

E. coli Reduction & Ecosystem Revival

Mahrauli Community Sewage Pond, Punjab

Location

Mahrauli, Ropar District, Punjab

Lake Size

2 Acre

Unit Type

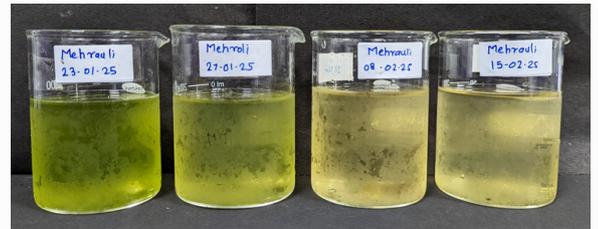
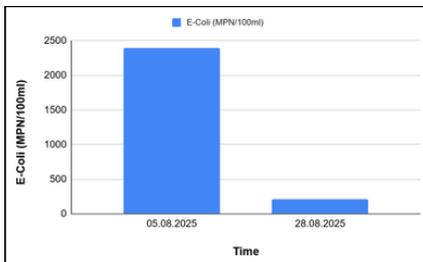
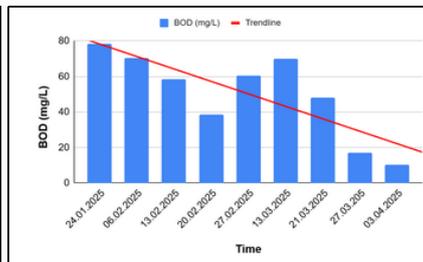
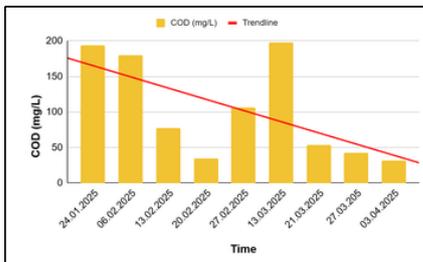
NanoCloud N-50 Nanobubble Generator

Project Objective

To restore the ecological and public health condition of Mahrauli's central sewage pond using a sustainable, chemical-free technology that improves water quality, reduces microbial contamination (including E. coli), eliminates foul odors, and enables long-term ecological recovery.

The Mahrauli community pond in Ropar, Punjab, serves as the primary collection point for untreated household sewage from nearby residences. Over time, the continuous inflow of domestic wastewater severely degraded the pond's condition. Dissolved Oxygen levels fell below 1 mg/L, while BOD and COD levels indicated heavy organic pollution. Elevated E. coli contamination, persistent foul odors from hydrogen sulfide, dense algae growth, and mosquito breeding created serious health and environmental concerns for villagers. Aquatic life had completely disappeared, and the pond had turned anaerobic and hazardous.

To address this, the Punjab Rural Development Authority deployed Nanokriti's NanoCloud N-50 Nanobubble Generator as part of a pilot restoration initiative. The nanobubble system infused high concentrations of oxygen into the water, shifting the pond from anaerobic to aerobic conditions. This enhanced natural biological degradation of organic waste, suppressed pathogenic microbes including E. coli, eliminated odor-causing gases, and reduced nutrient-driven algae growth, all without chemicals.



Within six weeks of nanobubble intervention, Dissolved Oxygen increased and became stable, restoring aerobic conditions in the pond. Biochemical Oxygen Demand (BOD) reduced by 74%, from 80 mg/L. Chemical Oxygen Demand (COD) decreased by 82%, falling from 190 mg/L. E. coli levels were significantly reduced, indicating strong suppression of pathogenic contamination. Foul odors caused by hydrogen sulfide were eliminated, and visible water clarity improved substantially. Most importantly, ecological balance began to recover, and ducks and fish were observed returning to the pond for the first time in years, demonstrating true ecosystem revival and improved community health.

Community Testimonial

“Since the machine was installed, the foul smell in the village has completely stopped. Earlier, the pond water was extremely dirty, but now it has become much cleaner. Even ducks would not come near the pond before. Now ducks have started returning, and we can see fish again.”

— Mahrauli Village Residents



www.nanokriti.com

