

Resilient River Ghod Program

National Workshop on Rejuvenation of Rivers/Streams through
Watershed Development Approach

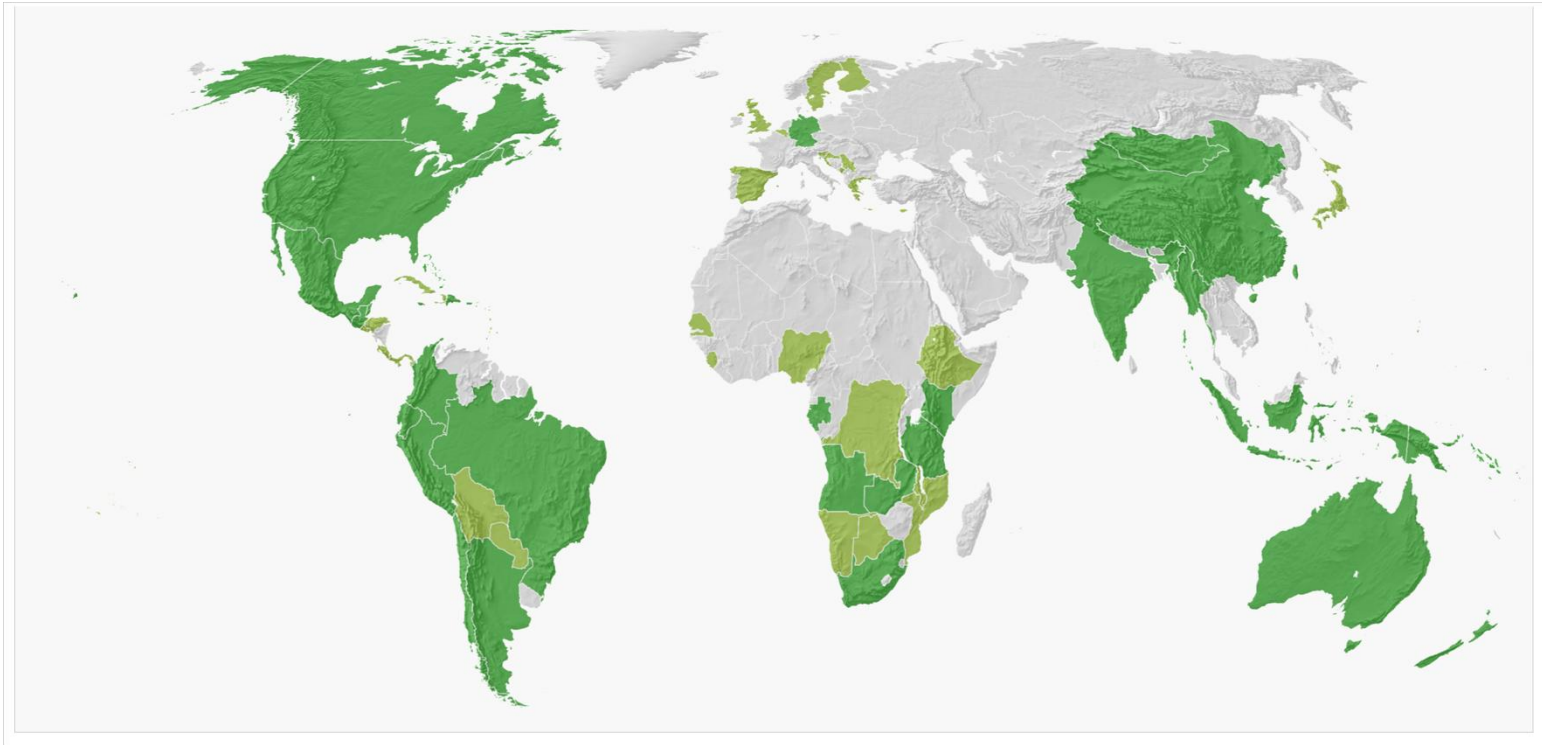
New Delhi, India

September 29, 2026



We are guided by science
and collaborative.

Alongside partners and
communities, we work in 79
countries and territories.



more than
900
scientists
on staff

more than
5,000
staff around
the globe

Our Global Goals for 2030

CLIMATE		LAND	FRESHWATER		OCEAN	PEOPLE
3 GT	100M	650M	1M	30M	4B	45M
CO2E AVOIDED OR SEQUESTERED	PEOPLE BENEFITTED	HECTARES CONSERVED	KM OF RIVERS CONSERVED	HA OF LAKES AND WETLANDS CONSERVED	HECTARES CONSERVED	PEOPLE SUPPORTED

Our Programs



Regenerative
Agriculture



Renewable
Energy



Priority
Landscapes



Conserving
Freshwater



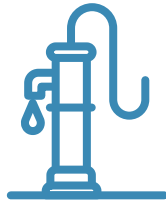
Climate Adaptation &
Natural Climate Solutions



