



Teekli Village Pond post rejuvenation, Gurugram, Haryana

Background

Ponds, wetlands, and other natural water bodies that once played a crucial role in groundwater recharge and flood mitigation have been disappearing alarmingly in India. The first Census of Water Bodies (2022-23) stated that out of 2.4 million water bodies across the country, ponds make up ~60%. Of these, 23% have dried up or become unproductive due to siltation, pollution, and encroachment.

This decline is affecting not only the region’s water availability but also the disruption of ecosystems, which has cascading effects on local flora and fauna and loss of biodiversity.

Pond Teekli

Teekli is a semi-urban village in the Gurugram district of Haryana. It covers a geographical area of 672 hectares and is situated at the foothills of the Aravalli range. Teekli has a population of 17,234 people and 1,390 households. Its farm irrigated area is 395 hectares. The Gurugram water table was recorded at 37.32m below ground level in 2023, and the district is categorized as overexploited. In the last four years, the water table in Haryana has declined from 80-100 feet to 200-250 feet. Gurugram has an average rainfall of 596 mm. Pond Teekli is an important water body that historically served as a natural reservoir for the local community to provide water for domestic and drinking use and farms. The ponds have faced significant degradation over the years due to siltation, pollution, construction waste, and neglect. Environmental issues such as open drains and waste accumulation have affected the surrounding areas, diminishing the ponds’ water quality.

Restoring Teekli Ponds is crucial to providing a sustainable solution to the water crisis, creating clean and green urban spaces, reducing heat, recharging groundwater, improving air and pond water quality, and promoting biodiversity and environmental sustainability.

Implementation Approach



PROGRAM SUMMARY

Objective- Water Conservation and Environment Sustainability through Restoration and Rejuvenation of two ponds

- Promote water conservation and groundwater recharge to combat climate Change
- Village Grey Water Management
- Provide clean, urban green spaces with tree plantation for ecological balance
- Promote sustainable urban ecosystems through social behavior change

Location: Village Teekli, District Gurugram, State Haryana

Population: 17,234 people

Rainfall: 596 mm

Revival and Rejuvenation of two ponds

Pond 1 – Main Pond (surface pond) size 1.75 acre

Pond 2 – Temple Pond (groundwater recharge) catchment area size 190 Ha or 470 Acres

Community Led Program

- Focused Group Discussions with Sarpanch and community to revive and rejuvenate the pond
- Ensure pond maintenance and upkeep
- Developed a community park with walkways, a garden, an open gym, swings, and benches for community use.
- Prevent garbage disposal and solid waste accumulation in the pond vicinity

Water Storage Capacity created:

Pond1: Bada Talab11,000 cubic meters
Pond 2: Temple Pond18,000 cubic meters

Post Completion Maintenance

Teekli Pond Management Committee is formed to ensure long-term sustainability

Impact

- Created water harvesting and recharge potential of 30,000 cubic meters.
- The youth have developed a cricket pitch in the park.
- The community uses the park for morning and evening walks
- Aligned with national and international goals -the Jal Shakti Abhiyan, Mission LiFE, and the UN Sustainable Development Goals: SDG 13 on Climate Action and SDG 15 on Life on Land)

Baseline Assessment

A baseline assessment was undertaken to understand the groundwater table, the ecological and environmental conditions of Teekli Pond, and how the communities interact with the pond. This assessment guided the rejuvenation process and ensured that interventions were well-targeted, sustainable, and beneficial for the environment and the local community.

The assessment approach:

- A total of 41 households from Teekli and its neighboring village, Aklimpur, were selected as sample size for household interviews.
- For qualitative analyses, Focus Group Discussions (FGDs) among farmers, women and youth.
- In-depth interviews (IDIs) were conducted with Panchayat Raj Institution (PRI) representatives and Village Level Committee (VLC) members.



Focus Group Discussions with village elders and youth at Teekli-Aklimpur, Gurugram during the baseline survey

Pond Restoration and Rejuvenation

Rejuvenating the Teekli pond involved challenges such as pollution, grey water management, invasive species, water quality issues, and the need for community behavior change to instill ownership and management of pond. These challenges were addressed through various strategies.

Pollution and Water Quality: Teekli's surface pond collects all the village rainwater and water from the drains. It is exposed to pollution from surface runoff, sewage, and animal waste, leading to poor water quality and algal blooms. A clear segregation system was established to separate rainwater from greywater. Inlet pipes were laid on two sides of the pond to prevent rainwater runoff. A greywater management system was created to treat surface runoff water. Bio-enzymes were added to prevent algal blooms and duckweed. Fish and waterlilies were planted in the pond to improve aesthetics.

