



Aarangar Environment Action Foundation

# Annual Report 2024-2025

*Designed by: Dhiya Thomas*

# MESSAGE FROM DIRECTORS



Dear Friends and Supporters,

It is a pleasure to connect with you once again and share updates from our journey.

As you are aware, we have been working on **water conservation through traditional methods**, involving local communities in the villages of the **Syaluta Wali river catchment in Alwar & Dausa**. This year has been especially encouraging—thanks to abundant rainfall, the results of our interventions have been truly inspiring.

We were overjoyed to see the **water structures filled, cattle finding shelter around them, and winter farming** happening after 15–20 years. Wells and hand-pumps that had once fallen into despair are now brimming with water. These water bodies have also become a **haven for birds and local biodiversity**.

You can **watch our impact stories** on our [YouTube channel](#), where we've documented these transformations for you to see and share.

This year, our family grew too. We were joined by **interns and volunteers from across India**, who made valuable contributions. From ideating fresh social media strategies to creating content and helping amplify our work, their involvement has brought new energy and direction. In turn, we ensured their experience was deeply enriching—helping them understand the crucial link between water availability and challenges such as poverty, sanitation, education, women's drudgery, nutrition, and migration

We conducted **numerous awareness meetings and programs** across villages in the Syaluta Wali catchment, with a strong focus

on involving **women and youth**—the real changemakers on the ground.

While our **crowdfunding campaigns** did not meet our initial expectations, the process of planning, interacting, and launching it provided us with valuable lessons and creative ideas for future efforts.

We also **forged new partnerships** and took a significant step this year in **Dabla village**, where, with community participation, we created another **johad (traditional water body)**. Nestled at the foothills of the Aravalis, this johad is beautifully located, and we are hopeful it will collect its first water with the early rains.

Additionally, we've begun **documenting and preserving traditional water knowledge**—including practices, heritage structures, and local wisdom—into a community-led **knowledge portal**. This marks an important step in securing and celebrating our shared cultural and ecological heritage.

There is so much more to share, but most importantly—**this year has shown us the way forward**.

We extend our heartfelt thanks to **each one of you**—for your strategic support, donations, volunteering, and belief in collective action. You are part of this mission, and we are certain that in the coming year, we all will witness even more powerful outcomes from this shared journey.

**With gratitude and hope,**  
Directors



# ABOUT US

Water is at the core of Aarangar Environment Action Foundation's work. Founded with the goal of creating self-sustaining villages and communities, Aarangar works through small-scale, local, and nature-based solutions that address both ecological and economic sustainability.

Our approach blends indigenous knowledge systems with modern scientific understanding to design simple yet impactful initiatives that strengthen local ownership and build climate-resilient communities—especially for women and children. Our projects are designed not only to conserve water and revive traditional systems, but also to ensure that these efforts translate into tangible benefits such as improved groundwater levels, reduced drudgery of women and enhanced rural livelihoods.

At the heart of all our work lies a singular goal: to conserve water, revive traditions, and secure a sustainable and equitable future for all.

## Integration of Five Core Elements

Our work is guided by the principles of Panch-J:

- **Jan/People:** Fostering a society rooted in vision, self-reliance, and self-respect.
- **Jal/Water:** Encouraging water conservation through discipline and mindful use.
- **Jungle/Forest:** Rejuvenating forests and pastures for ecological balance.
- **Janwar/Animal:** Harmonizing social and ecological conditions through sustainable livestock management.
- **Jameen/Land:** Enhancing soil fertility using traditional, sustainable practices.

## Collaborative Community Engagement

We believe that true, lasting change begins with active community engagement. We see

communities as equal partners in driving meaningful environmental and social impact. By fostering collaboration, promoting shared learning, and empowering individuals, we create opportunities for people to take ownership of the solutions that affect their lives.

Together, we amplify voices, strengthen bonds, and turn collective efforts into transformative outcomes. With community engagement as our cornerstone, we aim to build a sustainable future where everyone contributes and benefits equally.

We believe in result-oriented efforts with clear and measurable scientific impact assessments of the interventions and knowledge documentation for replication and awareness. The work carried out this year can be divided into the following key areas:

# Table of CONTENTS



- 01** Awareness
- 02** Community Action
- 03** Research, Documentation and Publication
- 04** Internship & Volunteering with Aarangar
- 05** Digital Outreach and Social Media
- 06** Aarangar In Conferences and Events
- 07** Fund Raising Strategy & Fund Raising
- 08** Strategic Partnerships
- 09** Articles published on our Knowledge platform



# FIELD WORK & AWARENESS



## About the Area:

The work is focused in Dausa and Alwar districts of Eastern Rajasthan. The area is surrounded by Aravali hills from all sides. Annual normal rainfall of the region is only about 560 mm, except the short duration of rainy season, the climate mostly remains dry.

There are no big rivers in this area; rather indigenous knowledge has been used to conserve rainwater through different traditionally made rainwater holding structures in the catchments which in turn would feed the wells, small local rivers and nalas ensuring a perennial flow of water and good health of the ecosystem.

This system, dependent on community action, over a period of time has vanished, leaving immensely useful water bodies of the area dry and ecosystem degraded. The adverse impact is visible in all aspects of life and its habitations.

The colossal impact on human lives, leading to increased migration, forcing people to bank on single kharif crop while also struggling with uncertainties of climate change has been insurmountable misery.

## About the work:

In a span of 5 years through community participation we intend to create sufficient rain water holding capacity in all the 21 villages present in the catchment area of seasonal 'Syaluta Wali River'. This will be followed by extensive plantation of local, native trees.

Bringing water back into a degraded catchment gradually heals the entire ecosystem. As soil becomes moist with water it creates an opportunity for the life to grow.

As Flora and Fauna increases, hidden water streams flowing under that rich ecosystem start to become seasonal streams and eventually contributes in reviving a perennial river. The approach of the work is based on the principles of "Panch- J".

**Awareness: Traditional Water Conservation for Environmental and Livelihood Development: A Step Towards a Sustainable Future** This year, Aarangar Environment Action Foundation conducted multiple participatory awareness programs across villages in the Syaluta Wali river catchment. These sessions mobilized communities to revive traditional water systems like Johads and Medh Bandi, while introducing modern irrigation methods such as drip systems, sprinklers, and farm ponds. The programs focused on:

- **Water Conservation** – Promoted both traditional (ponds, drains, anicuts) and modern techniques for efficient water use.
- **Agriculture & Financial Literacy** – Shared practices on organic farming, timely irrigation, fertilizer use, SHGs, and government subsidies.
- **Government Schemes** – Informed villagers about Jal Jeevan Mission and agriculture/horticulture support programs.
- **Cybercrime Awareness** – Educated communities about online fraud and the use of the 1930 helpline.
- **Women's Leadership** – Encouraged women's active participation in water conservation and decision-making.

These efforts aim to restore groundwater, boost farm productivity, and build resilient, self-reliant rural communities.

1. **Village Sitawat:** Our community awareness campaign is focused on spread-

ing awareness about traditional water conservation methods. Taking community on board to initiate actions on the ground to mitigate water stress has also been one of the objectives of community engagement efforts.

**KEY DISCUSSION POINTS**

- **Organic Farming:** Benefits for soil, health and sustainability.
- **Irrigation & Input:** Timely watering, the right fertiliser, and drip irrigation.
- **Farm Infrastructure:** Mini sprinklers, pipeline fencing and planting trees like ber.
- **Government Support:** Available subsidies from the agriculture and horticulture departments.
- **Financial Management:** Importance of saving and the role of self- help group.



Awareness program conducted in the village - Sitawat, Tehsil Rehla

**2. Village Toda Jaisinghpura:**

**KEY DISCUSSION POINTS**

- Current condition of village water sources and declining groundwater levels.
- Urgent need for collective water conservation efforts.
- Importance of traditional systems like Johads, Anicuts, Med Bandi, drains and ponds.

- Promotion of efficient irrigation methods: **drip irrigation, sprinklers, pipelines, and farm ponds.**



Awareness program conducted in the village - Toda Jaisinghpura

**3. Water Conservation Awareness Session in the village of Govardhanpura:** As part of the village-level awareness efforts, a focused session was conducted in Govardhanpura village where Resource Person Mr. Yogesh Kumar Sharma educated women on traditional water conservation methods and their direct link to livelihood development.

He highlighted the importance of structures such as Johads (earthen check dams), Bandh/Medh Bandi (field embankments), and drip irrigation systems. The session emphasized how effective water management is essential for sustaining agriculture, ensuring food security, and strengthening rural livelihoods—positioning women as key drivers of change in their communities.



