Union, the Giidang Angong Society, the Nyishi Students' Union East Siang, the Hills Society, the Magic Club-East Siang unit, and the East Siang District Legal Services Authority.



*Lovely thing to learn
from water:*

*Adjust yourself in
every situation and
in any shape.*

*But most importantly
find your own way
of flow.*

Govt to launch survey to assess vulnerability of glacial lakes after monsoon

The survey, set to launch after the monsoon season, will target select glacial lakes based on their risk profiles. "It is humanly not possible to cover all the glacial lakes," the official said.

By: PTI

season, officials said on Tuesday.

A glacial lake outburst flood (GLOF) in Sikkim in October 2023 has prompted this initiative, they said.



Glacial lakes are formed by the melting of glaciers and accumulation of meltwater in depressions on or near the glacier's surface. (Representational/File)

Four states and a Union territory in the Himalayas will commence ground surveys to determine the vulnerability of glacial lakes after the monsoon

Monitoring systems will also be established to provide crucial information about GLOFs, the officials said.

"Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh and the Union Territory of Jammu and Kashmir are setting up survey teams and identifying routes to the glacial lakes.

The teams will include officials and experts from agencies, such as the National Remote Sensing Centre, the Indian Army and the Geological Survey of India,” an official from the National Disaster Management Authority told PTI.

The survey, set to launch after the monsoon season, will target select glacial lakes based on their risk profiles. “It is humanly not possible to cover all the glacial lakes,” the official said.

Most of these lakes are situated at altitudes of 5,000 metres or higher. The survey teams will comprise experts in hydrology, topography and other relevant fields who are equipped to endure harsh weather and difficult terrain.

The glacial lake outburst in Sikkim resulted in at least 60 fatalities and extensive damage in the Mangan, Gangtok, Pakyong and Namchi districts. It also destroyed the Chungthang dam (Teesta III dam), a crucial part of a major hydropower project.

Glacial lakes are formed by the melting of glaciers and accumulation of meltwater in depressions on or near the glacier’s surface.

GLOFs occur when these lakes suddenly burst open due to factors, such as excessive water accumulation or triggers like earthquakes.

These floods can cause significant destruction and pose serious risks to people and the environment downstream.

The officials said that the current understanding of glacial lakes is primarily based on remote sensing, which is insufficient to determine their vulnerability comprehensively.

Conducting ground surveys is essential but challenging due to the remote, high-altitude locations of these lakes.

According to an April report by the Indian Space Research Organisation (ISRO), 676 of the 2,431 glacial lakes larger than 10 hectares in the Himalayas have notably expanded since 1984.

Of these, 130 lakes are in India, with 65, 7, and 58 located in the Indus, Ganga and Brahmaputra river basins, respectively.

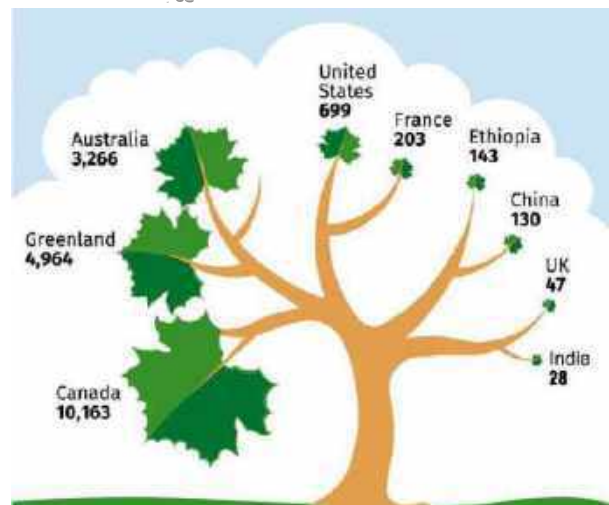
The report noted that 601 lakes have more than doubled in size, 10 have grown between 1.5 to 2 times, and 65 lakes have expanded by 1.5 times.

An elevation-based analysis reveals that 314 lakes are located between 4,000 and 5,000 metres, and 296 lakes are above 5,000 metres in elevation.

The Ghepang Ghat glacial lake in the Indus River Basin, situated at an elevation of 4,068 metres in Himachal Pradesh, has seen a 178 per cent increase in size from 36.49 to 101.30 hectares between 1989 and 2022.

The Himalayas, often referred to as the Third Pole due to their extensive glaciers and snow cover, are highly sensitive to climate change.

Research worldwide has consistently shown unprecedented rates of glacier retreat and thinning due to human-caused climate change, leading to the formation of new lakes and the enlargement of existing ones in the Himalayan region.



40 big lakes in Karnataka may get floating

solar panels

Boseraju has asked the Karnataka Renewable Energy Development Lts (KREDL) to organise a meeting with experts to assess the pros and cons of installing floating solar panels on lakes
Bharath Joshi

year.

Baseraju said his department has identified 40 lakes whose area spans 10,000 acres. These are lakes that are being filled through lift irrigation projects.



Aerial View of floating solar panes cell platform on the lake

Bengaluru : The Karnataka government has identified 40 lakes on which floating solar panels may be installed, Minor Irrigation Minister N S Boseraju has said.

Boseraju first proposed the idea of having floating solar panels on water bodied in July last

There's scope to generate 2500 megawatts (MW) power, Boseraju said. Throughout the year, these lakes are 50 - 60 % full. The plan is to install floating solar panels to generate power.

Apart from generating solar power, the minor irrigation department looking at reducing electricity costs being incurred on the lift irrigation projects, Apparently, the government spends Rs. 10 - 12 crore per month towards electricity charges for lift irrigation projects.

According to the minister, floating solar panels have been installed on water across India, generating 1 gigawatt (GW) power. Floating solar panels don't need land. Also, they seem like a good mode to generate solar power. However, installation costs are a bit high. Boseraju noted.

Boseraju has asked the Karnataka Renewable Energy Development Ltd. (KREDL) to organise a meeting with experts to assess the pros and cons of installing floating solar panels on lakes.

