



## **PROJECT ACTIVITIES**

(under NMHS-funded project)

**Project No: NMHS 2024-25/SC-XII/MG 93-197/SL-03**

### **Activity 1: Awareness Visit to Sewage Treatment Plant, Mandi (HP)**

As part of our academic and outreach initiative, we visited the Sewage Treatment Plant in Mandi, Himachal Pradesh, to engage with plant personnel and local workers on the importance of wastewater management and its potential reuse.

#### **During the visit, we:**

- **Discussed the Basics of Wastewater:** Explained the sources of domestic and industrial wastewater, and the environmental and health risks associated with untreated sewage.
- **Demonstrated Treatment Methods:** Described the steps involved in primary, secondary, and tertiary sewage treatment. We highlighted the role of biological processes (like microbial degradation) in reducing organic load and contaminants.
- **Promoted Reuse and Resource Recovery:** Introduced the concept of wastewater as a resource, not waste — including possibilities like:
  - ❖ Biogas generation
  - ❖ Water reuse for agriculture
  - ❖ Production of single-cell protein and biofertilizers
  - ❖ Utilization in microbial fuel cells for electricity or value-added products
- **Encouraged Safe Practices:** Educated staff on personal safety, sludge handling, and minimizing chemical inputs, encouraging eco-friendly alternatives.



## Activity 2: Awareness Lecture Session at Sardar Patel University

As part of our outreach and environmental awareness campaign, we conducted an interactive lecture session at Sardar Patel University, Mandi aimed at educating faculty, research scholars, and technical staff on the importance of wastewater management and sustainable utilization.

### Key Highlights:

- **Introduction to Wastewater Issues:** We began by explaining the growing environmental concerns associated with untreated domestic and industrial wastewater, including groundwater contamination, health risks, and ecological degradation.

- Treatment Technologies: Participants were introduced to conventional and modern wastewater treatment techniques, including:
  - Physical, chemical, and biological treatment processes
  - Anaerobic digestion
  - Microbial fuel cells and electrochemical systems as emerging solutions
- Resource Recovery and Reuse: We emphasized the concept of waste-to-resource conversion, showcasing how treated wastewater can be used for:
  - ❖ Irrigation and landscaping
  - ❖ Biogas and bioelectricity generation
  - ❖ Microbial biomass or protein production
- Practical Insights: Real-life examples and case studies from our visit to the Mandi Sewage Treatment Plant were shared to strengthen understanding of practical applications.
- Interactive Q&A Session: Participants actively engaged in discussions, sharing local challenges and exploring potential collaborations for sustainable wastewater handling.