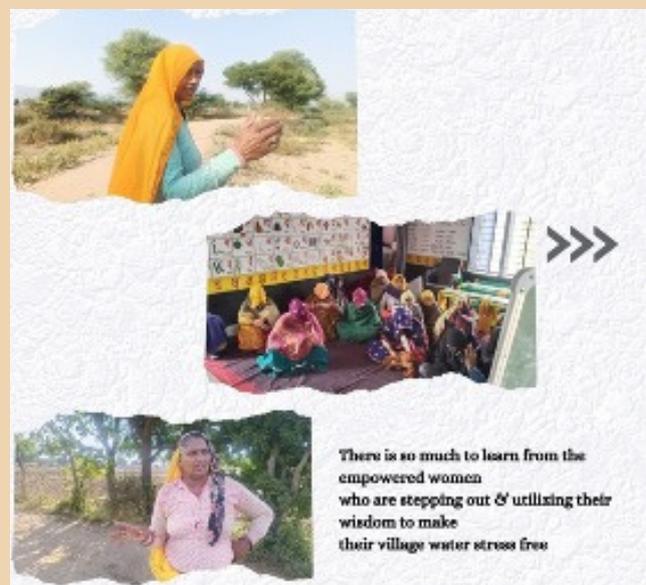
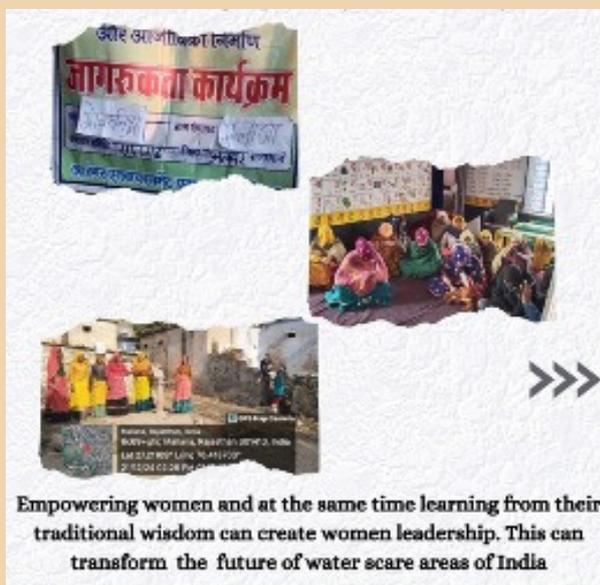
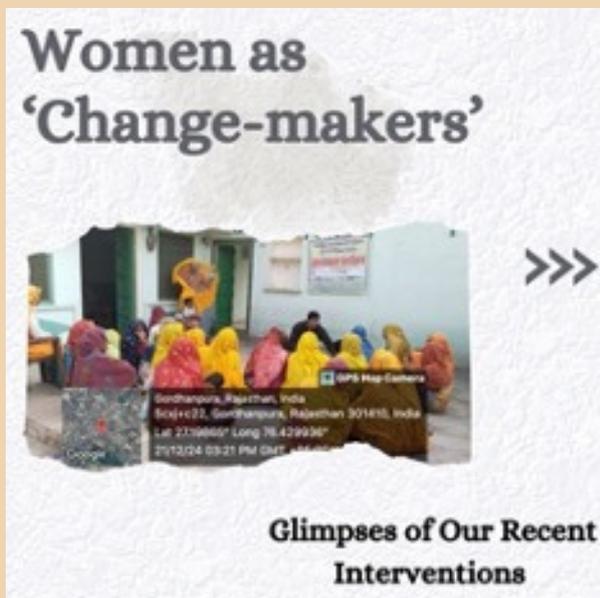
Awareness program conducted in the village - Govardhanpura

**Women Awareness Campaign**

Community awareness is vital for fostering partnerships and empowering collective action for water conservation. Women’s involvement in any community engagement is particularly crucial, as they often hold traditional knowledge of water management and conservation practices.

They are the ones who suffer the most due to water scarcity and are also the ones who contribute the most in any community action where water is central. By valuing the contributions of women, we can unlock the potential for resilient, community-driven solutions to the challenges posed by water scarcity.

Their leadership can drive effective and sustainable water conservation efforts within communities. Glimpses of our Women's Awareness Drive:



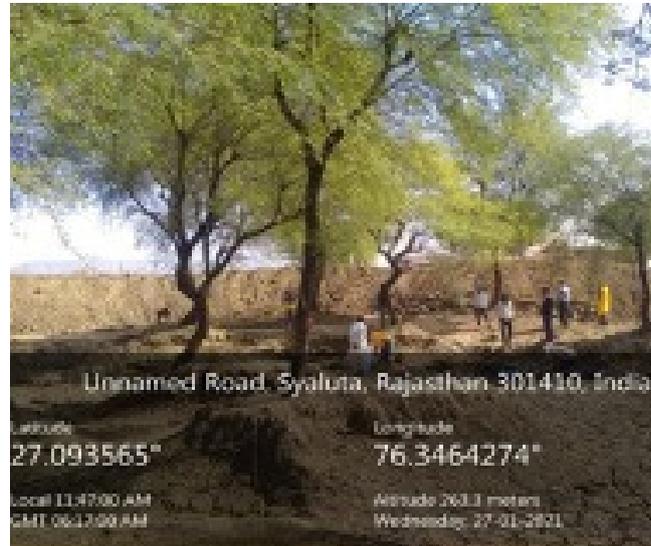
# COMMUNITY ACTION

*Success Story (2021-2024)*

*Community Action: Success Story*

*Community revives a dry village 'Keetla' (Dist. Alwar, Rajasthan)*

**Photos from the construction of the Johad (2021):** A traditional water body, or Johad, with a capacity of 4,28,00 litres, was constructed through collective community effort in Keetla village. Many migrant workers, who had returned home due to the COVID-19 pandemic, played a crucial role in the project. Considering the local context and ground realities, manual digging was encouraged to maximise participation and ownership. Below are the photos of the Johad at Keetla.





### Overall,

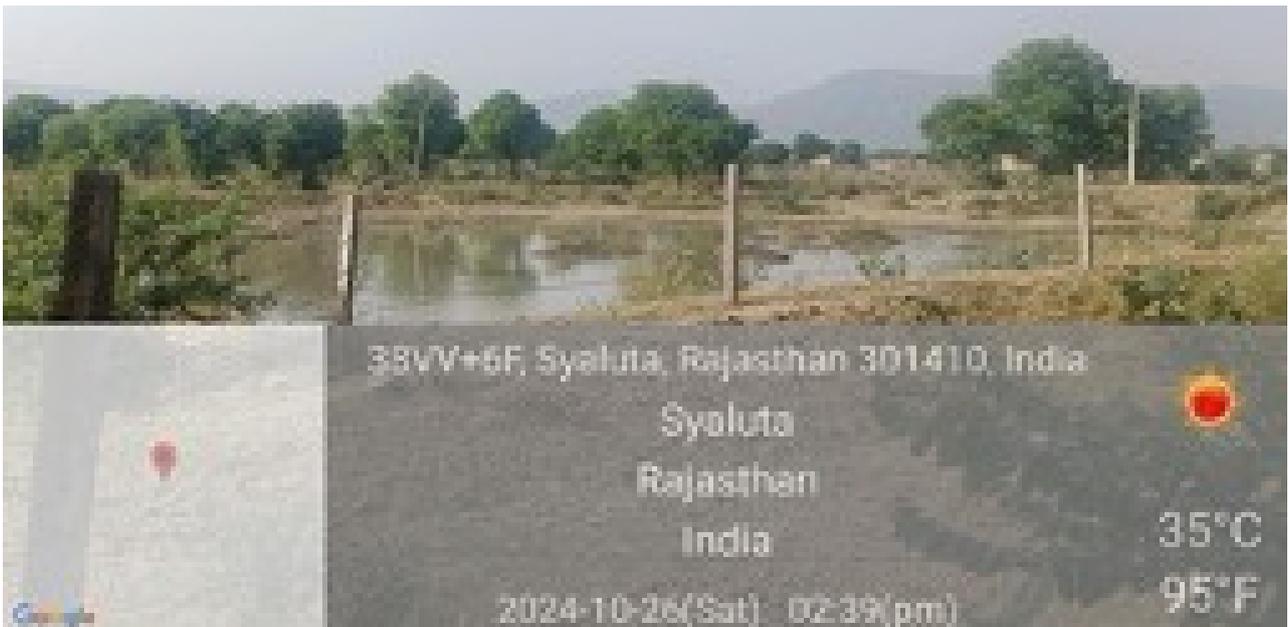
1. A Johad has successfully been created in Keetla village of about 4,28,00 litres of water storage capacity.
2. Provided 22 People from Keetla village with daily wage jobs worth 146 days, 68% were women
3. 100 families in and around Keetla village will get the benefits of the water body
4. The Johad will revive 13 wells and 2 hand pumps, 600 animals will get drinking water, and 130 families will have improved livelihood options and opportunities.

### Updates and Photos (July 2024)

Although the Johad was constructed in 2021, insufficient rainfall in 2021, 2022, and 2023 limited its water collection. However, with favourable monsoon in 2024, the Johad has filled up after the initial rains.

Below is the recent image showcasing its current state:





Surrounded by the Arawali hills, 'Keetla' is a small village. The water table in the village was at 200 feet, all the wells and hand-pumps are dry, and only 10% of the agricultural land was under farming. Unavailability of water had ruined all the locally available traditional livelihood opportunities and forced people to migrate to cities and work as daily wage labourers. The work was entirely owned by the community.



**Mrs. Bimla Gujar**  
(A Resident of Keetla Village)



Video to Understand the impact of our Work:

1. United for water
2. One Pond Many Benefits

## SUCCESS STORY

### Community-Led Revival of a 'Chal' in Remote Tehri Garhwal

In a significant step toward sustainable water management, **Aarangar Foundation** undertook the desilting and renovation of a traditional, terrain-specific water body known locally as a Chal in **Piplogi village**, Block Pratapnagar, **Tehri Garhwal district**, Uttarakhand.

The *Chal*, once a vital community resource, had become unrecognisable due to years of neglect, leading to acute water scarcity for irrigation in the agricultural fields located downhill.

The revival initiative was carried out in **May 2021** by Aarangar Foundation, in collaboration with the **Gram Panchayat Dodagthapla** and the local farming community. The objective was to **restore the water holding capacity of the Chal** and enhance irrigation and agricultural productivity across **three villages—Dodga, Thapla, and Piplogi**.