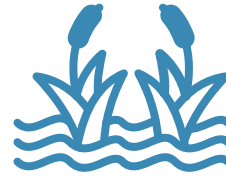
Freshwater Ecosystems



Lakes



Groundwater



Wetlands



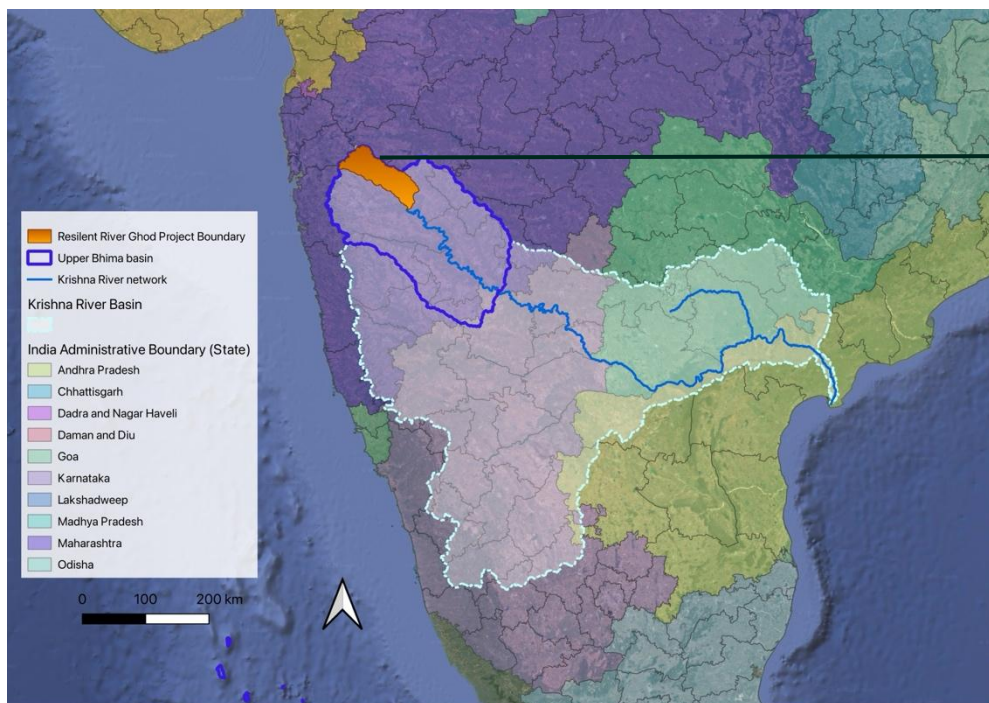
Watersheds



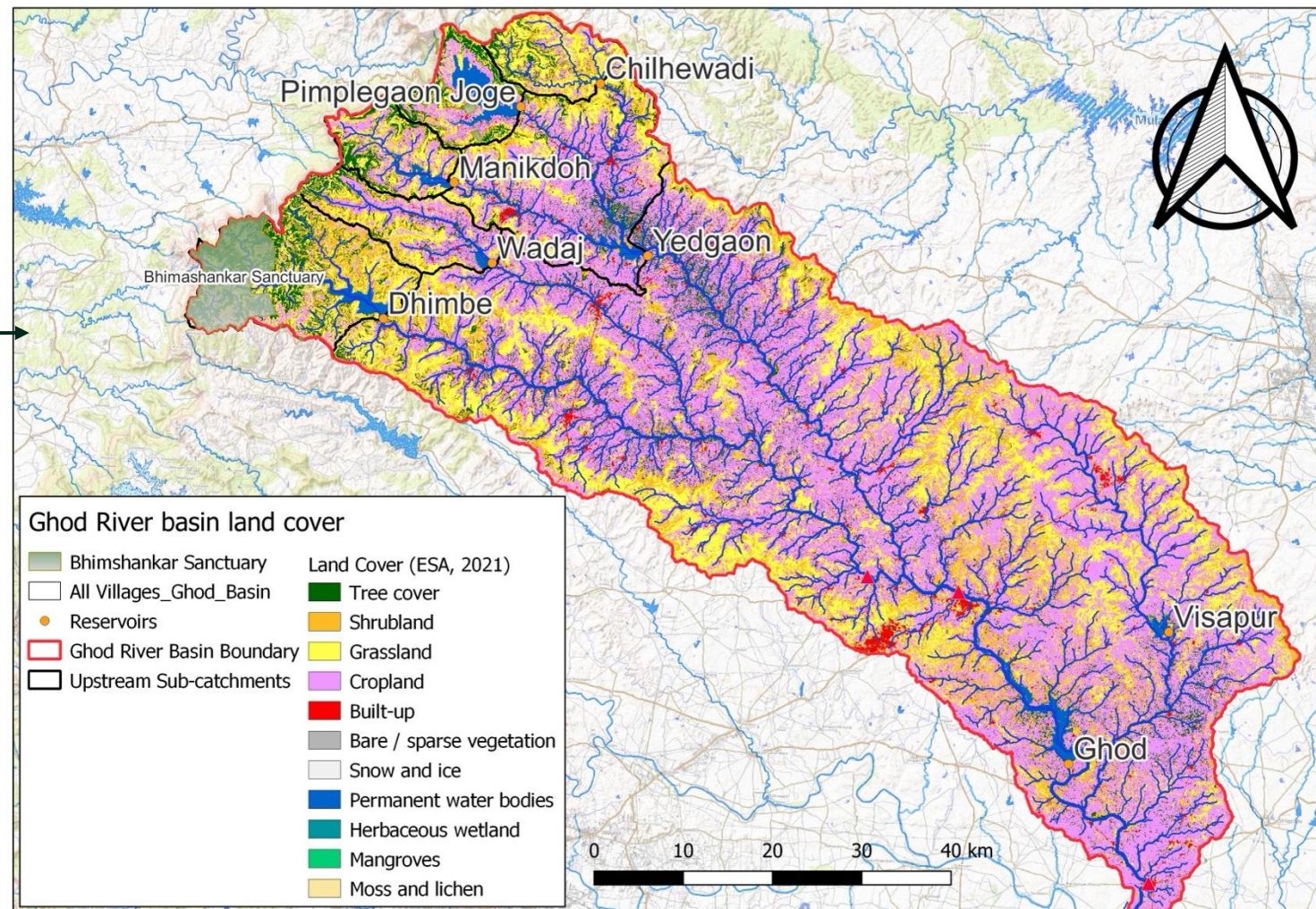
Rivers



Ghod River Basin



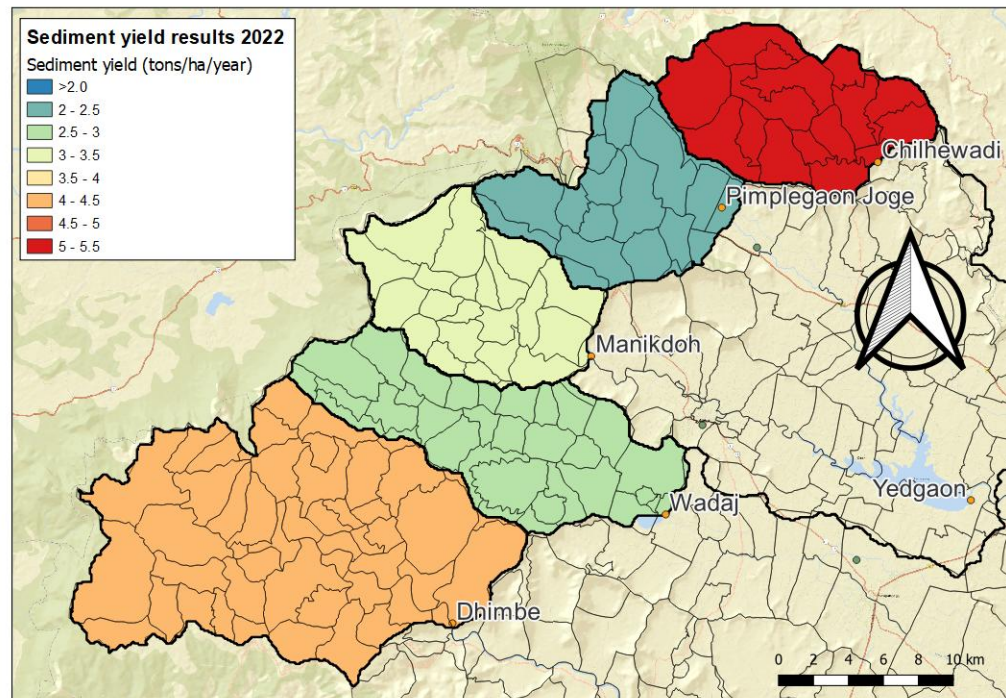
Location of Ghod River basin as a source catchment of Krishna River Basin