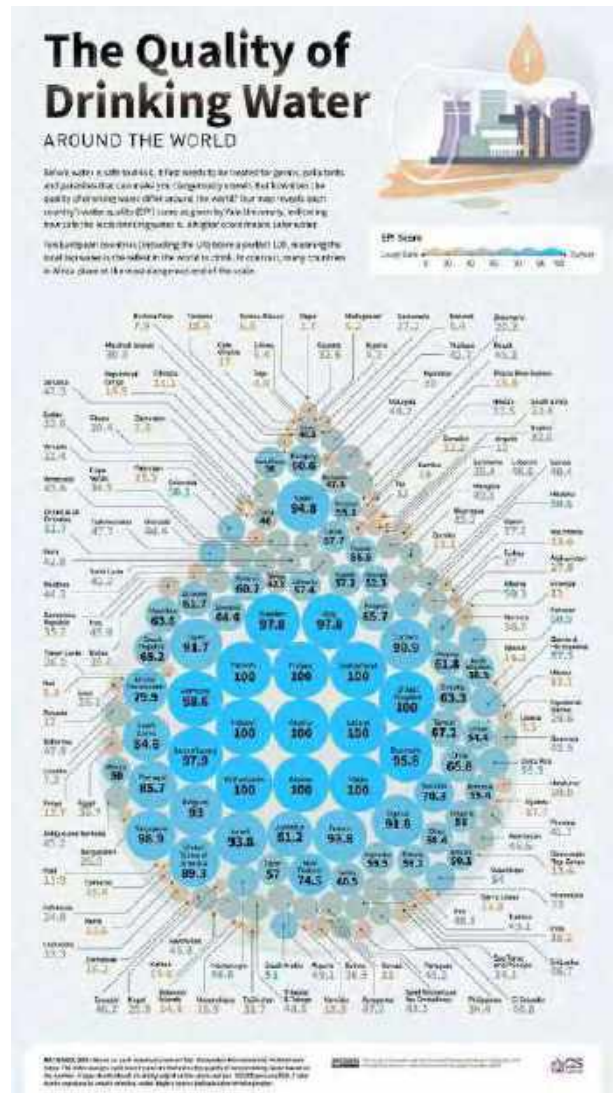
Commercial activities on lakes ?

In a separate meeting, Boseraju discussed the possibility of generating revenues from lakes by throwing them open for commercial activities. Lakes that come under 456 lift irrigation projects will be considered for this.

This needs a policy, Boseraju said, adding that a meeting will be held soon with Deputy Chief Minister DK Shivakumar, who is also the water resources minister.

The government has earned Rs. 33.58 Lakh as revenue from 71 lakes that have been handed over to fishing cooperative societies. From 381 lakes, the revenue is Rs. 254.29 Lakh through a tender cum auction process.

Instead of tender cum auction process, if e-tendering is done, then revenues can increase



three times. Also, by organising other commercial activities, we can expect more revenue, Boseraju said.

Like with floating solar panels, throwing open lakes for commercial activities can help reduce the burden of electricity costs on lift irrigation projects, the minister said.

Boseraju said fishing rights have not been given on several lakes. The meeting with Shivakumar will discuss allocating fishing rights and distributing revenue earned from lakes among departments, he added.

The Pioneer of Modern Economics – Dr. Babasaheb Ambedkar

Dr. Dattatrya Gaikwad -

(Translated by) Smt. Nilam Pandit, (M) : 9823948048

Nobel laureate, world-renowned welfare economist and author Dr. Amartya Sen, mentioned in an interview "Ambedkar is my father of Economics. He is true celebrated champion of the under privileged. He deserves more than what he achieved today. However, he was highly controversial figure is his home country, though it was not the reality. His contribution in the field of economics is marvellous and will be remembered forever.....!"

Why is Dr. Babasaheb Ambedkar's contribution as an economist not recognized? Dr. Ambedkar was a profound scholar of economics. At Columbia University, his subjects for his M.A. were 'Trade in Ancient India' and 'The Evolution of Provincial Finance in British India' for his Ph.D. Additionally, his dissertation 'The Problem of the Rupee' at the London School of Economics is well-known. These accomplishments indicate that Babasaheb was a staunch supporter of economic democracy. In this context, it is important to acknowledge that Dr. Babasaheb was a pioneer in the field of economics.

India exists as an independent nation rich in natural resources. However, due to unequal distribution, we face disparities. Many scientists, intellectuals, and artists have contributed to elevating the standard of living for everyone in the country. For this progress to continue, the participation of every citizen is necessary. To make India progressive, effective economic programs must be implemented to maximize the use of available resources. Achieving the goal of economic development requires the honest participation of countless in the country's progress.

Many committees and groups of experts plan goals and policies for various development projects, yet there are still disadvantaged sections of the country that do not receive these benefits. The impact of globalization today has limited development. Areas such as food, water, clothing, shelter, health, education, environment, and transportation have not advanced sufficiently. This is the reality. The impact of today's globalization has constrained growth.

We face severe problems of superstition, ignorance, poverty, and oppression. India, with its diverse castes, religions, races, customs, and ways of living, has been living in harmony for many years. The nation needs to adapt to the changing world, recognizing the signs of the times and focus on economic planning. Many have contributed to this cause. Since independence, numerous economists and intellectuals have contributed through various schemes, projects, and programs to make India a strong nation.

Institutions have been established, yet due to a lack of understanding of the perspectives of many thinkers, protests, marches, sit-ins, and other forms of agitation occur daily in the country. The government needs constant reminder of its duties. Currently, agitation over the issue of farmers has intensified. Despite uninterrupted economic growth participation, dialogue, coordination, and cooperation of all are indispensable. India can achieve self-sufficiency if it utilizes natural resources effectively. There is no doubt about this, but due to a lack of planning and coordination, the country is not progressing as it should. The journey

ahead will not be difficult if everyone cooperates, perseveres, and fulfills their duties effectively. To achieve this, we need a creative economic program. Everyone must be proactive for tomorrow's nation to emerge as a developed one.