#### Objectives and Benefits

The Chal was revived to enhance water storage and ensure a reliable irrigation source, especially during dry winters. The community de-silted and deepened the structure, increasing its capacity to 1,00,000 litres. Fed by an uphill dhara (spring), the Chal now retains water year-round. Farmers have built kachchi nalis (earthen channels) to

guide water from the Chal to their fields. Since its revival, it supports irrigation for nearly **10 hectares of farmland, benefiting around 200 farmers across three villages**.

To evaluate Chal's overall contribution, watch this [YouTube video](#).



#### Project Details:

*Location: Piplogi village, Block Pratapnagar, District Tihri Garhwal, Uttarakhand*

*Villages Benefited: Dodga, Thapla, Piplogi*

*Total Storage Capacity: 1,00,000 liters*

*Land Coverage for Irrigation: 10 hectares of agricultural land*

## Community Action at Dabla Village

Construction of a Johad (Traditional Rainwater Harvesting Structure) in Dabla Village, Alwar, Rajasthan – March 2024

*‘Rainwater conservation isn’t just about collecting water—it’s about slowing it down, allowing it to seep into the earth, and recharging the groundwater table’.*

Taking lessons and inspiration from our work in other villages another Johad is created in the Dabla Village of the Syaluta nadi catchment. Adding to the momentum, the Centre for Environment and Regional Development (CERD) has also stepped in to make this project a reality. Being close to the Aravalli hills, the site has a high potential to capture and store water from the early rains.



<b>Village Name</b>	Dabla Meena
<b>Work Duration</b>	1 Mar 2025
<b>Water Table</b>	300 feet
<b>Area under farming</b>	15% agriculture area
<b>Land under tree cover</b>	10%
<b>Annual Income (from agriculture)</b>	Rs. 20,000
<b>Structure created</b>	Johad
<b>Water storage capacity</b>	750 m3 (750,000 Litre)
<b>Number of Beneficiaries</b>	100 families from two villages (Dabla Meena and Toda Jaisinghpura)
<b>Type of land where Johad was created</b>	Common land of the village
<b>Impact</b>	15 wells will get revived, 500 animals will get drinking water and 200 families will have improved livelihood options and opportunities
<b>Method</b>	Community Participation
<b>Women participation</b>	65% (In all community Meetings and decision making processes)

# RESEARCH, DOCUMENTATION AND PUBLICATION



## (I) Survey of the Villages in the catchment area: Govardhanpura

About Govardhanpura Village	
Village	Govardhanpura, Tehsil Rehla, Block Rajgadh, District Alwar, Rajasthan"
Description of the intervention needed	The water table in the village has declined. This intervention is expected to raise water levels in wells, generate employment opportunities, and improve the overall living standards of the entire village. Construction of Johad, Small earthen check dams - on the higher side of Govardhanpura
Volume planned to be stored (cubic metres)	~877
Method	~23270 cubic ft of mud work (Digging)
Where is the intervention in relation to the river?	River is 700 m North East
Intervention built to be on public or private land	Public Land
Latitude	27.194692°
Longitude	76.428644°
Water Table Depth	250 - 300 ft
Number of Beneficiaries	325 Families
Community and their livelihood	"Agriculture, Animal Husbandry, etc."
Average Income from Agriculture	13000 to 18000 INR/year

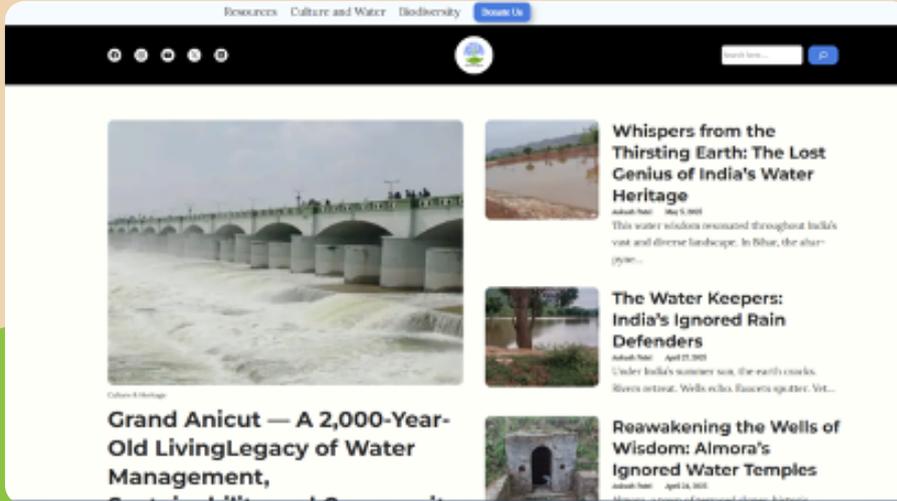
<b>Current Land Area Under Cultivation</b>	25%
<b>Number of Domestic Animals</b>	1165
<b>Wells &amp; Handpumps to be impacted by the intervention</b>	9 wells and 2 hand pumps
<b>Livelihood support and impact on reverse migration:</b>	55 families
<b>Current area under plantation:</b>	15%



(Resource Map, Govardhanpura village)

## (II) Knowledge Portal

Documentation of Good Practices, Nature-Based Solutions and Heritage Linked with Water



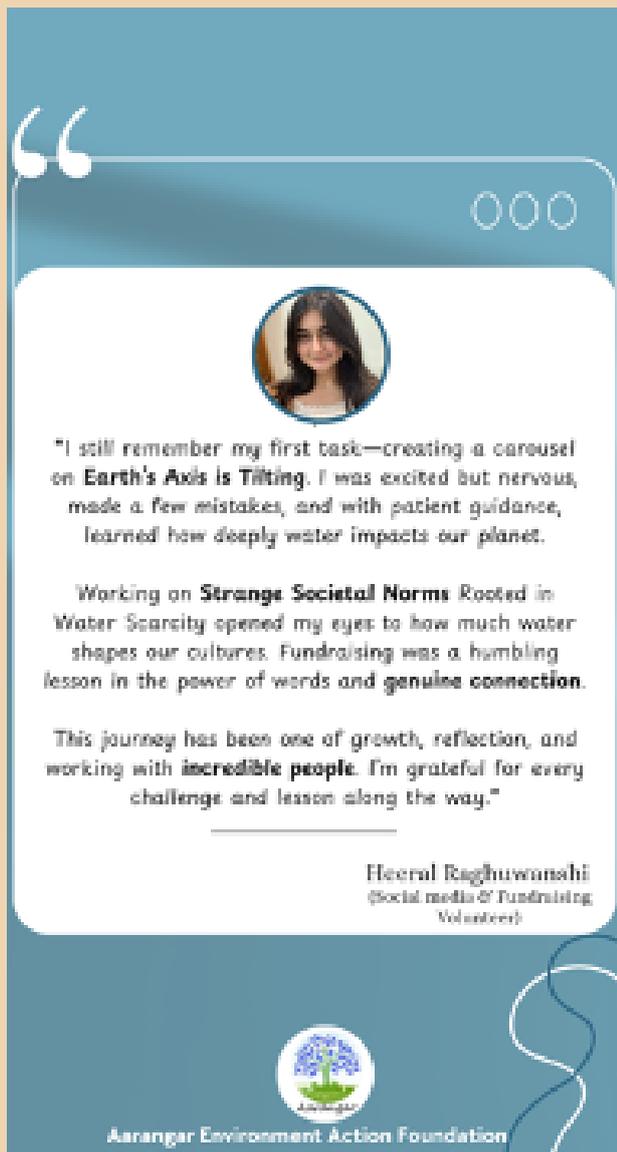
Our recent initiative focuses on documenting and disseminating community knowledge related to water conservation and harvesting through two dedicated knowledge portals—one in Hindi and one in English. We also emphasize showcasing heritage water structures that reflect traditional wisdom and local practices.

➤ <https://degreecentigrade.com>

➤ <https://degreecentigrade.in>

# INTERNSHIPS AND VOLUNTEERING

Our volunteer and internship programs have been instrumental in fostering a new generation of environmental stewards. Throughout the year, we welcomed passionate individuals from diverse backgrounds—students and professionals, who contributed to areas such as sustainability research, social media outreach, fundraising and partnership development. These engagements provided participants with hands-on experience, skill enhancement, and exposure to real-world environmental challenges. The interns and volunteers have played a pivotal role in advancing our mission of sustainable water conservation and community empowerment, bringing fresh perspectives and energy to our initiatives. Their dedication and contributions have not only enriched our projects but have also fostered a collaborative spirit that is essential for driving meaningful change.



“



"I still remember my first task—creating a carousel on **Earth's Axis is Tilting**. I was excited but nervous, made a few mistakes, and with patient guidance, learned how deeply water impacts our planet.

Working on **Strange Societal Norms Rooted in Water Scarcity** opened my eyes to how much water shapes our cultures. Fundraising was a humbling lesson in the power of words and **genuine connection**.

This journey has been one of growth, reflection, and working with **incredible people**. I'm grateful for every challenge and lesson along the way."