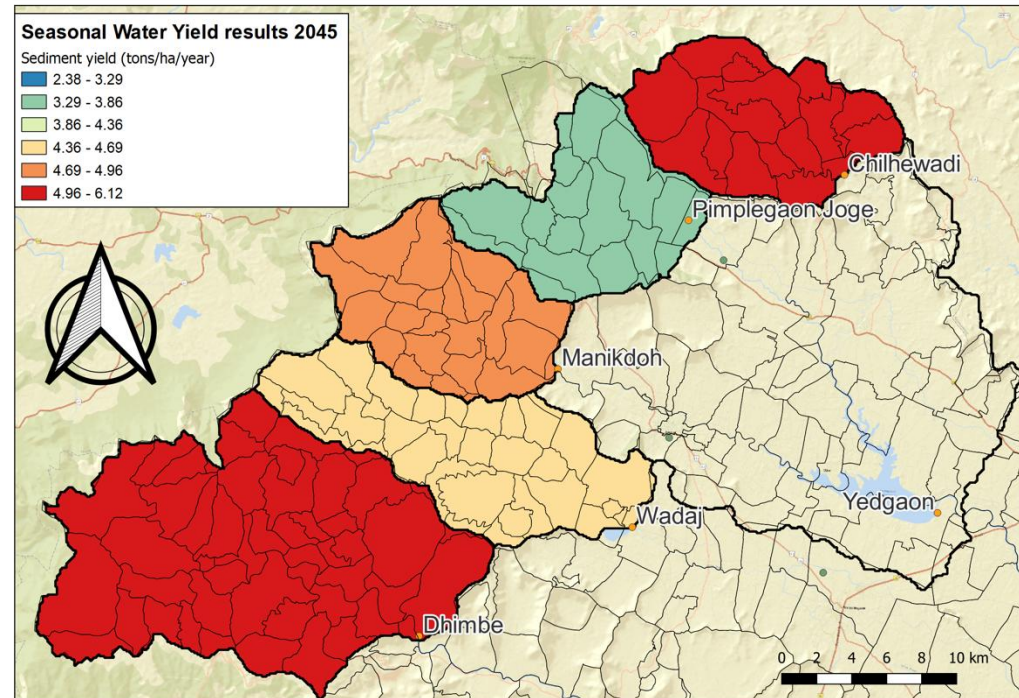
Ghod River Basin

Hydro – sedimentological model

InVest Sediment Delivery Ratio model – Sensitivity analysis



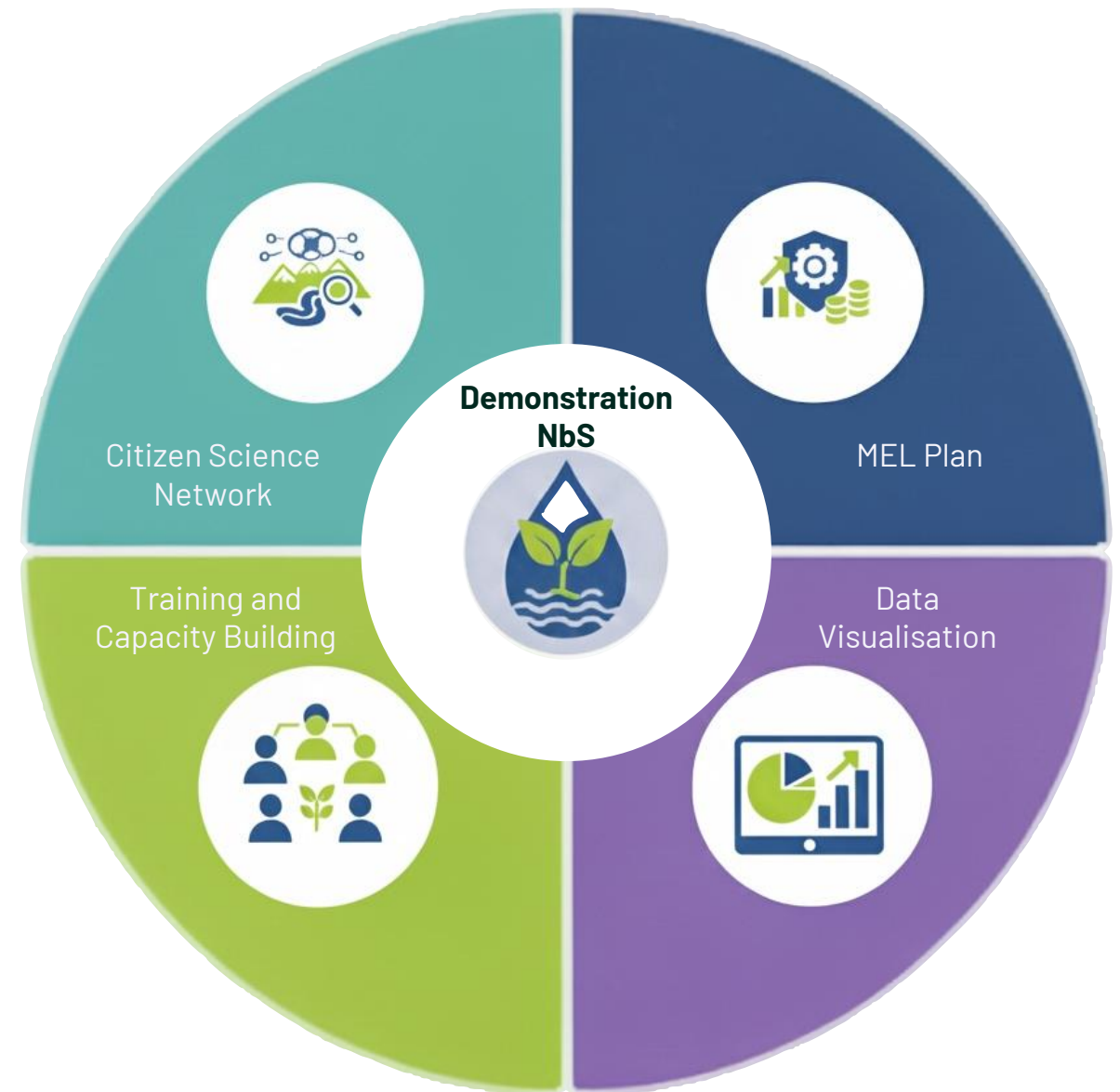
Sub-catchment	Area (km ²)	Sediment yield 2022 (tons/ha/year)
Dhimbe	272.76	4.17
Wadaj	132.13	2.73
Manikdoh	104.48	3.11
Pimplegaon Joge	99.90	2.19
Chilhewadi	102.43	5.05
Yedgaon	714.99	1.97