Recently, the central government approved three agricultural bills as follows:

- 1) The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020
- 2) The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020
- 3) The Essential Commodities (Amendment) Act, 2020.

These bills are facing opposition and were met with extreme resistance. Farmers in Punjab have been protesting since the laws were amended in September. The existence of Agricultural Produce Market Committees (APMCs) and contract farming are central issues for the farmers and the overall protest. The farmers are demanding the repeal of all three laws. Currently, this is a hot topic on social media platforms like Facebook, Instagram, YouTube, and Twitter. In reality, there is massive corruption in the APMCs, and farmers were fed up with it. Hence, they demand the removal of restrictions in the anti-farming laws, even if the minimum support price is low.

According to the current laws, farmers will have the freedom to make their own decisions, and the Minimum Support Price (MSP) will remain in place. By not imposing taxes, farmers will get better prices, and citizens will also get goods at lower prices. The present government believes that private investment will boost agriculture, increase employment and strengthen the economy.

If sustainable economic development is to be achieved, the capacities of the people in the country must be increased. For this, purchasing power needs to be enhanced. To achieve this, overall demand must be increased to accelerate the

economy. The government should participate in this, but it is not happening. Provisions must be made to ensure that people's rights and privileges remain intact. Simply providing democracy is not enough. Democracy does not become strong just by glorifying it in speeches. To fully realize the rights and freedom of democracy, we must have access to proper education and healthcare. Economic inequality must be eliminated first. Social inequality should also be completely eradicated; however, minorities are being oppressed. Freedom of expression is being grossly neglected. In a democracy, freedom of expression must also be protected.

The provisions of Article 19 in the Constitution are being ignored. There is a growing doubt: Does the government believe in democracy or not? According to Article 19(1)(a) of the Indian Constitution, every citizen has the right to express their opinions on any subject through any medium. In a democracy, the rights of citizens are of paramount importance. It is crucial to pay attention to this.

Applying thoughtful approaches to agriculture today could resolve farmers' issues, yet it is crucial to thoroughly understand and implement Babasaheb Ambedkar's ideas. Today marks the 12th day of the farmers' protest in Delhi against the central government's farm bills. Thousands of farmers from Punjab, Haryana, and other states are participating in this unprecedented movement. The farmers are prepared with provisions to sustain them for six months, demonstrating strong determination. However, the government's response to their issues and demands appears inadequate. Despite the harsh cold, hundreds of farmers continue to camp without a resolution in sight.

To address these challenges, it is imperative to comprehend and effectively apply Dr. Babasaheb Ambedkar's perspectives on agriculture. It is essential to critically examine his views as an

economist.

Dr. Babasaheb Ambedkar emerged as a global thinker in the twentieth century. Throughout his life, Dr. Ambedkar fought against caste-based discrimination and religious orthodoxy in India. The caste hierarchy deprived marginalized communities of power, wealth, and respect, excluding them from society. Access to basic necessities like food, water, and fundamental human rights was often denied. Born into the so-called untouchable community, Dr. Ambedkar was expected to eradicate the caste system thoroughly. Deeply affected by the caste system's oppression, he had to struggle across social, political, cultural, religious, and economic realms. His struggle aimed at liberation from the shackles of untouchability. Consequently, Dr. Babasaheb Ambedkar is recognized as a revolutionary social reformer.

Dr. Babasaheb Ambedkar, as an economist has been extensively studied and researched by many eminent scholars and researchers, including Dr. Narendra Jadhav, Dr. Bhalchandra Mungekar, Dr. Raosaheb Kasbe, and Dr. Sukhdev Thorat. Scholars like M.N. Kamble and Principal Indrajit Alte have presented their holistic and constructive views on this subject. Their referential works are available in university libraries and are frequently consulted by students, researchers, and professors. Notably, many researchers have explored Dr. Babasaheb Ambedkar's personality within the context of their own fields. The Maharashtra State Education Department published "Dr. Babasaheb Ambedkar Writings and Speeches" in 1989, which I find particularly significant and relevant to this subject. In this context, Principal Dr. Indrajit Alte's book 'Economist Dr. Babasaheb Ambedkar' stands out as very important, relevant, and noteworthy. I highly recommend it to anyone curious about this topic.

In the year of 2016, in Aurangabad, Dr. Sudhir Gavhane, through the Dr. Babasaheb Ambedkar Knowledge Mission, published a collection of 12 books that reveal various aspects of Dr. Babasaheb

Ambedkar's personality. Dr. Babasaheb Ambedkar was a humanitarian, socialist, scientist, egalitarian, and a global icon—a priceless gem of India. Many authors have published diverse studies on this topic. The titles of these books are as under:

- 1) Egalitarian Dr. Babasaheb Ambedkar
- 2) Legal expert Dr. Babasaheb Ambedkar
- 3) The Great Man Dr. Babasaheb Ambedkar
- 4) Economist Dr. Babasaheb Ambedkar
- 5) Sociologist Dr. Babasaheb Ambedkar
- 6) Educationist Dr. Babasaheb Ambedkar
- 7) Author Dr. Babasaheb Ambedkar
- 8) Philosopher Dr. Babasaheb Ambedkar
- 9) Student Dr. Babasaheb Ambedkar
- 10) Patriot Dr. Babasaheb Ambedkar
- 11) Revolutionary Dr. Babasaheb Ambedkar
- 12) Hydrologist Dr. Babasaheb Ambedkar
- 13) Creator Dr. Babasaheb Ambedkar
- 14) Women liberator Dr. Babasaheb Ambedkar
- 15) Journalist Dr. Babasaheb Ambedkar
16. Parliamentarian Dr. Babasaheb Ambedkar
- 17) Legal expert Dr. Babasaheb Ambedkar
- 18) Administrator Dr. Babasaheb Ambedkar
- 19) Agronomist Dr. Babasaheb Ambedkar
- 20) Historian Dr. Babasaheb Ambedkar
- 21) Theologian Dr. Babasaheb Ambedkar