Heeral Raghuvanshi  
(Social media & Fundraising Volunteer)



Aarangar Environment Action Foundation



## AANCHAL SINGH

Volunteer

Volunteering at Aarangar has definitely opened a wide range of learning prospects for me. I have enjoyed working with like minded people while contributing to such a **cause.**



## My Internship Experience

“ Being part of this incredible initiative has been an enriching journey, and I am truly honored to have contributed to a cause that restores water security and uplifts communities. ”

**-Kanishk Baheti**  
CAT Aspirant, Beawar, Rajasthan



AARANGAR ENVIRONMENT ACTION FOUNDATION   



## My INTERNSHIP EXPERIENCE

“ I feel fortunate to contribute to the vital cause of water conservation through Aarangaar’s sustainable rainwater harvesting efforts in water-stressed areas. This experience has deepened my understanding of traditional water harvesting methods and India’s indigenous wisdom, while also giving me the opportunity to learn from inspiring on-ground changemakers. ”

**- Manika Gupta**  
(Intern)



Aarangaar Environment Action Foundation



*My*  
**INTERNSHIP  
EXPERIENCE**

'During my internship, I explored traditional water conservation methods in Nigeria, deepening my understanding of sustainable water management. This experience offered me invaluable lessons in environmental sustainability and teamwork.'

- Plus Victory Yunana  
Marwadi University  
BA LLB (Hons)

Instagram, YouTube, LinkedIn icons

AARANGAR ENVIRONMENT ACTION FOUNDATION

*My*  
**INTERNSHIP  
EXPERIENCE**

“ Interning with Aarangar for the past few months has been an enriching experience for me that has significantly broadened my perspective on fundraising and how NGO work. I've had the opportunity to contribute to meaningful work and have been consistently impressed by the dedication and effectiveness of the organization. ”

- Shruti Khaitan  
(Intern)

Aarangar Environment Action Foundation

# DIGITAL OUTREACH AND SOCIAL MEDIA



## Enhanced Social Media Presence

This year, we significantly expanded our presence across various social media platforms, including Facebook, Instagram, YouTube, and LinkedIn. This effort was made possible with the enthusiastic support of our volunteers, who played a key role in creating and sharing educational content in the form of posters and carousels.

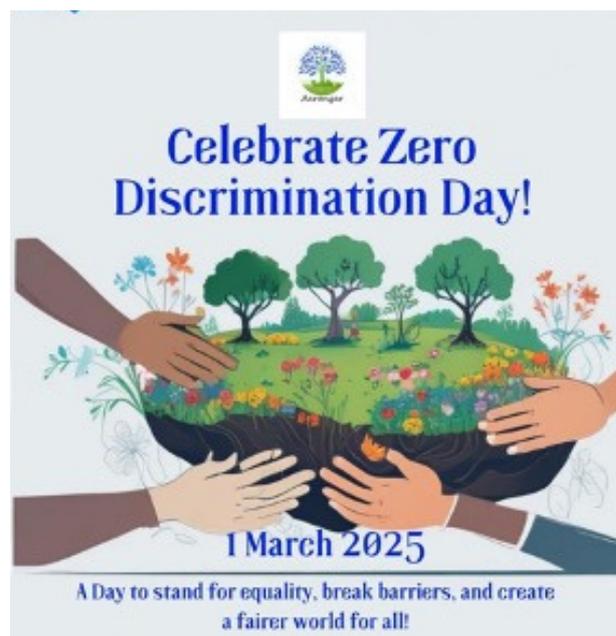
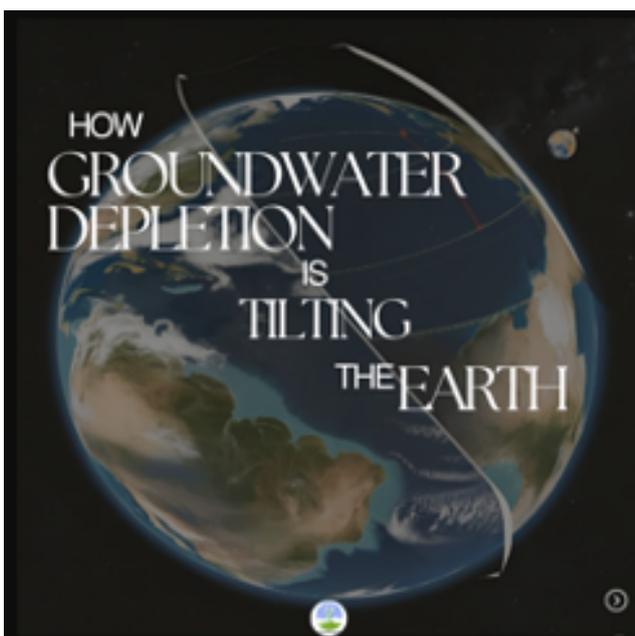
We regularly posted informative and engaging content on the importance of water conservation and its wide-ranging impact on communities, the environment, ecology, local economies, climate change, and the Sustainable Development Goals (SDGs). Special emphasis was also placed on the gendered dimensions of water access, particularly its influence on women and girls' education.

Our LinkedIn platform emerged as a key space for thought leadership and awareness-building, helping us connect with a broader audience, including professionals, organisations, and policymakers.

[Facebook](#)  
[YouTube](#)

[LinkedIn](#)  
[Instagram](#)

(Click on the above to be directed to the respective page)





**Water on the Climate Agenda**  
 The Baku Dialogue on Water and Climate



A pivotal initiative by the COP29 Presidency, spotlighting water's critical role in climate adaptation.

Aarangar Environment Action Foundation

**HOW CAN WE ADAPT TO CLIMATE CHANGE?**



THE WORLD IS CHANGING—SO MUST WE. CLIMATE ADAPTATION HELPS US BUILD A MORE RESILIENT FUTURE.




# WETLANDS: ESSENTIAL & IRREPLACEABLE

Vital for Nature, Climate, and People

**Wetlands Absorb Carbon & Fight Climate Change**  
 Store 30% of land-based carbon. Peatlands hold twice as much carbon as forests!





**Wetlands Filter & Store Water**  
 Wetlands remove pollutants & store excess rainwater, reducing flood risks.

**Home to Unique Biodiversity**  
 40% of the world's plant and animal species live or breed in wetlands, including endangered species.





**Natural Protection Against Disasters**  
 Mangroves & wetlands absorb storm surges & prevent coastal erosion.

**Wetlands Support People & Livelihoods**  
 Over 1 billion people depend on wetlands for water, farming & food security.





# AARANGAR IN CONFERENCES AND EVENTS



1. Consultation workshop on “Wetlands as Nature-based Solutions for Disaster Management and Adaptation Planning,” organised by ICARS, IIT-R (GoI-DST Centre of Excellence) in collaboration with Wetlands International South Asia and GIZ on November 8, 2024, at the ICARS Greater Noida Campus (Delhi NCR).

Aarangar Environment Action Foundation was represented by Dr. Chetna Joshi at the workshop focused on the role of Nature-based Solutions (NbS) in disaster risk reduction and climate adaptation. Dr. Joshi presented Aarangar’s work on traditional water conservation systems in Rajasthan and Uttarakhand, emphasising the integration of community knowledge in NbS approaches. The presentation showcased the tangible impacts of these efforts, including a rise in local groundwater tables and improved water availability for agriculture and household use, highlighting the effectiveness of traditional, community-led solutions in enhancing climate resilience.



2. As part of its community outreach and awareness initiatives, Aarangar Environment Action Foundation participated in the Winter Carnival & Medical Camp organized by Chittaranjan Park Purbachal Durga Puja Samiti (Regd.) and E-Block RWA, C.R. Park, on December 25, 2024. Dr. Chetna Joshi, Head of Programs and Operations at Aarangar, delivered a special climate talk, engaging a diverse audience on the importance of climate resilience and traditional water conservation practices. The event provided a valuable platform to connect with the local community, raise awareness about environmental issues, and inspire collective action through the Foundation’s grassroots initiatives. The enthusiastic response highlighted the growing public interest in sustainable living and Nature-based Solutions.



**3. India Fundraising Conference Feb 5 - 6, 2025, 09:00 AM (IST), India Habitat Centre, New Delhi - India.** The IFRC is a unique platform for fostering collaboration and knowledge-sharing, strengthening connections, and building dialogue to collectively amplify fundraising efforts towards social change.

Part of the fourth edition of the India Fundraising Conference (IFRC), hosted by the ILSS Centre of Excellence for Fundraising in partnership with The Resource Alliance. The event brought together over 700 professionals and leaders from more than 500 organisations – for 42 learning and networking spaces. We hope you found the event to be a vibrant platform for learning, collaboration, and sector-wide transformation.



# FUND RAISING STRATEGY & FUND RAISING



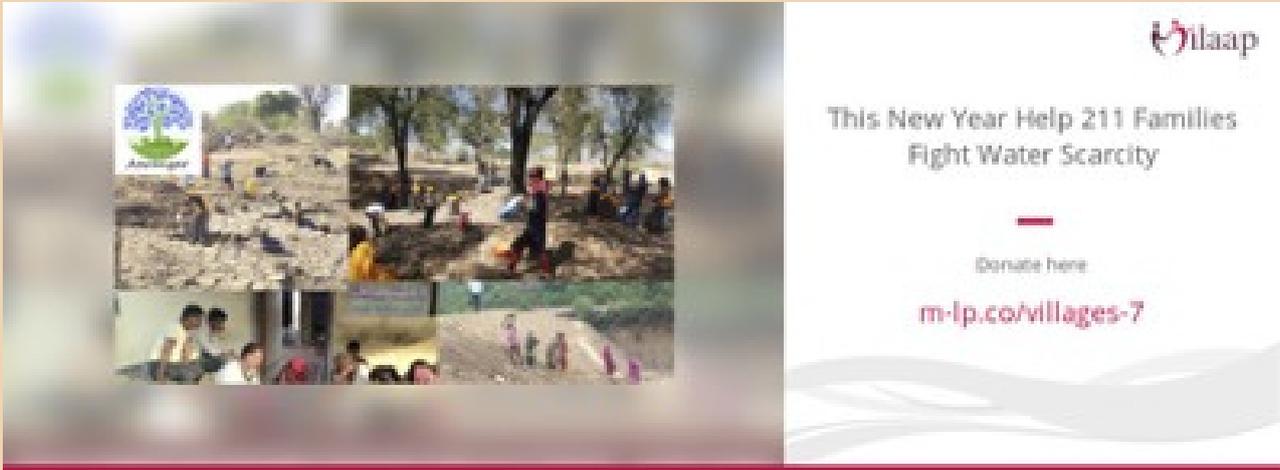
1. Mr. Debdoot Ray, a graduate student in Ashoka University as part of his Social Entrepreneurship and Impact course in consultation with AARANGAR ENVIRONMENT ACTION FOUNDATION developed a comprehensive strategy document focusing on sustainable funding mechanisms and team building strategies for Aarangar's vital water conservation work in Rajasthan. Two more students from the same university teamed with him namely Devna Pandey and Vrinda Jain in this endeavour.