Sub-catchment	Area (km ²)	Sediment yield 2045 (tons/ha/year)
Dhimbe	272.76	6.12
Wadaj	132.13	4.67
Manikdoh	104.48	4.73
Pimplegaon Joge	99.90	3.47
Chilhewadi	102.43	5.07
Yedgaon	714.99	2.38

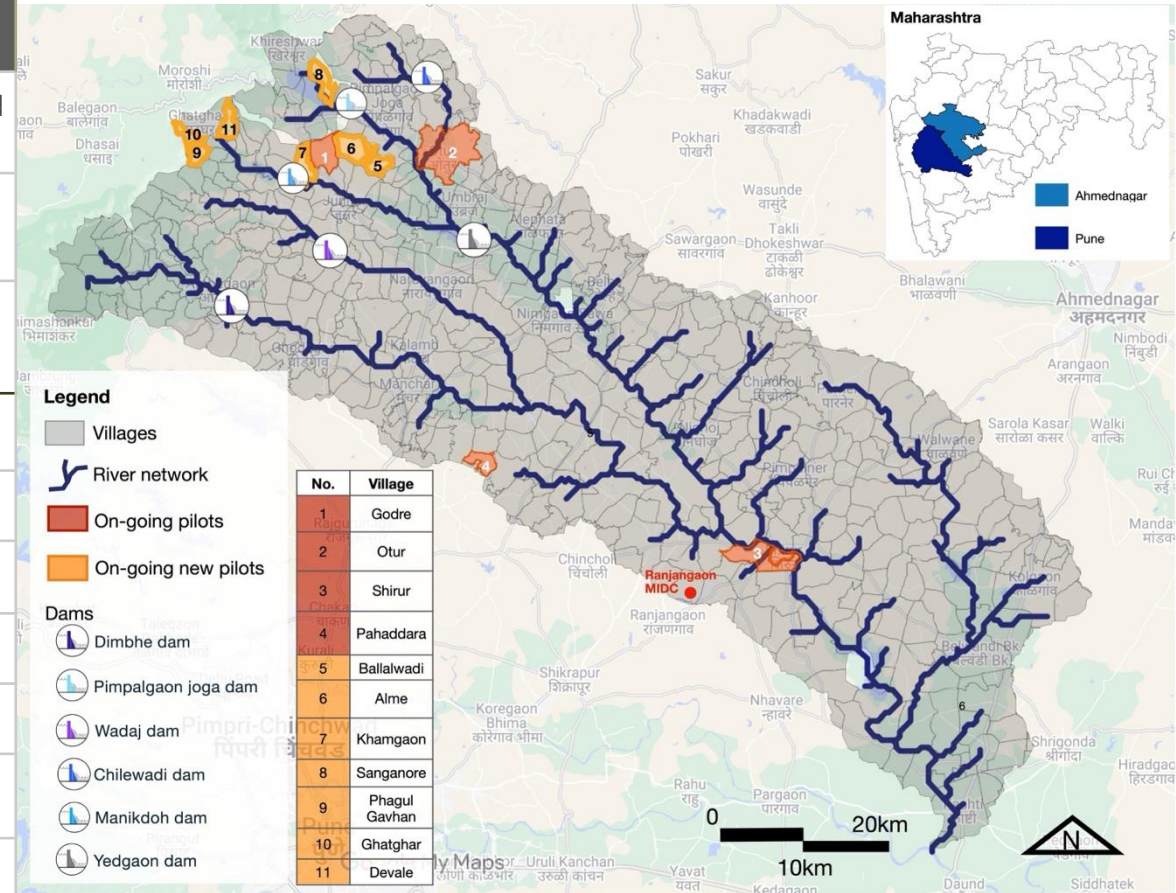
Resilient River Ghod Program

- **A basin-wide initiative by The Nature Conservancy India and partners** to improve the health and resilience of the catchment areas of Ghod River through Nature-based Solutions (NbS).
- **Focused on restoring upstream and downstream ecosystems** by improving water retention, reviving waterbodies, stabilizing soils, and enhancing natural vegetation.
- **A community-driven program** that strengthens local leadership, traditional knowledge, and citizen science to address water security challenges.
- **A multi-stakeholder platform** bringing together communities, NGOs, government departments, and donors to collectively build climate resilience and support sustainable rural livelihoods.



Program Implementation

No.	Village name	Implementation Partner	Interventions
1	Godre	Shashwat	Catchment treatment, riparian restoration and avenue Planation
2	Otur	Watershed organisation Trust (WOTR)	Catchment Management and Treatment of wastewater
3	Pahaddara	Watershed organisation Trust (WOTR)	Riparian plantation, restoring and creating ponds and it catchment area
4	Alame - I	Anubhav Pratishthan	Native plantation on barren areas
5	Alame - II	Anubhav Pratishthan	Catchment treatment, riparian plantation
6	Khamgaon	Manavlok	Agroforestry and Riparian plantation
7	Sanganore	Anubhav Pratishthan	Treatment of catchment areas and slopes.
8	Phagul Gavhan	Shramjeevi	Catchment treatment
9	Ghatghar	Shramjeevi	Treatment of catchment areas
10	Devale	Manavlok	Treatment of catchment areas