Dr. Babasaheb Ambedkar's personality has many facets. To understand them, everyone must read the book *Arthshastradnya Dr. Babasaheb Ambedkar (Economist – Dr. Babasaheb Ambedkar)*, written by a keen scholar of economics and former principal of Milind Arts College, Aurangabad. Dr. Alte served as the principal of the People's Education Society, founded by Dr. Babasaheb Ambedkar, for 12 years. He also held the position of principal at Dr. Babasaheb Ambedkar College of Commerce and Economics in Wadala, Mumbai, for some time. His book is noted for its focus and significance. Dr. Babasaheb's economic thoughts have been neglected. Although these aspects are being discussed more frequently now, there is a need for deep reflection and research on Dr. Ambedkar's economic contributions. In economics,

he made valuable contributions to public sector income and expenditure, public finance, regional finance management, agricultural economics, industrial organization, development and productivity, the basic structure and distribution of development, justice, worker and employer relations, and productivity. However, these contributions have not been elaborately discussed or widely disseminated across all sections of society.

To deeply study the philosophical foundation of Dr. Babasaheb Ambedkar's life, we must comprehensively analyze it from social, political, and religious dimensions with a holistic perspective, ensuring that no intricacies are overlooked.

On November 9, 1940, while analyzing the French and Russian revolutions, Dr. Babasaheb Ambedkar said, "Without economic equality, the concepts of social equality and social freedom are futile. A close scrutiny of the French Revolution reveals that 'one who has no wealth has no free mind'. Without wealth, there is no freedom, because one has to be dependent to earn a living. Those who are dependent can never be truly independent.

In this way, Dr. Babasaheb Ambedkar emphasized that economic freedom is the foundation of all kinds of freedoms. He further argued that the absence of equal opportunities causes poverty and suffering. Dr. Amartya Sen also acknowledged Dr. Ambedkar, stating, "Ambedkar is my father of Economics." From this perspective, a comprehensive study is necessary to understand how Dr. Babasaheb Ambedkar was a pioneer of modern economics. His thorough study explored the societal impact of economic policy and governmental measures aimed at reducing economic disparities.

Dr. Babasaheb had an ideological foundation in economics since his student days. In many of his writings, he has expressed his views with great

clarity in critically examining economic policies. Furthermore, post-independence, he served as the Law Minister and was also regarded as an expert on issues concerning workers, farmers, and actively advocated for the Hindu Code Bill to uphold women's rights.

Dr. Ambedkar began his academic journey from Columbia University with M.A. in 1915. He presented the thesis 'Ancient Indian Commerce'. He later pursued PhD and presented the thesis 'The Evolution of Provincial Finance in India: A Study on the Provincial Decentralization of Imperial Finance'. His doctoral thesis was later published as "The Problem of the Rupee : Its Origin and Solution'. All these three books reveal the different aspects of the field of economics.

Moreover, as the Labour Minister, Babasaheb made a significant contribution to nation-building. He frequently emphasized the essential need for basic amenities such as roads, water, electricity, healthcare, and education.

During 1942-46, as the Labour Member of the Viceroy's Executive Council, he delivered five seminal speeches. These speeches are extraordinarily enlightening, impactful, notable, and significant. They will not be forgotten as they laid the foundation for the country's modern development in the water and energy resources. While serving on the Viceroy's Executive Council, he introduced concepts and projects that were for the nation's development. They are indeed indicators of the country's sustainable economic development.

1. Multipurpose River Valley Project : The Sustainable Development Scheme was launched for the first time in the country.
2. Firstly, it is essential to manage the water of rivers and rivers to create the first economic status in the country. For this, the Central Waterways, Irrigation and Navigation Commission and Central Technical Power Board institutions were established by Dr.

Babasaheb. Damodar River Valley Project, Hirakud Multipurpose Project, Establishment of Chambal River Plateau Authority, Sone Valley Project, these projects were implemented, coordinated and initiated under Babasaheb's leadership. These projects have become the benchmark of the country's development. In this context, a pioneer researcher Dr. Sukhadev Thorat has inspired numerous researchers. His research has paved the way for significant breakthroughs. Secondly, in the Constituent Assembly, Pandit Jawaharlal Nehru introduced the seven points Objectives Resolution for the first time. During this period, Babasaheb not only expressed his dissatisfaction but also suggested that state socialism be included in the country's economic policy. He submitted a memorandum titled 'State & Minorities: What Are Their Rights and How to Secure Them in Free India' to the Constituent Assembly. This submission holds utmost importance.

Moving forward, Dr. Babasaheb ensured the provision of economic justice in the Preamble of the Constitution. As an economist, he highlighted the folly of pursuing political equality tributions. He advocated for state socialism, provided a parliamentary system, established democracy by eliminating monarchy, introduced new economic principles, created various laws for workers and farmers, and advocated gender equality. Numerous economic aspects are encompassed within Babasaheb Ambedkar's personality

Today marks the 100th anniversary of the Reserve Bank. Its establishment was based on the book 'Problem of the Rupee.' The conceptual framework and system of the Reserve Bank were derived from Babasaheb's aforementioned book. This contribution will never be forgotten, proving that Dr. Babasaheb emerged as a pioneering modern economist.

Dr. Babasaheb Ambedkar was abroad for educational purposes during 1913-1916 and 1920-1923. During this time, he established contacts with

leading global thinkers. In this regard, Dr. Raosaheb Kasbe's insightful study offers significant guidance.

1. Sidney Webb and Beatrice Webb, a sociological couple who wrote 21 books, often engaged in lengthy discussions with Babasaheb on social issues.

2. Professor Edwin R. Seligman, an internationally recognized economist was keen on teaching 'Public Finance'. Also, in 1902, his book 'The Economic Interpretation of History' marked a major contribution to Marxist discourse. Babasaheb could spend hours discussing economic issues with the seligman.