2. **Creation of a system for Aarangar Foundation to receive donations through online crowdfunding**

This year, Aarangar approached IDBI Bank for facilitating an Internet Payment Gateway on its website, <https://aarangar.org/>, through its designated Payment Service Provider (PSP), Easebuzz India Pvt Ltd. It was facilitated, and now the website has a system to receive donations online.

**3. Crowdfunding campaign to create Johad in Dundpuri and Rampura Villages**



Platform Used: Milaap

Number of People who came together to contribute = 29

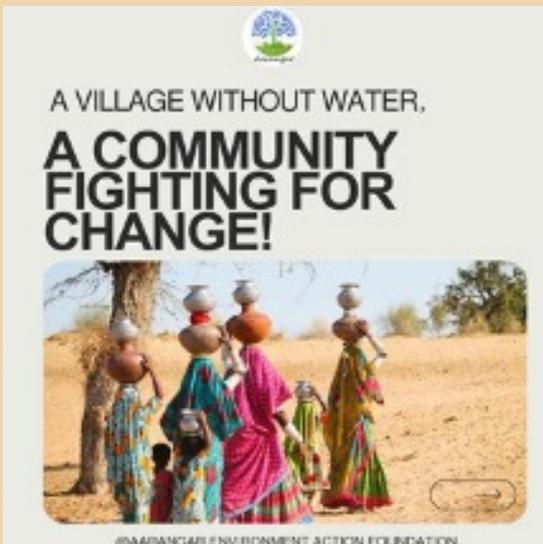
Total funds collected through the Milap platform = Rs 13,151

The entire fund was used for the water conservation work at Dabla Village

Link of the campaign: <https://milaap.org/fundraisers/support-villages-dundpuri-and-rampura-in-eastern-rajasthan>

**4. Friends of the Pond Campaign: A campaign inviting volunteers for a fundraising strategy and fundraising:**

The campaign was launched in the I Volunteer platform. Many volunteers joined us for this campaign. They are still associated with us, helping us expand our social media presence and knowledge resources.



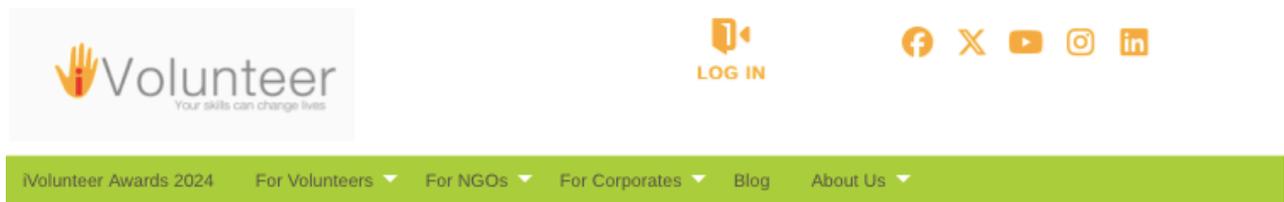
Link of the campaign:  
<https://www.ivolunteer.in/opportunity/a0COX00002mmB9P/campus-ambassador-friends-of-the-pond-campaign>

# STRATEGIC PARTNERSHIPS



This year, we were pleased to build meaningful collaborations with iVolunteer and the Centre for Environment and Regional Development (CERD).

Through iVolunteer, we engaged committed individuals who brought fresh perspectives and skills, contributing significantly to our outreach and community work.



## Organization Profile

### Aarangar Environment Action Foundation

<https://aarangar.org/>

Aarangar was started with a vision of creating self-sustaining villages and communities through small, local nature based solutions for ecological and economical sustainability. The idea since inception has been of combining indigenous knowledge systems and modern scientific knowledge to derive simple yet impactful initiatives that increases local ownership in creating climate resilient communities for the future. At the core of our environmental projects is to strengthen local rural livelihood opportunities and poverty alleviation with special focus on women and children. 'Aarangar foundation' believes in result oriented efforts with clear and measurable scientific impact assessments of the interventions and knowledge documentation for replication and awareness.



See all volunteer opportunities with this partner organization :

IMPACT AREA(S)  
Environment

POPULATION SERVED  
Other

ADDRESS  
Haldwani, Nainital, UTTARAKHAND, 263139

Our partnership with CERD has also been valuable, as they partnered to provide necessary financial support to the intervention in Dabla village.

These partnerships reflect our shared vision and commitment to sustainable, community-driven development.

# ARTICLES PUBLISHED ON OUR KNOWLEDGE PLATFORMS



## World Water Day: A Call for Action to Safeguard Our Future

22 March 2025

Article By: *Koushiki Singh*

### Introduction

World Water Day, observed on **March 22nd every year**, serves as a global reminder of the essential role that freshwater plays in sustaining life, supporting ecosystems, and driving human development. Launched by the **United Nations (UN) in 1993** World Water Day focuses on advocating sustainable management of freshwater resources. This article delves into the historical background of World Water Day, explores the significance of water in India, discusses the urgent need for its preservation, and highlights actionable steps to engage communities and while promoting NGOs dedicated to water conservation.

### Historical Background: Evolution of World Water Day

#### 1. Emergence of Global Awareness on Water Scarcity

The growing concerns over water scarcity and unequal access to clean water prompted the United Nations to address these issues on a global scale.

During the **United Nations Conference on Environment and Development (UNCED)**, also known as the **Earth Summit**, held in **Rio de Janeiro in 1992**, the need to ensure sustainable water management was emphasized. Recognizing the urgency, the **United Nations General Assembly (UNGA)** adopted a resolution (A/RES/47/193) on **December 22, 1992**, declaring **March 22nd** as World Water Day, with the first official celebration taking place in 1993.

#### 2. Themes and Global Priorities Over the Years

Each year, World Water Day adopts a theme that addresses specific water-related issues, aligned with the UN's Sustainable Development Goal (SDG) 6: **Clean Water and Sanitation for All**. Some past themes include:

- 2010: Clean Water for a Healthy World
- 2015: Water and Sustainable Development
- 2018: Nature for Water
- 2020: Water and Climate Change
- 2023: Accelerating Change to Solve the Water and Sanitation Crisis

United Nations, World Water Day, UN (Mar. 18, 2025), <https://www.un.org/en/observances/water-day>.

United Nations, United Nations Conference on Environment and Development, UN (June 3–14, 1992), <https://www.un.org/en/conferences/environment/riol1992>.

United Nations, World Water Day, UN (last visited Mar. 19, 2025), <https://www.un.org/en/observances/water-day>.

World Bank, World Water Day 2022: How India Is Addressing Its Water Needs, World Bank (Mar. 22, 2022), <https://www.worldbank.org/en/country/india/brief/world-water-day-2022-how-india-is-addressing-its-water-needs>.

These themes focus on raising awareness about different aspects of water conservation, encouraging policy changes, and fostering collaboration at the international, national, and community levels.

For 2025, the UN Sustainable Development Goals (SDGs) related to water focus on SDG 6 (Clean Water and Sanitation) and SDG 14 (Life Below Water), with a particular emphasis on "Glacier Preservation" for World Water Day.

**Why World Water Day is Celebrated: Bridging the Gaps**

### 1. Addressing Water Scarcity and Unequal Access

Despite significant progress in ensuring access to safe drinking water, billions of people around the world still lack access to clean and safe water. According to UN-Water, over **2.2 billion people** lack safely managed drinking water services, and **4.2 billion people** lack access to adequate sanitation.

### 2. Highlighting the Importance of Sustainable Management

Water is not an infinite resource. The rapid depletion of groundwater, contamination of surface water, and climate change-induced droughts make it necessary to adopt sustainable water management practices. World Water Day emphasizes the critical role of preserving and maintaining water quality to ensure long-term sustainability.

### 3. Inspiring Action Through Community Engagement

World Water Day serves as a platform for communities, policymakers, and organizations to come together to promote local and global efforts aimed at conserving water. It encourages individuals to be part of the solution through small yet impactful actions.

## Water Resources in India: A Double-Edged Sword - An Indian Perspective

### 1. Water as a Catalyst for India's Agricultural and Economic Growth

India, home to **18% of the world's population**, depends heavily on its water resources for agriculture, industry, and domestic needs. Agriculture consumes over **80% of India's available freshwater**, making it the backbone of the country's economy. **The Green**

**Revolution** (1960s-70s) boosted agricultural productivity but led to the excessive extraction of groundwater, creating long-term sustainability challenges.

### 2. Water Stress and Depleting Resources

India ranks among the most water-stressed countries globally. According to the NITI Aayog Composite Water Management Index (CWMI) 2018, nearly **600 million people** face high-to-extreme water stress, and about **200,000 people die annually** due to inadequate access to safe water. The report also predicts that India's water demand will surpass supply by **2030**, making immediate action imperative.