Location of intervention villages at Ghod River basin

Program Implementation



Program Implementation



Glimpses of project implementation at Ghod River Basin

Program Implementation

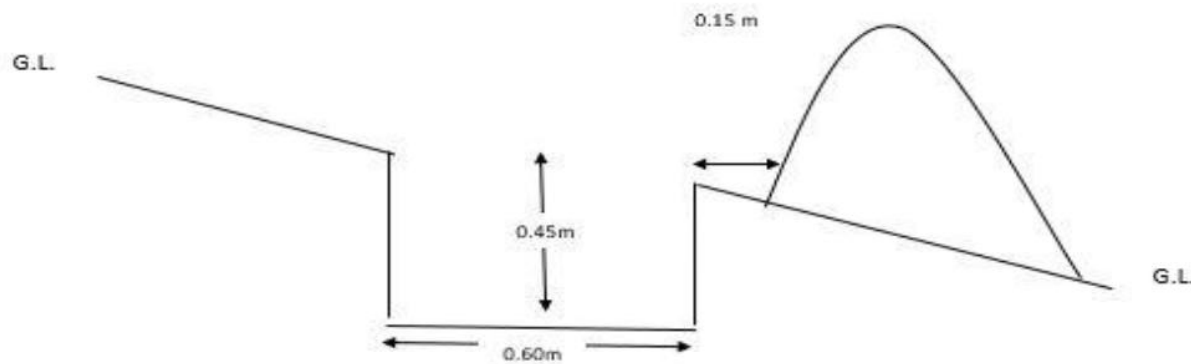
Soil and Water Conservation Measures

Activities	Quantity
Continuous Contour Trenches (CCTs; #)	6024
Farm Bunding	431.32 Ha
Total	640.56 Ha

Alame –

Total cumulative volume = 2425.12 m³

Total Length of CCT = 7886.4 m



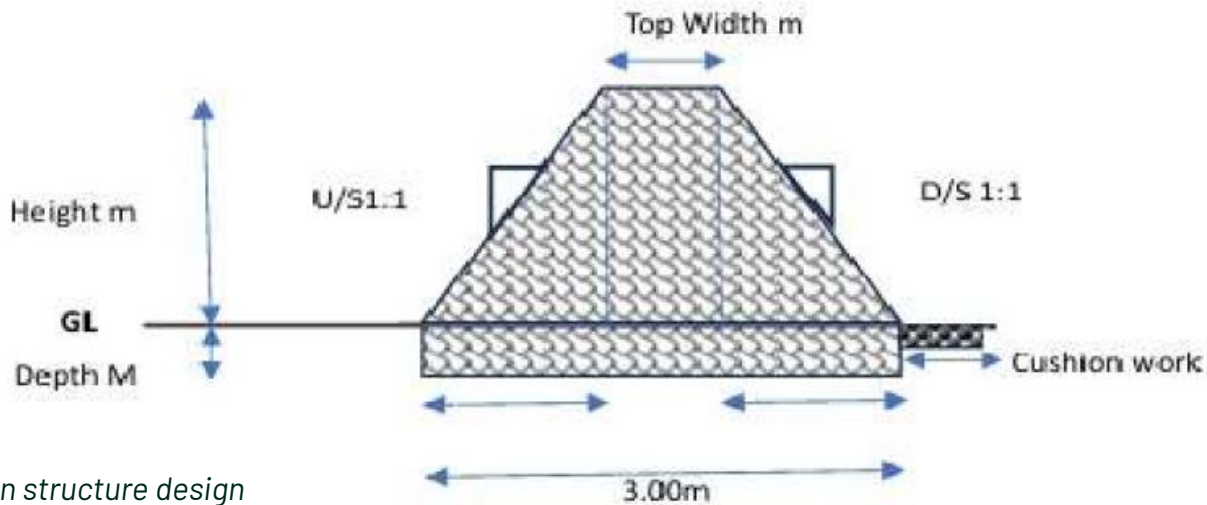
CCT design



Program Implementation

Instream Interventions

Activities	No. of structures
Gabions	41
Loose Boulder Structures	188
Gully Plugs	300
Rejuvenation of existing water bodies	15
Total	544



Gabion structure design



Gabion structure & loose boulder structure at intervention sites

Program Implementation

Plantation Activities

Activities	No. of Plants	Area Covered (Ha)
Plantation on CCT	12161	209.24
Riparian Restoration	7993	29.2
Block Plantation	7710	56
Total	29,023	296.5