Invasive Species: Non-native plants that disrupt the ecological balance of ponds, out-competing native species and impacting biodiversity were identified and targeted removal done for habitat restoration along with the local government.

Siltation and Sedimentation with restoration: The pond was filled with silt and sediment, garbage, construction material, etc., reducing its capacity. This dredging and de-siltation was done using JCB machines. Fencing was created around the pond to secure the area and dustbins were installed. Fencing and gated access were implemented around the pond to prevent animal entry and unauthorized waste disposal. A ramp was constructed to ease the community's access to the park around the pond.

Findings

- 88% of respondents reported ponds drying up in summer, dropping water levels to 48 meters before restoration and repurposing for wastewater collection.
- The baseline water storage capacity of Teekli Temple pond was 8,000 m³, and the main pond had 11,000 m³.
- The water is insufficient for farmers' agricultural needs.
- 72% of community members reported dryness in ponds for 60-90 days during the summer, impacting their agricultural and daily water needs.
- Local panchayats provide tanker water or encourage community taps in summer.
- 90% of cows drink and bathe in pond water
- 78% of respondents indicated turtle presence in the ponds



Dried-up Teekli pond during summer season

Climate Change: Changing rainfall patterns and increased temperatures can affect water availability and pond quality. To enhance biodiversity and improve the microclimate, native trees and shrubs were planted along the pond's perimeter, creating a green cover. 600 native trees were planted. Planting native species such as Dhau, Palash, Khejri, Neem, and Rohida. Shrubs, hedges, and grass were planted to prevent soil erosion. We established processes with the pond management committee to gather data on groundwater table, pond health, and water quality and interpret it for action

Tackling Community Ownership: Urban ponds are usually neglected or poorly managed, leading to further degradation and loss of ecological function. We restored the pond through community engagement and awareness from the design to the completion phase. We raised public awareness about the importance of ponds and their ecological functions.

Creating clean and green spaces Around the pond, a community park with walkways, benches, open gyms, and swings is developed. The village youth have developed a cricket field. The community uses the park for recreation and assembling park.

Pond Sustainability: A dedicated pond management committee has been formed to promote local ownership and long-term upkeep of the two ponds. The members of the Pond Committee include Sarpanch and Gram Panchayat members. More than 50 local community members, including SHG women, were engaged and trained in sustainability through outreach, training, and workshops.

Pond 1 Main Pond



Pond 2: Temple Pond



Impact

- The rejuvenation of Teekli Pond improved the groundwater table by over three meters, from 48m below ground water level to 45m.
- Increased water storage capacity from 19,000 m3 to 29,000 m3
- Increased rainwater harvesting and recharging potential to 22,000 m3 from 11,000 m3.
- Enhanced green cover by planting over 1,200 trees, creating a habitat for birds and small wildlife and mitigating the impacts of climate change.
- Local community engagement with IEC workshops organized for awareness of water conservation. The pond, located near a temple, regained its religious and cultural significance, becoming a site for spiritual and community gatherings.
- A dedicated pond committee was formed to oversee regular maintenance and upkeep, essential for the ponds' long-term viability.
- Community has adopted the park and uses the park for recreation.



Community Park created around the rejuvenated Teekli Pond

Stakeholders Speak

“Rejuvenating our village pond, Teekli has improved the groundwater recharge potential and created water security, and the community park around the pond looks very beautiful. I sincerely thank Safe Water Network India and American Express for investing in the pond and giving our village a new lease on life. The community takes great pride in being part of this transformational journey and is committed to maintaining and protecting this invaluable resource for future generations.”

- Shri Brahmanand, Sarpanch of Village Teekli, Gurugram

“Our village has transformed since the pond was rejuvenated. The return of birds and fish has revitalized our environment, benefiting the entire community. My kids visit the park created around the Teekli pond and play there every day. Over the past few months, we have also learned the importance of preserving our water bodies by keeping them clean and maintaining them regularly.”

- Community Member, Teekli Pond Management Committee

This cricket ground has truly transformed our community. Previously, there was no proper place to play cricket or any sport in Teekli. Thanks to Safe Water Network India, we have a well-maintained ground with grass planted and everything cleaned up. We play cricket here daily and feel connected to nature while enjoying our favorite sport beside the rejuvenated pond.

- A resident, Teekli village, Gurugram