### 3. Pollution and Mismanagement of Water Bodies

The unchecked discharge of industrial effluents, domestic sewage, and agricultural runoff has severely polluted major rivers such as the **Ganga, Yamuna, and Godavari**. According to the Central Pollution Control Board (CPCB), over **70% of India's surface water** is contaminated. Water quality degradation not only threatens aquatic biodiversity but also impacts human health.

## The Need for Preservation: Securing India's Water Future

### 1. Addressing Groundwater Depletion

India is the world's largest user of

NITI Aayog, Composite Water Management Index, NITI Aayog (Mar. 2023), <https://www.niti.gov.in/sites/default/files/2023-03/CompositeWaterManagementIndex.pdf>.

Press Information Bureau, National Water Awards 2022 Announced, Gov't of India (June 17, 2023), <https://pib.gov.in/PressReleaseDetail.aspx?PRID=1941065>.

Jal Bhagirathi Foundation, Jal Bhagirathi Foundation (last visited Mar. 21, 2025), <https://jalbhagirathi.org>.

Tarun Bharat Sangh, Tarun Bharat Sangh (last visited Mar. 21, 2025), <https://tarunbharatsangh.in>.

groundwater, with over **230 cubic kilometers** extracted annually. Unsustainable groundwater extraction has led to alarming depletion, particularly in states like Punjab, Haryana, and Uttar Pradesh. Adopting **micro-irrigation techniques, rainwater harvesting, and watershed management** can significantly reduce water wastage.

## 2. Reviving Traditional Water Conservation Practices

Historically, India had a robust system of **traditional water conservation structures** such as **stepwells (baolis), tanks, and check dams**. Communities maintained these structures to ensure water security, especially in arid Regions. Reviving and maintaining such traditional practices can complement modern conservation efforts.

## 3. Promoting Wastewater Treatment and Reuse

Wastewater treatment and recycling are critical for reducing freshwater dependency. Currently, only **30% of India's wastewater** is treated before being released into water bodies. Enhancing wastewater treatment infrastructure and promoting water reuse in agriculture and industry can alleviate water stress.

### Call for Action: What Can We Do?

#### 1. Individual Responsibility: Small Actions, Big Impact

- **Reduce Water Waste:** Turn off taps when not in use, fix leaks, and use water-efficient appliances.
- **Rainwater Harvesting:** Collect and store rainwater for domestic or agricultural use.
- **Reuse and Recycle Water:** Use greywater for gardening and other non-potable purposes.

#### 2. Community Engagement: Mobilizing Local Action

- **Forming Water Conservation Groups:** Community-based initiatives can focus on monitoring local water bodies and ensuring their upkeep.
- **Promoting Sustainable Agricultural Practices:** Educating farmers about drip irrigation, crop rotation, and organic farming can reduce groundwater usage.

#### 3. Corporate and Policy Interventions

- **Corporate Social Responsibility (CSR):** Corporations can invest in water conservation projects and fund research on innovative technologies.
- **Strengthening Policies:** Governments should enforce strict regulations on industrial effluent discharge and incentivise water-saving technologies.

#### 4. Promoting Smaller NGOs: Champions of Change

Several grassroots-level NGOs are actively contributing to India's water conservation efforts.

Promoting and supporting these organisations can amplify the impact of community-driven solutions. **Tarun Bharat Sangh (TBS), Alwar, Jal Bhagirathi Foundation (JBF), Rajasthan, Aarnaagar Environment Action Foundation (AEAF), Uttarakhand,** etc, are some of the NGO's dedicated to water conservation efforts.

### Future Prospects: Building a Water-Resilient Nation

#### 1. Integrating Technology and Innovation

G.A. Res. 47/190, U.N. Doc. A/RES/47/190 (Dec. 22, 1992), <https://digitallibrary.un.org/record/159180?ln=en>.

United Nations, The Sustainable Development Goals Report 2024, UN (2024), <https://unstats.un.org/sdgs/report/2024/>.

Aarangar Environment Action Foundation, Aarangar, (last visited Mar. 21, 2025), <https://aarangar.org/>.

Aditya S. Awale et al., Assessing Groundwater Depletion and Climate Adaptation in India: A Multi-Scale Analysis, 4 Nat. Commun. Earth Environ. 902 (2023), <https://www.nature.com/articles/s43247-023-00902-6>.

Centre for Science and Environment, Traditional Water Harvesting Systems, CSE (last visited Mar. 19, 2025), <https://www.cseindia.org/traditional-water-harvesting-systems-688>.

Harnessing the power of artificial intelligence (AI), geospatial mapping, and IoT-based sensors can optimize water usage and predict potential crises. Implementing smart irrigation systems and real-time monitoring can enhance water efficiency.

## 2. Policy Reforms and Strong Governance

Strengthening governance frameworks, promoting **Integrated Water Resources Management (IWRM)**, and enhancing participatory approaches can ensure equitable distribution and sustainable water use.

## 3. Education and Advocacy for Behavioral Change

Awareness campaigns, school programs, and media outreach can instill a culture of water consciousness in society. Engaging youth and communities in participatory decision-making processes can secure a water-secure future.

### **Conclusion: A Collective Responsibility to Preserve Water Resources**

World Water Day is not just a symbolic observance but a clarion call to take meaningful action toward preserving our most precious resource—water. As India faces growing water stress, proactive measures at individual, community, and policy levels are imperative. By promoting sustainable practices, supporting local NGOs, and fostering technological innovation, we can collectively safeguard India's water future. The time to act is now—because every drop counts.

---

World Bank, India's Groundwater: A Critical Resource at Risk, World Bank (Mar. 6, 2012), <https://www.worldbank.org/en/news/feature/2012/03/06/india-groundwater-critical-diminishing>.

Amit R. Sharma et al., Water Security in India: Challenges and Opportunities, 3 J. Sustain. Dev. Policy & Pract. 100079 (2022), <https://www.sciencedirect.com/science/article/pii/S2772427122000791>.

## Ancient Wisdom for Modern Challenges: Water Management Techniques from Delhi's History

March 19, 2025

Article By: *Pranay Gupta*



History inspires the changes required in the present. What we see today as 'modern' problems have found a solution for themselves in the ancient times. Water management is one of the major issues we encounter today due to Global warming and Water pollution. However, taking a look back at the ancient times we realize that there are techniques and methods that provide a solution to these growing troubles.

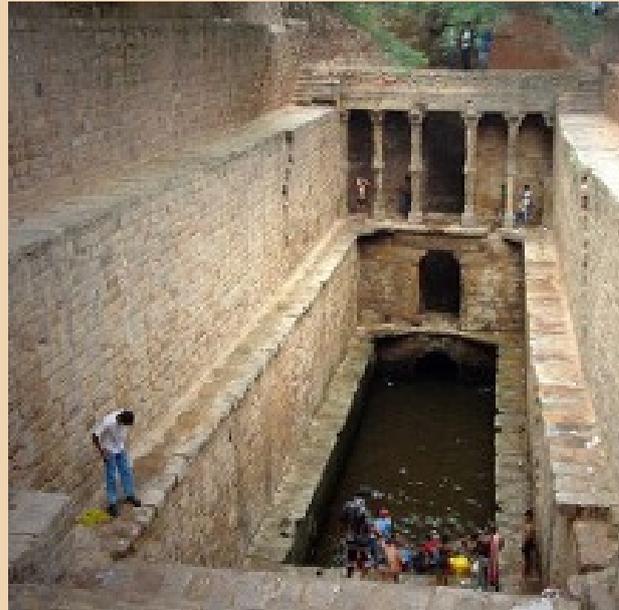
When we look back at the History of Delhi, we come across some artificial (man-made) water structures Hauz, Baolis and Bunds each of which provide a different yet valuable solution to water management :-

### Hauz (Water Tanks)

These are large man-made lakes or tanks to store surplus monsoon water, which helped in recharging groundwater. These structures were specifically built for the purpose of rainwater harvesting, irrigation and water supply Examples include :-

### Baolis (Stepwells)

The mechanism of Baolis in Delhi involves a combination of architectural design and natural processes to manage and conserve water.



Below are some of the most popular Baolis in the Indian capital:

**Gandhak ki Baoli:** The structure was built by Sultan Iltutmish in the early 13th century and the Archeological Survey of India (ASI) is making efforts to restore the Baoli

**Hazrat Nizamuddin Ki Baoli:** Built by the Sufi saint Hazrat Nizamuddin Auliya in the 14th century, the structure is located near the Hazrat Nizamuddin Dargah.

**Agrasen Ki Baoli:** Deriving its name from the King 'Maharaja Agrasen' who marks the beginning of the Agrawal lineage, The extensive structure features a long staircase and a pool of water at the bottom.

Stepwells (Baolis) provided water for drinking, bathing, irrigation, and other needs. They also served as resting spots for travellers and pilgrims. They also served as community hubs where people celebrated festivals and had gatherings. They also held spiritual significance.



### **Bunds (Embankments)**

Bunds in the context of ancient Delhi's water management were critical structures used to control and channel rainwater runoff from the Delhi Ridge. These earth embankments played a pivotal role in creating a network of water harvesting systems that supported the city's water needs

**Satpura Dam:** Built during the Tughlaq period, this dam retained water from a seasonal stream originating in Khanpur and flowing north. It is located in the present day Saket, South Delhi.

**Bund Integration:** Bunds near Tughlaqabad directed monsoon runoff into a lake surrounding the fort, which served as a moat for defense and a reservoir for drinking water. Seven baolis inside the fort were regularly recharged by surface runoff stored in nearby bunds.