Local native species (28 – 30) –

Azadirachta indica

Bombax ceiba

Gmelina arborea

Mangifera indica

Syzygium cumini

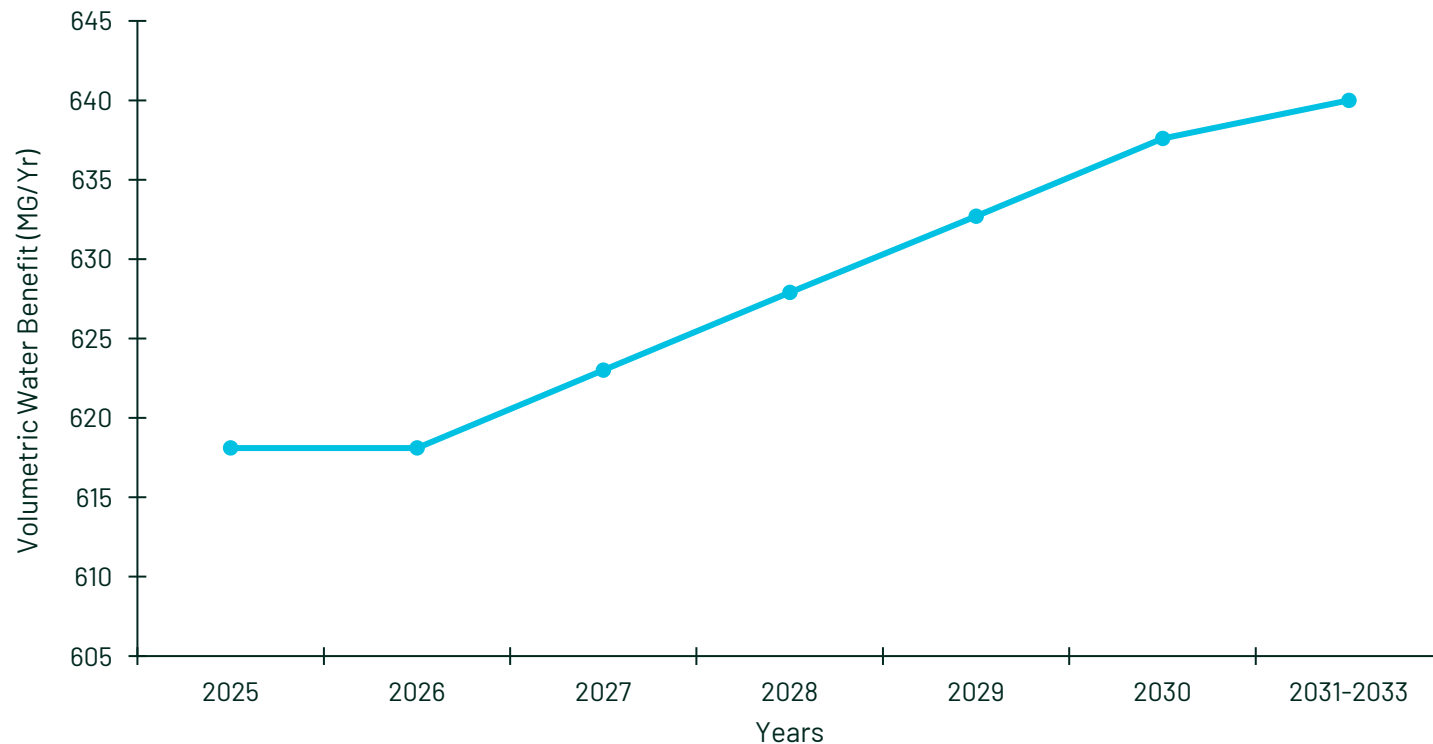
Terminalia chebula



Roadside plantation and stabilization of farm bunds with grass

Program Impacts – Volumetric Water Benefit#

To generate volume benefits for a duration of 10 years provided that productivity monitoring is conducted at the define frequency.

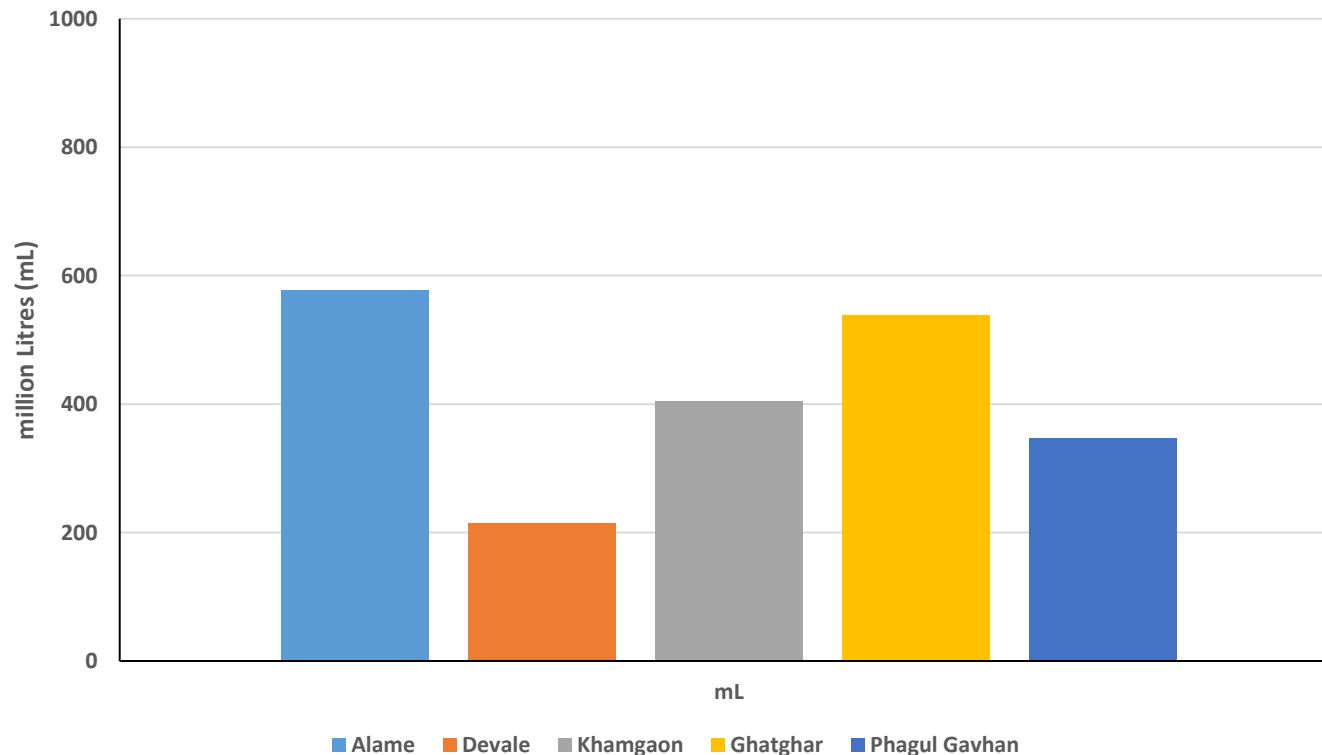


Source: LimnoTech, Bluerisk, 2025. Runoff Capture Practices, Reforestation, and Pond Desilting in the Ghod River Watershed , Maharashtra, India.



Program Impacts – Water Stress

To assess the water availability and demand factors of the villages and the influence of water benefits due to RRGp on the village water budget.



Interventions under RRGp project created cumulative water holding capacity of **2100 million litres** in 5 out of the 10 villages - Alame, Devale, Khamgaon Ghatghar and Phagul Gavhan.