3. Dr. A. A. Goldenweiser was a renowned anthropologist. In 1916, at the age of 23, he presented the essay 'Castes in India: Their Mechanism, Origin and Development' at Columbia University. His insights left a lasting impression on anthropologists like Dr. Ketkar. During this time, Babasaheb's appetite for knowledge was growing rapidly.

4. No philosopher in the world can progress today without reading Professor Harold Laski's two books, 'Grammar of Politics' and 'Parliamentary Government in England.' Dr. Babasaheb was in touch with Laski. Babasaheb presented a research essay at a workshop, sparking significant discussions. During this time, Laski referred to Babasaheb as a 'hidden revolutionary.' a remark documented in his biography.

In 1998, at the age of 26, Bertrand Russell authored the book 'The Principles of Social Reconstruction,' which sparked worldwide discussions. Babasaheb wrote a review titled 'Mr. Russell and Social Reconstruction' for the Indian Economic Journal, astonishing all admirers of Russell with his insights.

contd.....

Water Crisis: Now In Bihar

By Ashish Jha

Water Crisis: Now In Bihar, Permit Will Have To Be Taken Before Boring, Rules Are Being Prepared For Groundwater Extraction

Every day lakhs of liters of water is being extracted from every district of Bihar, but no strict rules have been made at the government level to stop this. After which the work of making rules is being done rapidly.

By Ashish Jha

Water Crisis: Patna, Prahlad Kumar. To reduce the groundwater crisis in Bihar, a rule will soon be prepared for groundwater extraction. Regarding this, PHED, Water Resources and Minor Water Resources Department along with Panchayati Raj Department are working together to prepare a rule so that the wastage of water and illegal water business in almost all the districts of Bihar can be curbed. Recently, a meeting was held at the level of



Chief Secretary regarding the decline in groundwater, in which officials of the Disaster Management Department were also present.

Rule book being prepared

It has come to light in the review that lakhs of liters of water is being extracted from every district of Bihar every day, but no strict rules have been made at the government level to stop this. After which the work of making rules is being done rapidly. Soon after the review at the government level, it will be implemented, in which there will be rules for government and private boring. Now you will be able to extract water from the ground only up to a limit. Anyone will have to take a permit or NOC before getting boring done.

Questions keep arising regarding water business

Questions are raised by members in both houses regarding the depletion of groundwater, including how water is being extracted and sold by water traders. This was brought up for discussion, but even after the question was raised in the House, the illegal water business has rapidly spread throughout the state. This matter was raised in the Legislative Council in a budget session, but all the concerned departments, PHED, Food and Consumer Protection and Health Department, were seen avoiding it.

90 percent of businessmen do not have license

According to PHED officials, more than 90 percent of the plants do not have a lab or a chemist for

testing. According to the rules, this test should be done in a NABL accredited water testing lab. Only PHED has this type of laboratory in the entire state. Some educational and research institutes are running laboratories at their own level, but PHED has established water testing laboratories at all district headquarters and sub-division levels and has got them NABL accredited.

Most of them have only license for chilling plant

In most water plants, water is being supplied through chilling plants instead of RO. In this, water is cooled till the bacteria are killed and then it is packed and supplied. In each plant, the motor runs for two to five hours every day, which causes damage to ground water and government treasury.



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Adani power plant will destroy more forests than projected

By Vaishnavi Rathore

Adani power plant will destroy more forests than projected, experts say. The site identified in Uttar Pradesh's Mirzapur district for the proposed project is forest land, contrary to the company's claim, environmentalists maintain.



The approach road to the proposed site for the thermal power plant. | Photo: Debadityo Sinha

In Uttar Pradesh's Mirzapur forest division, plains meet the undulating foothills of the Vindhya mountain range. The region, where trees of tendu and sal stand tall with medicinal plants and grasslands, is home to sloth bears, jungle cats, and striped hyena.

Within this division, in an area known as Dadri Khurd, a company called Mirzapur Thermal Energy (UP) has taken the first steps towards obtaining an environmental clearance to construct a 1,600-megawatt coal-based thermal power plant. The company is a new subsidiary of the Adani Group, and proposes to build the plant on 365.19 hectares of land it owns here, according to its submission before the expert appraisal committee on June 28. This committee is a body under the ministry of environment, forests, and climate

change, which advises the government on green clearances for proposed development projects. Of the 365.19 hectares, the company is seeking "forest clearance" for around 12 hectares of forest land, which suggests that only 12 hectares of the land on which it seeks to set up the project is forest land.

But experts and activists say this is misleading. They point out that a parcel of 665 hectares of land in Dadri Khurd, within which the project site falls, is recorded as a forest in state government records – specifically, in a 1952 state government gazette.

Under the Supreme Court's 1996 Godavarman judgement, "any area recorded as forest in the government record irrespective of the ownership" should be considered forest land.

In a June 28 letter to the environment ministry, environmentalist Debadityo Sinha, founder of the Vindhyan Ecology and National History Foundation in Mirzapur, noted that based on the 1952 notification, the 665 hectares were "supposed to be notified as a forest" under section 20 of the Indian Forest Act of 1927. But while 106 hectares had been notified as such, 558 hectares were "yet to be notified", he said. A former forest official familiar with Mirzapur confirmed that the proposed power plant site falls within these 665 hectares.

Forest land that is yet to be notified as such is common across the state. In his letter, Sinha noted that in Uttar Pradesh, 27% of the land allotted to the forest department is yet to be formally notified as forest. In Mirzapur forest division alone, over 7,300 hectares that are classified as forest land in state records are still a

notification away from being declared as forest.

This is the second time that a thermal power plant is being proposed on the same Dadri Khurd site.

In 2014, the environment ministry granted environmental clearance to Welspun Energy to build a 1,320-MW coal-based thermal power plant on the same site. However, Sinha and two other petitioners filed a case in the National Green Tribunal, in which they argued that the environmental impact assessment for the project contained false and incomplete information about forests and wildlife in the area.

In 2016, the NGT ordered in favour of the petitioners and asked the company to restore the project site to its “original condition”.