## Wildlife Conservation: World Wildlife Day 2025

3 March 2025

Article By: *Koushiki Singh*



Wildlife refers to all animals, plants, and organisms that exist in their natural habitats without human domestication. It includes everything from the smallest insects to the largest mammals, thriving in forests, oceans, mountains, and grasslands. Wildlife plays a crucial role in maintaining ecological balance, supporting biodiversity, and sustaining the planet's natural systems. However, wildlife faces growing threats due to human activities and environmental changes. Habitat destruction from deforestation, urban expansion, and industrialisation is one of the biggest dangers. Illegal wildlife trade, poaching, and overexploitation have driven many species to the brink of extinction. Climate change further disrupts ecosystems, altering migration patterns, food availability, and breeding cycles. Protecting wildlife is not just about saving animals—it's about preserving the balance of nature. Healthy ecosystems support agriculture, provide clean water, and help combat climate change. By addressing these challenges and investing in conservation efforts, we ensure that future generations inherit a thriving, biodiverse planet.

### History of World Wildlife Day

On December 20, 2013, the United Nations General Assembly made a powerful decision: to dedicate March 3rd as World Wildlife Day. The date wasn't random—it marked the anniversary of CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora), signed in 1973. This agreement was a game-changer, setting rules to ensure that international trade wouldn't push species to extinction. But protecting wildlife isn't just about laws—it's about money and commitment. Conservation efforts need

funding for anti-poaching patrols, habitat restoration, and species protection programs. Without smart investments, endangered animals and ecosystems stand little chance against threats like illegal trade and deforestation. Safeguarding wildlife is more than just a noble cause—it's a responsibility. Every choice we make, from how we fund conservation to the policies we support, shapes the future of our planet. If we want future generations to live in a world rich with biodiversity, we need to act now.

### World Wildlife Day 2025 : Theme and its Relevance

Every year on March 3rd, the world comes together to celebrate and protect wildlife. This year, the theme of the World Wildlife Day is "Wildlife Conservation Finances: Investing in People and Planet," highlighting the crucial role of funding in conservation efforts. Without financial support, protecting endangered species and their habitats becomes an uphill battle. Investing in conservation isn't just about saving animals—it's about helping ecosystems thrive, supporting local communities, and driving sustainable economic growth. When we fund conservation, we create jobs, protect natural resources, and ensure a healthier planet for future generations. Wildlife conservation is more than an environmental issue—it's an investment in our future. Every contribution, policy, and action matters in securing a world where people and nature can coexist.

### Why Wildlife Conservation Needs Funding and What Does Wildlife Conservation Financing Support?

Protecting wildlife takes more than passion

- it takes funding and action. Conservation financing ensures that both nature and communities can thrive together. Anti-poaching efforts rely on rangers, drones, and patrol teams to stop illegal hunting, but they need resources to do their job effectively. National parks, wildlife corridors, and reforestation projects don't run on goodwill alone; they need steady investment to keep ecosystems healthy and thriving. When people benefit from conservation, nature wins too. Eco-tourism, sustainable farming, and fair-trade programs create jobs while protecting wildlife. At the same time, funding fuels crucial research—from rewilding lost species to studying how climate change affects ecosystems. Therefore, wildlife conservation is also about people, jobs, and building a stronger, more sustainable economy.

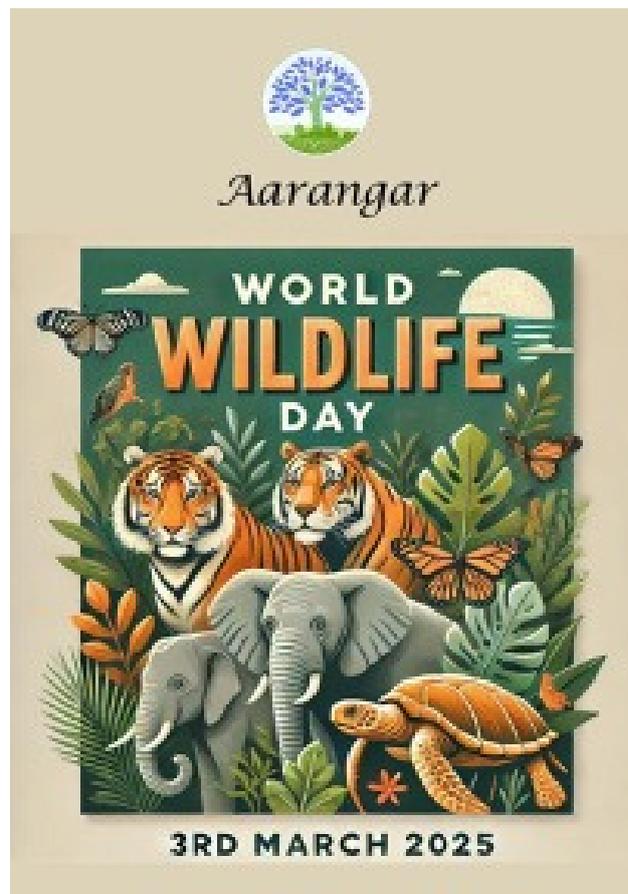
### **The Impact of Investing in Wildlife Conservation and How Investing in Nature Pays Off?**

Protecting nature isn't just about conservation—it's a smart investment in our future. When we fund wildlife protection and sustainable practices, both economies and communities thrive. Sustainable tourism generates billions each year, creating jobs and boosting local economies. Healthy ecosystems support livelihood, provide clean water, and help prevent natural disasters. With proper funding, endangered species can be saved, and damaged habitats can be restored, ensuring biodiversity for future generations. Investing in wildlife also empowers communities, offering training and alternative income sources. Success stories prove it works—Rhino Protection Programs in Africa are pulling species back from the brink, while Costa Rica's eco-tourism model shows how conservation can drive economic growth. A healthy planet benefits everyone.

### **How Can You Help?**

Simple Ways to Support Wildlife Conservation Protecting wildlife doesn't

always require big actions—small, everyday choices can make a real difference. It starts with education. Learning about endangered species and sharing that knowledge helps build awareness, especially among younger generations who will shape the future of conservation. Making sustainable choices is just as important. Avoiding products made from endangered species—like ivory, coral jewelry, or exotic leather—reduces demand for illegal wildlife trade. Supporting brands that prioritize ethical and sustainable sourcing helps protect habitats and the animals that call them home. Speaking up matters too. Advocating for stronger wildlife protection laws and reporting illegal wildlife trade can drive real change. And for those who want to make an even bigger impact, supporting conservation organizations ensures that front line efforts to protect nature continue. Every action counts.





## Water Scarcity in India

March 17, 2025

Article By: *Manika Gupta*

Water is an essential resource but its availability is increasingly under threat. Water scarcity affects almost all aspects of life such as health and sanitation, agriculture and food production and industrial growth. It also causes disruptions in delicate ecosystems and negatively impacts wildlife and biodiversity. Water scarcity has many causes including rapid urbanisation, increasing population, deficient rainfall, and drying rivers due to climate change, unsustainable and inefficient usage, water pollution etc.

Globally, it is estimated that 4 billion people experience severe water scarcity for at least one month each year! Water scarcity could lead to displacement of 700 million people by 2030. Approximately 1 in 4 children worldwide could be living in areas of extremely high water stress by 2040.[1]

### Per capita water availability In India

In India, in particular, around 820 million people have availability approximately equal to or less than 1000 cubic meters which is the official threshold for scarcity as per the Falkenmark Index.[2] The average per capita water availability is low enough for India to be considered water stressed and is expected to fall further. It is calculated that if no major changes are made, by 2030, India's demand for water could be roughly double the available supply.[3]

There are already frequent droughts and many households are without proper sanitation and drinking water facilities. This causes huge losses to the GDP and would require enormous investments to fix the water shortage problem.[4]

Baseline water stress of India (2010): Ratio of withdrawals to available supply.

Source: Luo Tianyi, Deepak Krishnan and Shreyan Sen, Parched Power: Water Demands, Risks, and Opportunities for India's Power Sector (World Resources Institute, 2018), pages 1-7, and Composite Water Management Index, NITI Aayog, 2019.

### Acute water shortage in major cities of India

The news is often dominated by incidents of acute water shortage in major cities of India. 5 of the world's 20 largest cities under water stress are Indian cities [5], and 8 million children in urban India below the age of 14 are at risk due to poor water supply.[6]

- In 2024, Bengaluru faced a severe water shortage where "Day Zero" was almost reached. Other areas of Karnataka were hit too.[7]
- Citizens of Delhi have had to face numerous water crises. One such incident in 2024 led to water shortages in several areas due to high ammonia levels in the Yamuna river. [8]

Robert I. McDonald et al., "Water on An Urban Planet: Urbanization and The Reach of Urban Water Infrastructure", *Global Environmental Change* 27 (2014): pages 96-105

Suresh Kumar Rohilla et al., *Urban Water Sustainability* (Centre for Science and Environment, 2017), page 16, [http://cdn.cseindia.org/attachments/0.84020200\\_1505207729\\_Urban-water-sustainability-report.pdf](http://cdn.cseindia.org/attachments/0.84020200_1505207729_Urban-water-sustainability-report.pdf)

<https://www.thehindu.com/news/cities/bangalore/a-year-when-bengaluru-faced-acute-water-crisis-and-took-many-remedial-measures/article69015908.ece>.

