The Nature Conservancy India

युवा मित्र Yuva Mitra
Shaping Sustainable Development...

© Yuva Mitra

Building Drought Resilient Watersheds

India is a region of extreme climatic conditions. More than 70% of its geographical area is classified* as dry land i.e. arid, semi-arid and sub-humid, on the basis of rainfall patterns, evaporation, soil moisture and vegetation. These regions receive more than 80% of their annual water supply from the monsoons in a short span of two to three months. In the absence of good water management practices, this results in extremities such as drought-like situations in the dry months or floods in the wet months due to heavy rainfall. In either situation, the region's human population and biodiversity is adversely impacted. Thus, effective water and land management strategies that help build resilience in the region and ensure water security through the year for people and nature, are absolutely critical for India.

*Ministry of Environment, Forests and Climate Change

Maharashtra's Water Woes

Maharashtra is one of many states in India which experiences severe water crisis. Every year, large areas are declared drought-affected, which adversely impacts both nature and people. Maharashtra's large farmer population is the worst impacted as water shortage leads to crop failure and economic losses. The Maharashtra Government has introduced various schemes such as the Jaal Yukt Shivar and Gaal Yukt Shivar to drought proof the region and increase agricultural productivity. These focus on deepening and widening streams and nullahs, constructing check dams, and desilting existing water tanks.

Long-term water security will require additional measures, such as planning at the watershed level and interventions to address land-use change, land degradation, deforestation, over-extraction of groundwater, unsustainable farming practices, and gaps in institutional capacity.

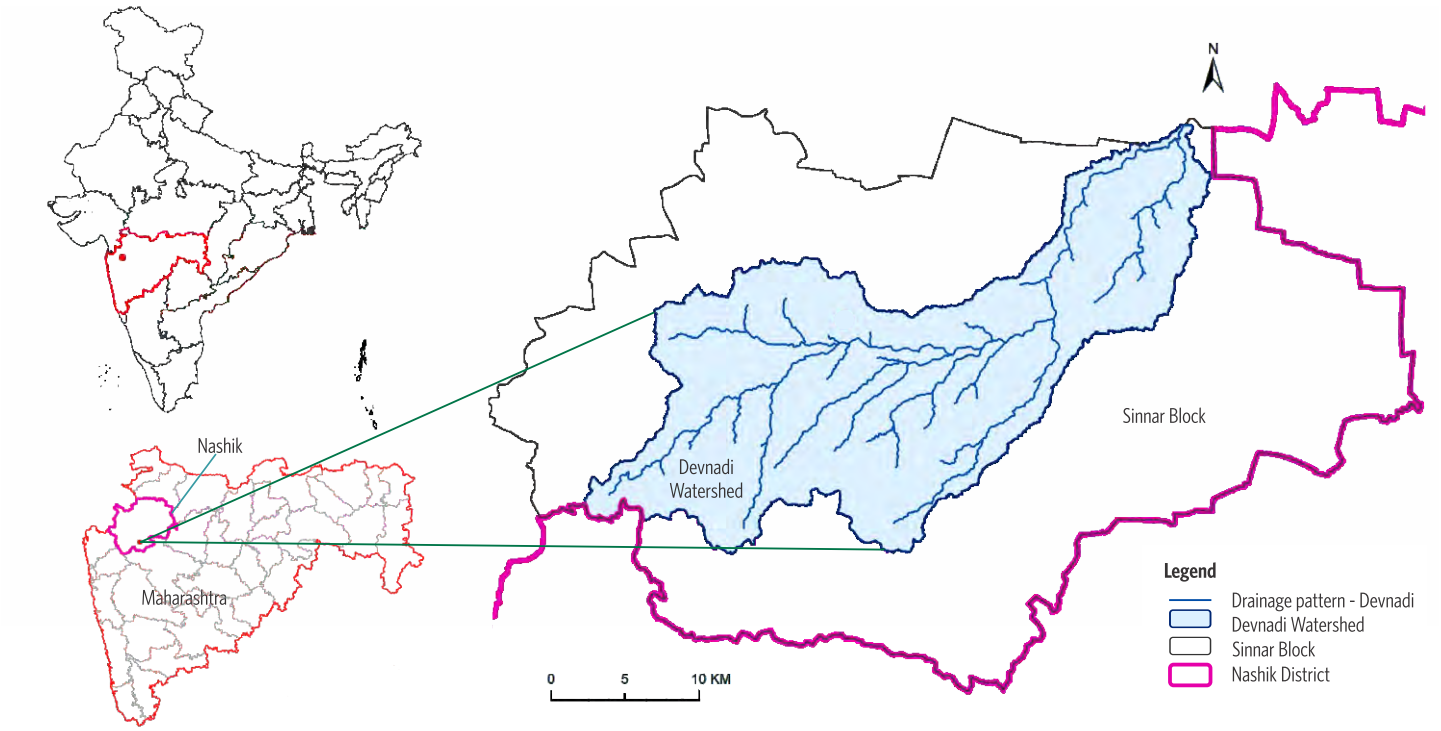
The Nature Conservancy and Yuva Mitra are developing a comprehensive science-led drought resilience plan for the Devnadi watershed in Nashik district of Maharashtra. It will include a series of nature-based and grey infrastructure solutions to ensure year-round water security for local communities and the Devnadi river. By demonstrating success through this pilot initiative, we aim to support the government and other stakeholders by informing the next phase of drought resilience efforts across the state.