Scroll emailed the Adani group as well as the state’s revenue and forest departments to ask about the site’s status as forest land, and the damage that the project would do. This story will be updated if they respond.

Why the site is a forest

The Godavarman judgement stated that the word “forest” was to be “understood according to its dictionary meaning”, and that the provisions of the Forest Conservation Act, 1980 “for the conservation of forests and the matters connected therewith must apply clearly to all forests so understood”.

Under such reasoning, there could be no question that Dadri Khurd was forest land, experts said. “Dadri Khurd has a dense forest where the forest department works, does plantations, and protects the flora-fauna,” said the former official familiar with Mirzapur. “It is also one of the few spots in India which supports a habitat for sloth bears.”

This is underlined by official observations made by the forest department in the past. In a 2020 letter, the divisional forest officer of Mirzapur wrote to the division’s conservator of forests about a solar power plant that the Adani group had proposed to set up in Dadri Khurd. In the letter, which Scroll has seen, he noted that the project site was surrounded by three reserved forests as well as

forests of dry bamboo and butea tree, commonly known as flame of the forest, which the letter described as “unique forest wealth of the Vindhyan region”. The proposed project could result in “unfavourable impacts on the forest’s flora, fauna, and biodiversity”, the officer said.

Others who have assessed the land, including consultants for corporations, have arrived at a similar conclusion. Following a 2011 site visit conducted in connection with the earlier thermal power plant proposed by Welspun, WAPCOS, the consultants conducting the environmental impact assessment, found “dense vegetation/forest” in the south-east part of the project site.



A 2013 image of the proposed project site. In a 2016 judgement, the National Green Tribunal ordered Welspun Energy to restore the site to its “original condition.”

Moreover, in its judgement in the case against the Welspun thermal plant, the National Green Tribunal noted that a “land-use land/cover map” of Mirzapur district showed that the project site was “mostly occupied by deciduous forest”, while a part of it had agriculture and plantations.

Though the site has undergone considerable deforestation since then, Sinha said, it is still technically a forest and should be protected. “The entire project has many components, like a railway line, roads, water-supply pipeline,” said Sinha. He added that the project “will fragment the forest and disturb the adjoining forest areas, causing irreversible damage to hydrology and wildlife habitats of this region”.

The 1952 notification

According to minutes of a June 28 meeting of the expert appraisal committee, Mirzapur Thermal Energy (UP) is currently seeking the environment ministry's approval for the "terms of reference" of the project's environmental impact assessment – that is, it needs the government to approve the parameters that will be evaluated in the assessment, such as the proposed project's impact on air and water quality.

Obtaining this approval is the first step towards gaining environmental clearance. Once the ministry approves the terms of reference, the company conducts the environmental impact assessment, typically through consultants. Based on this assessment, they are mandated to then conduct public consultations with project-impacted communities, and address all significant concerns before submitting the assessment to the government.

The minutes document states that 364.5 hectares of the land in question is "private land". But experts note that according to the 1952 state government gazette notification, 665 hectares of land in Dadri Khurd, including the proposed site, were transferred to the state's forest department under the UP Zamindari Abolition and Land Act, 1950.

The former forest officer explained that confusion over the land's status may have arisen because while the forest department marked these regions as forests in its records, the revenue department did not do so. "The 1952 gazette notification made it clear that this land could only be with the forest department," the officer said. "But the revenue department did not record it as a forest in their maps, and so somehow a lot of this land ended up being sold to the common public."

Over the years, farmers who owned and cultivated parcels of land in Dadri Khurd sold them to the Adani group, the official explained. "The registry of the land might be legally right and in order, but if the origin of the land is wrong, then selling it to someone is null and void," said the officer.

The Welspun project

In its 2016 judgement against the Welspun project, the National Green Tribunal flagged several problems with the proposal and the process that the proponents had followed.

It observed that it is "evident that the project is surrounded by forest" and "thus the issue of wildlife in the area deserves serious consideration". It also noted that based on the facts presented to the bench, it appeared that no member of the Wildlife Institute of India, which usually conducts site visits as a part of clearance process, had done so to assess "the issues raised in relation to forest and wildlife".

It also pointed out concerns with the public hearing held with regard to the project. Specifically, it stated that videos recorded of these hearings in Dadri Khurd proved that "gun toting men" were present, which was "bound to strike fear" in those attending it and "dominate their free will". Based on this, it would be difficult to call this public hearing "free and fairly conducted". In conclusion, the bench said that the "entire process of consideration and appraisal to the proposal to grant EC is found tainted".

About the Adani Group's current proposal, Sinha noted that while as a profit-making company, it "is well in their right" to apply for an environmental clearance, the state government is "constitutionally mandated" to safeguard forests and wildlife.

Activists and experts worry that the Adani group could secure an environmental clearance, and the forest clearance it seeks, despite the National Green Tribunal's past judgement.

"The NGT judgement is largely based on the inadequacies in the process, not so much on actual ecological status of the site and the possibility of unacceptable harm to the region," said Sharadchandra Lele, a distinguished fellow with Bengaluru-based Ashoka Trust for Research in Ecology and the Environment. He added that a new company applying for a clearance could seek to assure the government that it would adhere to better processes, conduct a thorough

environmental impact assessment, and then mitigate the project's impacts on the environment.

But Sinha pointed out that according to a 2022 clarification of the environment ministry pertaining to the Forest Conservation Act, 1980, "no non-site specific proposal can be entertained" for forest clearances – that is, that a project could not seek to clear and use forest land unless it had a specific requirement to use that particular piece of land.