[https://timesofindia.indiatimes.com/city/mysuru/unprecedented-heatwave-water-scarcity-grip-karnatakas-kodagu-dist/amp\\_articleshow/118883910.cms](https://timesofindia.indiatimes.com/city/mysuru/unprecedented-heatwave-water-scarcity-grip-karnatakas-kodagu-dist/amp_articleshow/118883910.cms), Picture Credit: Wikimedia Commons, Author: Balaram Mahalder

<https://www.unicef.org/wash/water-scarcity>

Water and Related Statistics (Central Water Statistics, 2015), page 31, <http://www.indiaenvironmentportal.org.in/files/file/Water%20and%20Related%20Statistics%202015.pdf>

Water & Related Statistics (CWC, 2013), <http://www.indiaenvironmentportal.org.in/files/water%20and%20related%20statistics.pdf>; Water in India (FAO & UNICEF, 2013), <http://www.indiaenvironmentportal.org.in/files/file/water%20in%20india.pdf>; Charting Our Water Future (McKinsey & WRG, 2009), page 52,

Composite Water Management Index, NITI Aayog, 2019, <https://www.niti.gov.in/sites/default/files/2023-03/CompositeWaterManagementIndex.pdf>

- In 2019, Chennai faced an extreme water crisis. Officials declared that "Day Zero" that is the day when almost no water is available was reached. This happened due to deficient rainfall in the preceding years that left the reservoirs of the city dry.[9]
- Over half of the urban local bodies faced water scarcity in Andhra Pradesh during the summer of 2024.[10] Ranchi also saw a water crisis in 2024 which led to increased depletion of groundwater resources.[11]
- Latur, in Maharashtra, faced acute water shortage around 2016 due deficient rainfall and drying of rivers, which lasted for months. The water crisis caused extreme health problems, disruption of agriculture, widespread unemployment, and instability.[12]

### India's Water Uses

India has 4% of the world's freshwater resources, [13] and its water needs are met by groundwater extraction along with surface water resources such as river, lakes, creeks, wetlands, with water stored in reservoirs and dams. Both are affected by rainfall. India receives an average of 1219.78 mm of rainfall annually with huge regional variations in distribution.[14]

The annual utilizable water resources in the country are 690 billion cubic meters from surface sources and 447 billion cubic meters from groundwater.[15] However, the usage of renewable water resources in India is low.

### Groundwater extraction In India : A matter of serious concern

India is heavily dependent on groundwater resources. Overall, India's groundwater resources were at an extraction stage of 60.47. The annual groundwater recharge and annual extractable groundwater are estimated to be 446.90 billion cubic meters and 406.19 billion cubic meters.

India extracted around 245.64 billion cubic meters of groundwater in 2024 and is the world's largest groundwater user.[14] About 85% of the rural drinking water supply is met from ground water sources. [16]

Groundwater resources are assessed for extraction level based on proportion of the annually replenishable groundwater recharge which is used up. Less than 70% extraction level is considered safe, 70-90% is considered semi-critical, 90-100% is considered critical and above 100% is over-exploited. Over-exploitation remains a concern especially in the states and UTs of Rajasthan, Dadra and Nagar Haveli, Daman and Diu, Haryana and Delhi.[14]

Categorization of groundwater assessment units based on stage of extraction, 2024

A study based on hydrological models and satellite data showed that rapid groundwater depletion in some areas of India resulted in a net loss of 450 billion cubic meters of groundwater during 2002-2021. The study further predicts that a warming climate leading to drying summer monsoon will only accelerate groundwater depletion.[18]

### Quality of groundwater

Further, the deteriorating quality of groundwater is a cause for major concern. As per CGWB, a high proportion of groundwater resources have beyond permissible levels of nitrate, fluoride, and uranium. This can cause various diseases and health problems such as skin irritation, stomach problem, bone disease and lead to an increased risk of cancer among people. [19]

Percentage of groundwater samples beyond permissible limit

Around 70% of the surface water is contaminated [21] and river pollution is a big challenge in India. Biochemical Oxygen

Climate Change Impacts on Water Resources in India (Indian Institute of Tropical Meteorology, 2014), page 2, <http://www.indiaenvironmentportal.org.in/files/india-climate-5-water-DEFRA.pdf>

National compilation on Dynamic Water Resources of India, 2024 <https://cgwb.gov.in/cgwb/pnm/public/uploads/documents/1738754310143326816file.pdf>

Dynamic Ground Water Resources of India (Faridabad: Central Ground Water Board, 2017), <http://cgwb.gov.in/Documents/Dynamic%20GWR-2013.pdf>.

CGWB Groundwater Yearbook 2022-2023 [https://cgwb.gov.in/sites/default/files/inline-files/india\\_2022-23.pdf](https://cgwb.gov.in/sites/default/files/inline-files/india_2022-23.pdf)

Mishra, V., Dangar, S., Tiwari, V. M., Lall, U., & Wada, Y. (2024). Summer monsoon drying accelerates India's groundwater depletion under climate change. *Earth's Future*, 12, e2024EF004516. <https://doi.org/10.1029/2024EF004516>

CGWB, Annual Groundwater Quality Report, 2024 <https://cgwb.gov.in/cgwb/pnm/public/uploads/documents/1736327271910393216file.pdf>



Demand (BOD) represents the amount of dissolved oxygen which is consumed by aerobic bacteria. It helps to measure the amount of organic material in the water which is used as an indicator of organic water pollution.

Very high proportion of rivers and surface water bodies including stretches on major river like Ganga and Yamuna show high BOD, according to a study by the Central Pollution Control Board. According to the study, in 2022, 46% of rivers monitored (279 out of 603) were identified as polluted. [22]

### Surface water utilization

The utilization of surface water is not efficient in India. In India, about 8% of the total rainfall is stored and recharges the ground water aquifers. Most of the rainfall goes waste in the form of surface run-off. [23]

Some reservoirs associated to rivers like Mahanadi, Indus, Subarnarekha, and Brahmani & Baitarni have reported less than normal and deficient water storage.[20]

Thus, rainwater harvesting, both traditional and using modern technology can be an asset in fighting water scarcity in India. Further, raising awareness about water related issues

and pushing for more efficient usage of water in areas like agriculture and irrigation can be of huge help. Finally, reducing water wastage and pollution is necessary to ensure a healthy environment.

M.N. Murthy and Surender Kumar, India Infrastructure Report 2011: Chapter 19: Water Pollution in India (IDFC, 2019), page 285, <http://www.idfc.com/pdf/report/IIR-2011.pdf>

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1941065@-3&lang=1>

<https://cmwssb.tn.gov.in/rwh-WhatWhyHow>

[https://www.cgwb.gov.in/old\\_website/Aquifer\\_mapping.html#:~:text=Groundwater%20irrigation%20has%20been%20expanding,met%20from%20ground%20water%20sources](https://www.cgwb.gov.in/old_website/Aquifer_mapping.html#:~:text=Groundwater%20irrigation%20has%20been%20expanding,met%20from%20ground%20water%20sources)

C Link: <https://creativecommons.org/share-your-work/cclicenses/>

<https://indianexpress.com/article/cities/delhi/several-areas-delhi-water-shortage-surge-in-ammonia-levels-in-yamuna-9738765/lite>, Picture Credit: Wikimedia Commons, Author: संजीव बोडे

Central Water Commission Bulletin on Reservoir Storage Status, <https://cwc.gov.in/sites/default/files/13032025-fb-pdf.pdf>

<https://www.thehindu.com/news/national/andhra-pradesh/half-of-urban-local-bodies-facing-water-shortage-in-andhra-pradesh/article68003061.ece>

<https://www.theguardian.com/world/2019/jun/19/chennai-in-crisis-water-shortage-with-authorities-blamed-india>, Picture Credit: Wikimedia Commons, Author: InformationForHumans

<https://www.bbc.com/news/world-asia-india-36108798>

<https://timesofindia.indiatimes.com/city/ranchi/ranchi-municipal-corporation-conducts-survey-to-tackle-groundwater-shortage/articleshow/107898241.cms>, Picture Credit: Wikimedia Commons, Author: ६६६६६६६६

# KNOW OUR WRITERS

---



## Manika Gupta

Manika Gupta is pursuing her doctoral degree in Mathematics from the Institute of Mathematical Sciences, Chennai. She has deep interest in environmental issues and water conservation.

## Koushiki Singh

Koushiki Singh is a second-year law student with a deep passion for writing and reading along with a keen interest in the environment. Before becoming a law student she was a national swimmer. She also likes teaching swimming, finding fulfillment in sharing her love for swimming with others.



## Pranay Gupta

Pranay is a B.Sc. (Hons.) Computer Science student at Sri Guru Gobind Singh College of Commerce, University of Delhi.

# MEET OUR TEAM



**SWATI MELKANI**  
Director



**RAJENDRA PANT**  
Director



**MANJU SHRI MISHRA**  
Director



**CHETNA JOSHI**  
Head, Programmes & Operations



**KUNJ BIHARI SHARMA**  
Field Expert : Water & Soil Conservation



**DEVENDRA DUTT UNIYAL**  
Field Expert : Soil & Water Conservation



**SONALI CHAUHAN**  
Volunteer



Aarangar



# Contact Us



<https://aarangar.org>



[aarangarfoundation@gmail.com](mailto:aarangarfoundation@gmail.com)



H.No 112, Chandrawati Colony,  
Mukhani, Haldwani, Uttarakhand  
263139



[aarangar\\_action.foundation](#)



AARANGAR ENVIRONMENT ACTION  
FOUNDATION



AARANGAR ENVIRONMENT ACTION  
FOUNDATION



[@aarangarenvironmentactionf9509](#)

CONNECT WITH US!