

UP's Greywater Success: Community-Driven Nature- Based Solutions

Context: Restoration of community ponds in Bheekhapurwa and Rudahi (Nagar Panchayat Bakshi Ka Talab, Lucknow).

Timeline: Intervention started July 2025

Background & Challenges

- 💧 **The Scale:** Two wards (14 & 17) with 717 households generating ~334 KLD of wastewater daily.
- 💧 **Pre-Intervention Status:** Untreated grey and black water discharged directly into ponds via open drains
- 💧 **Environmental Impact:** High BOD/COD levels, low dissolved oxygen, and foul odors.
- 💧 **Ground Water:** Polluted pond water led to rising groundwater contamination risks
- 💧 **Health & Asset Loss:** Increased mosquito breeding and contamination of community handpumps.





Selection & Technology (NBS)

- 💧 **Site Selection:** Based on high contamination levels, community demand, and proximity to drinking water sources.
- 💧 **Technology: Phytoremediation** (100% Nature-Based Solution).
- 💧 **Process:** Daily dosing of 300ml NBS solution (mixed in 5,000L water) after sunset.
- 💧 **Advantage:** Low-cost, chemical-free, and improves natural dissolved oxygen levels.





Government Collaboration (Strong Partnership)

- ◆ Institutional Tie-up: Signed MoU with Nagar Panchayat (ULB) for long-term O&M.
- ◆ Shared Resources: ULB provides vehicles, manpower, and safe water for daily dosing.
- ◆ Enforcement: Official resolution passed to impose a ₹1000 fine for garbage dumping.
- ◆ Joint Governance: Regular monitoring by the Executive Officer, Ward Members and water management committee

Community Voice & Ownership

- **Local Ownership:** Formation of O&M Committees to track daily progress.
- **Behavioral Change:** Households voluntarily blocked direct toilet outlets and built septic tanks.
- **Direct Impact Quotes:**
 - *"Now the pond is clean and no bad smell."* – **Gayatri**
 - *"We helped close toilet outlets to protect our pond."* – **Suresh**
 - *"We helped close toilet outlets to protect our pond."* – **Suresh**



Visual Results (Pre vs Post)

Results & Outcomes (The Photos)

Visuals: *(Place Pre-treatment photos on the top/ Post-treatment on the below).*

Environmental Results:

- Significant reduction in BOD/COD levels.
- Increased Oxygen (DO); no more smell or mosquitoes.
- Improved water quality in nearby handpumps.



Way Forward & Scaling Up

- 💧 **Replicability:** Low-cost model ready to scale across other towns in Uttar Pradesh
- 💧 **Economic Sustainability:** Linking restoration with fisheries to generate revenue for the community.
- 💧 **Community Contribution:** Active local participation ensures ownership and maintenance.
- 💧 **The Formula:** NBS + Community + Contribution + Livelihood + Government = Sustainable Water Security





Clean water



Decent toilets



Good hygiene