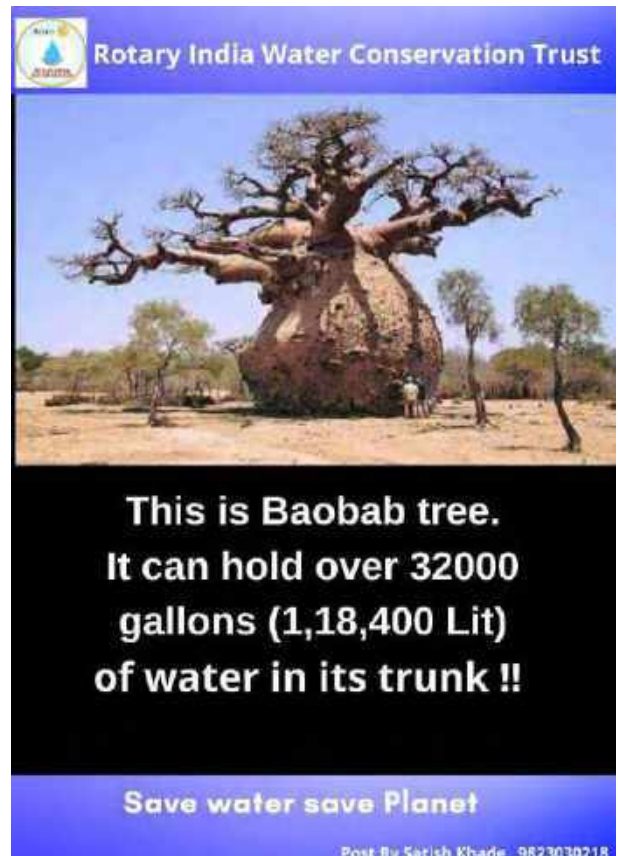
"This thermal power project is non-site specific," Sinha said. "If the government really wants to bring it in, they can allot a different land which is not ecologically sensitive and has minimal environmental impacts."

Experts and activists are also concerned about the fact that, though in multiple instances, government officials and private individuals have asserted that the land is forested, in one instance, officials reached a different conclusion about a part of it. The minutes document notes that the Adani group initially considered seeking forest clearance for an additional 0.6 hectares of forest land, but then decided against it, stating that it had been found to be "non-forest land". They arrived at this conclusion through a joint inspection of the forest and revenue department in April this year, which "confirmed" that the area was not forest land – the minutes noted that in line with the expert committee's orders, this land was to be used by the company solely for "plantation/green belt purposes".

Lele, said that bad land records as in this case often "become the source of bypassing legal hurdles and barriers for project proponents".

Sinha argued that with regard to the area's wildlife, the risk to the sloth bear was of particular concern – the species is listed in Schedule 1 of the Wildlife Protection Act, which comprises species that have the highest degree of legal protection. He explained that some years ago, he had proposed to the forest department that a sloth bear conservation reserve be set up within the 665 hectares that were transferred to the forest department in 1952.

In 2019, the divisional forest officer of Mirzapur wrote a letter to his senior officers in the forest department proposing that such a reserve be established. "We have not had a response to the proposal yet, despite several follow ups and RTIs," said Sinha.



Miyawaki Nature Lab in Thiruvananthapuram

gives visitors a feel of how micro-forests transform

the soil and the environment - By SARASWATHY NAGARAJAN

MR Hari, who led the efforts to create the Miyawaki forest, hopes to inspire others by training people who want to follow the model



MR Hari at the Miyawaki Nature Lab at Puliyaarakonam, Thiruvananthapuram. | Photo Credit: Special arrangement

Leaves glitter with raindrops as we walk under a canopy of verdant greenery. The Karamana river, in full spate, can be heard raging about 750 metres below. The air is redolent with fragrances of soil, leaves, spices and flowers. Creepers, branches

and leaves brush against us as we make our way around this tropical Eden. Butterflies glide among the ixora, making the most of the weak sunshine, a green frog hops under a stone, and a fat brown millipede moves forward busily.



The first Miyawaki forest at Puliyaarakonam, Thiruvananthapuram, after four and a half years. | Photo Credit: SPECIAL ARRANGEMENT

As I make my way around Miyawaki Nature Lab, Gayathri Nair, my guide for the day, shows me the variety of plants that have greened this once barren hill within six years.

When MR Hari, CEO of Invis Multimedia, sold his ancestral property in 2007, he invested it in a hillside plot of two acres near Puliyaarakonam, nearly 15 kilometres from Thiruvananthapuram; it was once planted with Acacia. The monsoon had denuded the area of its topsoil and no amount of tree planting helped in arresting the water from draining away from the hillside. Hari recalls planting 500 saplings every year only to see them wither away as the rocky and pebbly red soil could not retain water.



Initially, place at Puliyaarakonam was filled with pebbly, red soil that could not hold water and most of the plants withered away. | Photo Credit: Special arrangement

He says blasting at a quarry on the other bank creates tremors that disturb the water table in the region. “The little water retained used to drain away through small cracks in the rocky bed that occur due to the blasting,” he adds.

Hari began rearing cows and hens to see if the land could be fertilised with organic manure — he was clear that he did not want to use chemicals.

In 2015, Hari came across a video on Miyawaki planting, a method of restoring forests pioneered by Japanese botanist Akira Miyawaki. He had spent a lifetime specialising in restoring degraded land by growing native vegetation.

So, in 2017, Hari began experimenting with the Miyawaki model on a small plot on his property. He was helped by Dr. Mathew Dan, a soil scientist, Cherian Mathew, a farm journalist, and Madhu, Hari’s farming assistant.

Instead of planting saplings directly in the soil, they

were first nurtured in soil bags till they grew to about two feet and developed roots. Those were planted in the soil. “Moreover, we installed wire nets to support the trees, put up a green shade to protect the young plants from direct sunlight during summer and installed drip irrigation,” explains Hari.



The replenished soil at Miyawaki Nature Lab, Thiruvananthapuram. | Photo Credit: Special arrangement

Thrilled to notice the change in the growth of the plants, Hari travelled to Japan to meet Miyawaki in 2019, who was then in his nineties. “I was able to connect with his team. They travelled to Kerala and advised me on the system of planting advocated by Miyawaki.”