Our Vision

A drought resilient Maharashtra that is guided by science to manage its water resources sustainably.

River Devnadi And Its Watershed

The 70-km long Devnadi river, main water source for 46 villages, once flowed for 10 months in a year, but now runs only for 7 months! Devnadi is part of the upper Godavari basin and empties into the Bay of Bengal. It falls in the semi-arid region of Sinnar in Nashik district and its watershed covers an area of 560 sq kms. The region now experiences drought-like situation for majority of the year. In many parts, the situation is further aggravated by over-exploitation of groundwater, increasing cultivation of water intense crops and disintegration of traditional community-based water management systems.



Our Approach

We plan to identify and implement a series of science-led and cost-effective interventions at the watershed level that would have the highest impact in building drought resilience and improving water availability for people and nature. We will bring diverse experiences together by working collaboratively with various stakeholders, including the district and state governments, research institutions and regional NGOs.

Scientific Research

We will engage with local stakeholders to define a "desired" state of water security required in the region to minimise risks to local communities and nature. Based on historic and recent rainfall patterns, we will identify different interventions that can reduce the water deficit and ensure the region achieves the desired water security. We will conduct baseline surveys to assess the current socio-economic conditions, biodiversity, surface and groundwater, and build a robust monitoring and evaluation plan to measure the impact of our interventions.

Implementation

We will translate scientific research into action on-the-ground. We will implement the identified drought resilience interventions and measure their effectiveness in ensuring year-round water security. Interventions will include a mix of nature-based solutions such as reforestation, contour trenches and sustainable agriculture practices as well as grey infrastructure such as check dams. We will also focus on empowering local communities and reviving and creating local institutions for sustainable water management.

Catalyse Impact At Scale

Our objective is to provide a tried and tested science-led drought resilience plan to the Maharashtra government which can ensure water security in various climatic conditions at the level of watersheds. To this end, throughout the life-cycle of the project, we will engage with the government at the district and state level to inform their drought resilience efforts.

THE NATURE CONSERVANCY

We are the largest conservation non-profit in the world, with 600+ scientists, that works to protect ecologically important lands and waters for nature and people. The Nature Conservancy's India program works closely with the Indian Government, NGOs, research institutions and citizens to create science-based solutions that support India's efforts to develop while conserving the lands and rivers on which people depend.

TNC-INDIA VISION

A VIBRANT AND HEALTHY INDIA THAT IS GUIDED BY SOUND SCIENCE TO MANAGE ITS NATURAL RESOURCES.

For more information, please contact:

Renie Thomas, Applied Freshwater Scientist
renie.thomas@tnc.org

Aditi Khurana, Manager, Partnerships
aditi.khurana@tnc.org

Visit: www.tncindia.in