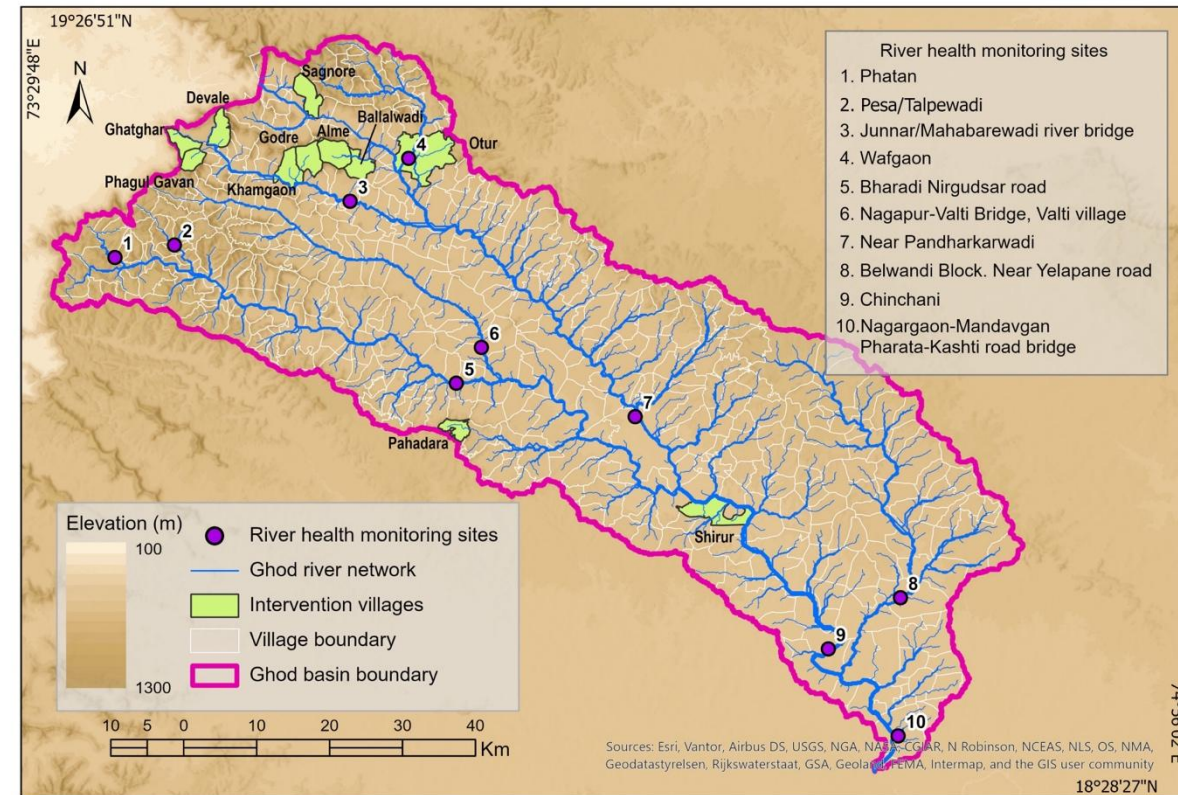
These interventions reduced the water deficit in Alame by 80%, in Devale by 50% and Khamgaon by 33%.

Program Impacts – Water Quality Analysis

Baseline assessment – Sept. 2024 – July 2025

Forest Zone - vegetation-dominated upstream stretches
Transitional Zone - agricultural and peri-urban midstream stretches
Settlement Zone - settlement-dominated downstream stretches

- Upstream-downstream gradient in water quality, reflecting cumulative human impact.
- TDS values exceeding 1500 ppm in settlement sites during February while it remains well below 500 ppm year-round, in forest and transitional zones.
- Seasonal patterns are evident - winter months (Jan-Feb) showing the greatest divergence between zones due to low flow and concentration of pollutants in settlement sites.



River health monitoring sites

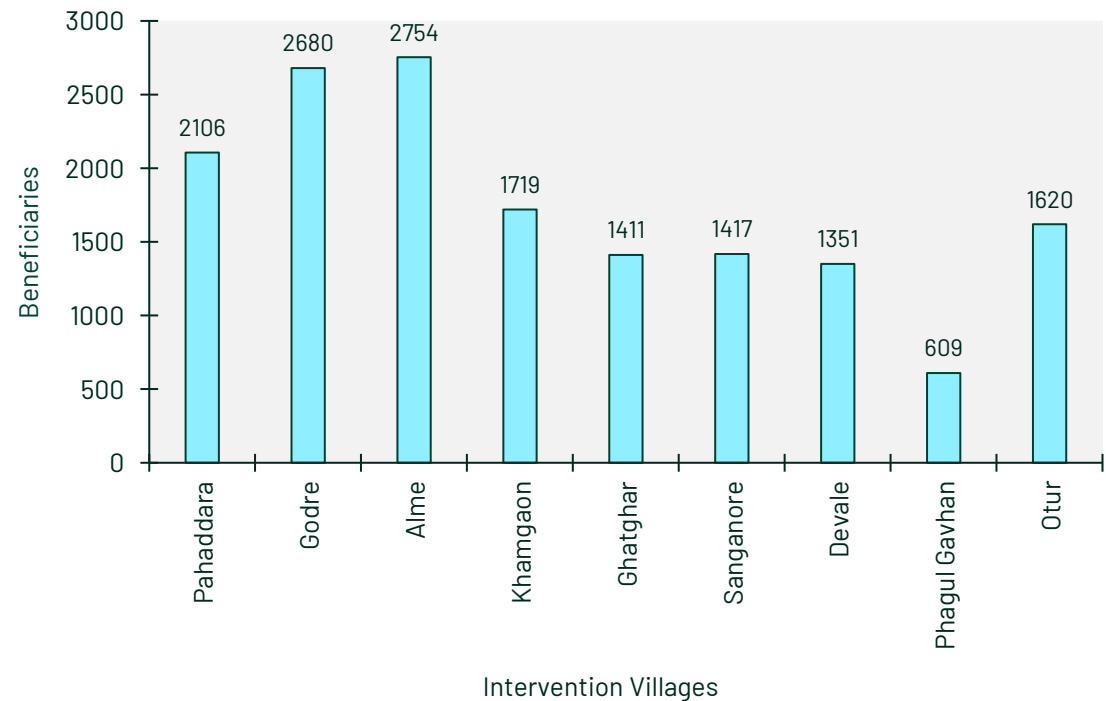
Program Impacts – People Benefit

To estimate the direct and indirect beneficiaries with increased water security, engaged in the planning of village-level interventions, and the people trained through various capacity building trainings on NbS.

Direct Beneficiaries



Indirect Beneficiaries



Program Impacts – People Benefit

To estimate the direct and indirect beneficiaries with increased water security, engaged in the planning of village-level interventions, and the people trained through various capacity building trainings on NbS.

- Total number of people who participated in different trainings – 868
- 43% of the participants were women.

