Community Sewage Pond Rejuvenation

GhogaVillage, Punjab, India

Location

Mohali, Punjab

Lake Size

1 Acre

Unit Type

NanoCloud N-50 Nanobubble Generator

Project Objective

The objective of this project was to restore the ecological health of the Ghoga Village community sewage pond using Nanokriti's NanoCloud N-50 nanobubble generator. The goal was to improve dissolved oxygen levels, reduce organic pollution, eliminate foul odors, and control algae growth through a sustainable and chemical-free treatment approach. Ultimately, the project aimed to improve overall water quality and create a healthier environment for the surrounding community.

Ghoga is a rural village located in Mohali district of Punjab where a community sewage pond acts as the primary collection point for untreated household wastewater. Over the years, continuous discharge of sewage caused a significant buildup of organic waste in the pond, severely degrading its water quality. The pond gradually developed strong foul odors, dense algae blooms, and extremely low dissolved oxygen levels. High organic contamination in the water created an unhealthy environment for the surrounding community and disrupted the natural ecological balance of the pond. Residents also reported increased mosquito breeding and concerns related to sanitation and waterborne diseases.

Recognizing the seriousness of the issue, the Punjab Government initiated a pilot project in collaboration with Nanokriti to demonstrate an innovative solution for restoring polluted village ponds. The Ghoga Village pond was selected as one of the sites to implement this technology as part of a broader effort to rehabilitate degraded water bodies across the state.

Technology Deployed

To improve the condition of the pond, Nanokriti installed the NanoCloud N-50 nanobubble generator, an advanced aeration system designed to enhance oxygen transfer in water. The system produces ultra-fine oxygen nanobubbles that remain suspended in water for extended periods.

These nanobubbles significantly improve dissolved oxygen levels and promote the activity of beneficial aerobic microorganisms that naturally break down organic waste present in the pond. At the same time, the oxygen nanobubbles help oxidize gases such as hydrogen sulfide and ammonia that are responsible for foul odors commonly found in stagnant sewage ponds.

By enhancing biological activity and improving oxygen availability, the nanobubble system gradually restores the pond's ecological balance without the use of chemicals.

Results

After the installation of the nanobubble generator, the Ghoga Village pond began showing noticeable improvements in water quality. Dissolved oxygen levels increased while organic pollution declined, leading to reductions in BOD and COD. The foul odor disappeared, water clarity improved, and algae growth was brought under control. Improved water conditions also reduced mosquito breeding, and the pond gradually began supporting aquatic life again.

Conclusion

The restoration of the Ghoga Village pond demonstrates the effectiveness of nanobubble technology in improving the condition of polluted community water bodies. By enhancing oxygen transfer and supporting natural biological processes, the NanoCloud system helped revive the sewage pond without the use of chemicals. This project highlights the potential of nanobubble technology as a practical solution for restoring village ponds and improving rural water management.

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