MR Hari with Akira Miyawaki. | Photo Credit: SPECIAL ARRANGEMENT

He knew that it would be exorbitant to implement the model on his entire plot. Instead, small plots were selected and those were densely planted, at the rate of four saplings in a one-square metre plot. "Although Miyawaki recommends only three, we tried four and it worked. Through this method, we rejuvenate the soil. Miyawaki believes that forests nurture pesticides to protect themselves and also attract predators that feed on the pests. Leaves, insects, bird droppings etc enrich the soil. I have clicked approximately 500 kinds of insects in the park," elaborates Hari.

Boring holes in the rocks, he planted sapling there to see if they would take root. The thriving plants imbued Hari with confidence that discarded quarries can also be turned into micro forests that can prove to be green lungs for the surrounding areas.



M i y a w a k i
Nature Lab |
Photo Credit:
S p e c i a l
arrangement

On the same plot, Hari has added a tank for fish farming too. He was able to replicate the model on select private plots across Kerala and also help them plant forests that focus on trees with medicinal values, herbs, native flowering plants etc. In addition, ten Miyawaki forests were planted in different kinds of surroundings in Kerala under the auspices of the Kerala Development and Innovation Strategic Council. These included micro forests in urban

areas, in coastal areas and residential areas.

"According to the Miyawaki model, there is a native ecosystem and if we plant foliage that attracts local varieties of insects and birds, it gradually enriches the soil and the environment. For instance, unless we have plants that cater to butterflies, we will not be able to attract birds and insects that might feed on the larvae of the butterflies, including pests. When we go in for mono plantations, an entire ecosystem gets disturbed," says Gayathri.



A frog at the Miyawaki Nature Lab in Thiruvananthapuram. | Photo Credit: Special arrangement

Hari believes that these micro forests are apt to combat climate change and urban micro forests could be a powerful tool to check water logging, rising temperatures and bring back Nature to concrete jungles.

"I call this place a nature lab because it is an ideal place for students and those interested in the environment to see how the soil changes. I plan to conduct a five-day hands-on-training programme to show how the soil gets depleted and how it can

also be replenished naturally by the plants that have grown there.”

In addition, groundwater gets recharged once



there is forest cover and roots to hold the soil together.

Batches of students from Kerala and Karnataka have come to study how the barren place has been transformed.

Aware that there are strident critics of the

Miyawaki method, Hari travelled across Japan to see the growth of forests that was around 50 years old. He says he was impressed with how the forests had not just survived but thrived and made an impact on their surroundings.

Miyawaki forest at Munakkal beach, Alappuzha. | Photo Credit: SPECIAL ARRANGEMENT

Hari was selected as consultant of the United Nations Convention to Combat Desertification. “I am part of a mission to plant Miyawaki forests in one million schools all around the world. We also planted one on the premises of the Kudankulam Nuclear Plant in Tamil Nadu and is on a mission to create such micro forests in Rajasthan, Orissa and Maharashtra,” he elaborates.

This is in addition to 150-200 such forests in Kerala. He believes that if residents create one- to two-cent forests within their plots, groundwater can be recharged in cities. He asserts that such Miyawaki forests that choose local plants can help restore rivers and protect coastal areas.



Miyawaki fruit forest at Kanakkary, near Ettumanoor, in Kottayam district. | Photo Credit: SPECIAL ARRANGEMENT

Dangerous: The amount of nitrate-sulphate in ground

water levels plunge to just 17 pc capacity :

Shri. Pankaj Chaubey

Varanasi News: The main reason for the increase in nitrate in groundwater is believed to be the excessive use of chemical fertilizers in farming. In the greed for more yield, excessive use of nitrogen fertilizer is not only spoiling the health of the soil but also polluting drinking water.

The rapidly depleting groundwater of the Ganga basin is also contaminated with elements that are dangerous for health. In a research by BHU, the amount of nitrate and sulphate in the groundwater of the areas around the Ganga and its tributaries was found to be much higher than the standards set by the World Health Organization (WHO).

The water of the areas concerned is no longer fit for drinking. The data of research going on

for almost a year on the condition of pollution in the underground water level is worrying. Excess of nitrate in ground water is considered dangerous for health. It can cause serious diseases especially in newborn children.

In a research being conducted by the Institute of Environment and Sustainable Development of BHU, the amount of nitrate and sulphate has been found to be very high in groundwater samples taken from different places of Lucknow, Jaunpur, Varanasi and Ghazipur in Uttar Pradesh. WHO has considered the amount of nitrate and sulphate in groundwater more than 45 to 50 mg/liter as dangerous. Whereas the amount of nitrate and sulphate in the water of these areas was found to be 100 to 115 mg per liter.



According to Dr. Kripa Ram, Assistant Professor of BHU, who is doing research on groundwater, groundwater samples were taken from the areas around the Ganges and major rivers of selected districts. Mainly those areas were selected for the study, where the river enters the city and where it leaves the city.

Groundwater samples were taken from these places

Varanasi: Apart from Ravidas Ghat, Assi Ghat, Rajghat etc., samples were taken near Ramnagar bridge. Out of these, the amount of nitrate in groundwater of Ramnagar was found to be less.

Jaunpur: Kachheri, Hussainabad, JCs Chauraha, Wajidpur, Mianpur, Jaunpur Jail, Civil Court, Matapur, Ambedkar Tiraha, Polytechnic, Sukhipur etc.

Ghazipur: Patharghat, Lord Cornwallis, Bada Mahadev Ghat, Sikandarpur Ghat, Navapura Ghat, Gola Ghat, Chetnath Ghat, Nakatwa Ghat, Posta Ghat, Muktidham Ghat, Sitaram Temple. Fluoride has been found in the groundwater of Ghazipur. This causes yellowing of teeth. Excess nitrate in drinking water is also considered a sign of biological pollution and is more dangerous for newborn babies

According to doctors, consumption of more nitrate can affect the flow of oxygen in the blood. Especially newborn babies suffer from the disease of mitoglobulonia (body turns blue). It is also called blue baby syndrome.



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

Thanks.



डॉ. दत्ता देशकर यांनी लिहिलेल्या विविध पुस्तिका

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



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

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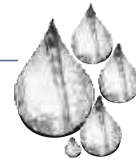
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