Farmer Field Schools, SHG trainings, Exposure visits, Vermicompost training, & Water Budgeting training and exercise

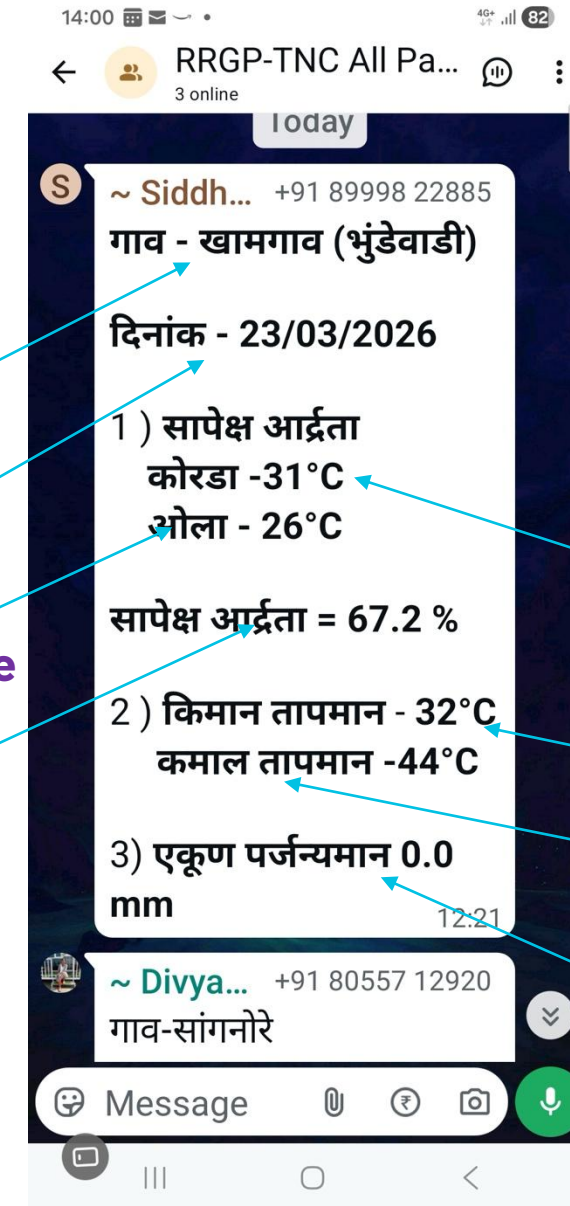


Program Impacts – People Benefit

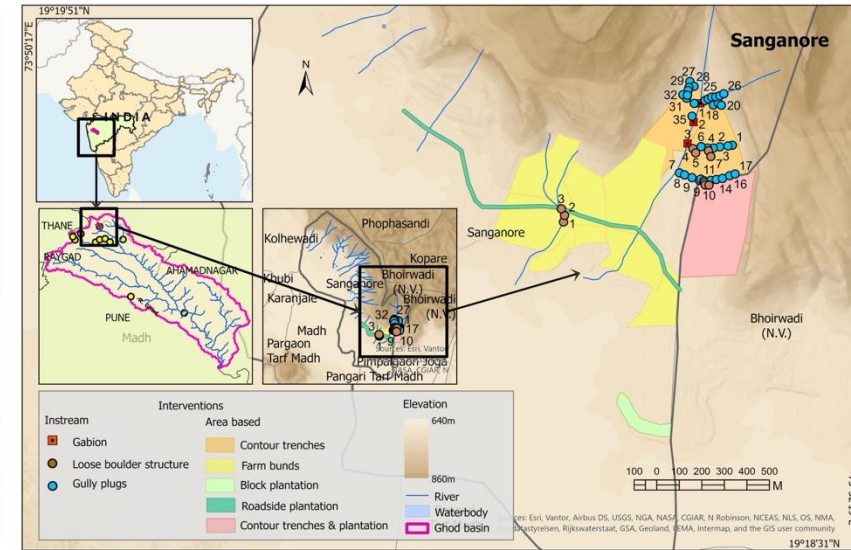
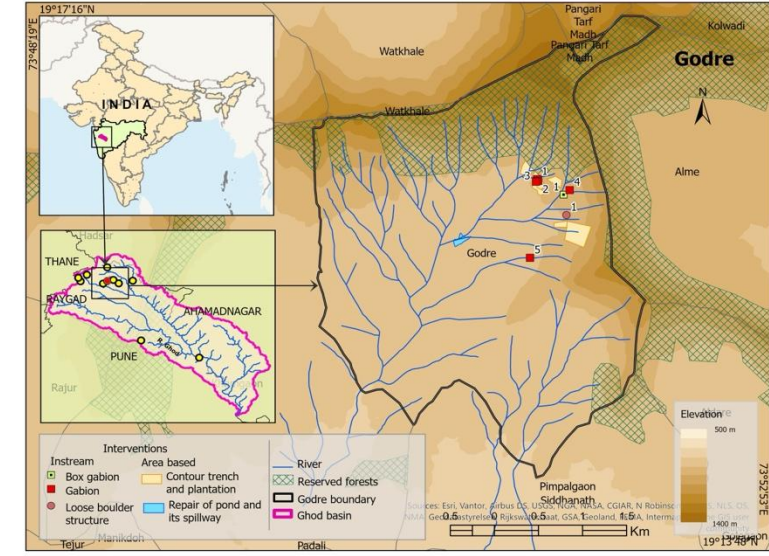
Citizen's Science Trainings



Village
Date
Dry Temperature
Relative Humidity



Wet Temperature
Temp. (Min)
Temp (Max)
Rainfall



21

District Level Policy Engagement Workshop on Scaling Nature Based Solutions (NBS) for River Restoration in Maharashtra

November 18, 2025



Policy Engagement Workshop

Scaling Nature-Based Solutions for River and Freshwater Restoration

April 8, 2026

Pune



Key takeaways

- Develop clear, credible indicators (e.g., water quality index akin to AQI) to demonstrate NbS benefits and support decision-making.
- Limited inter-departmental collaboration remains a major challenge for scaling NbS.
- Strengthen awareness, technical, and planning skills at State, District, and Village levels, highlighting NbS co-benefits for livelihoods and climate resilience.
- Align with existing programs (e.g., Majhi Vasundhara Abhiyan, AMRUT 2.0) and integrate into City River Management Plans.
- Embed NbS into departmental planning frameworks (master plans, village development plans), including restoration of eco-sensitive areas in riverfront projects.
- Enable Gram Panchayats to incorporate NbS into GPDPs and budget allocations (e.g., VB-GRAM G).



THANK YOU

For more information:
Dr. Mrityika Basu
Email: mrityika.basu@tnc.org

Thank You