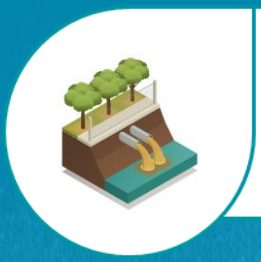

Sustainable and Affordable Wastewater Management in Rural Communities

CONTEXT

- The United Nations Sustainable Development Goal focuses on access to clean water and sanitation for all. From past decade there are many advancements in wastewater treatment area, but still even conventional treatment technologies experience low penetration in India rural area due to limited financial aid, electricity, and skilled supervision.

- Compared to urban wastewater rural wastewater has no heavy metal, Xenobiotic Pollutants, and low organic load makes it potential source for reuse.

CHALLENGE

- Design a Technology or Process to treat rural wastewater considering the following criteria.

    I. Minimum electricity usage.
    II. Minimum use of chemicals.
    III. Minimum civil construction.
    IV. Minimum Operating cost.

- Evaluate potential reuse possibilities of treated wastewater.

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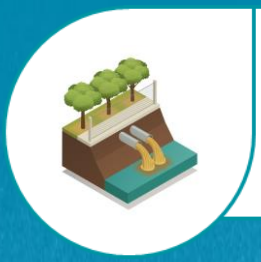

Sustainable and Affordable Wastewater Management in Rural Communities

STEPS TO DEVELOP YOUR PROJECT

1. **Identify and understand the current challenges in rural wastewater management.**
    - **Study government policies and regulations.**
    - **Study government guidelines for rural wastewater management.**
    - **Study current wastewater treatment use to treat rural wastewater.**
    - **Do Gap assessment for current wastewater management.**
    - **Gather and study data published by the government and researchers.**
2. **Technology Validation**
    - **Identify the wastewater characteristics of wastewater by field sampling and lab analysis of any rural area.**
    - **Develop treatment scheme based on the wastewater characteristics and end use requirement.**
    - **Develop small laboratory scale treatment setup to validate proposed technology or process.**

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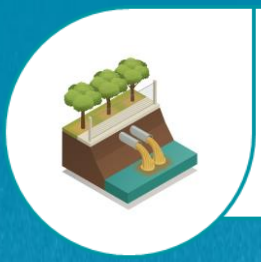

Sustainable and Affordable Wastewater Management in Rural Communities

STEPS TO DEVELOP YOUR PROJECT

3. Solution Proposal

- Prepare a detailed report/presentation on proposed treatment technology or process. In the report technology scalability, feasibility, and cost details should be mentioned.
- Technology should be validated by data gathered from lab studies.
- Provide one case study with design calculation for any one village.

GOAL

The aim of this challenge is to develop or identify the most effective treatment technologies and strategies which are effective, scalable, and feasible for rural wastewater management. The proposed solution should be experimental rather than theoretical.

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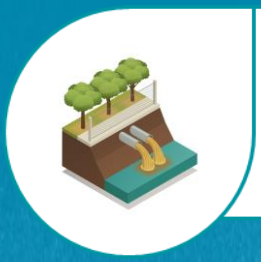


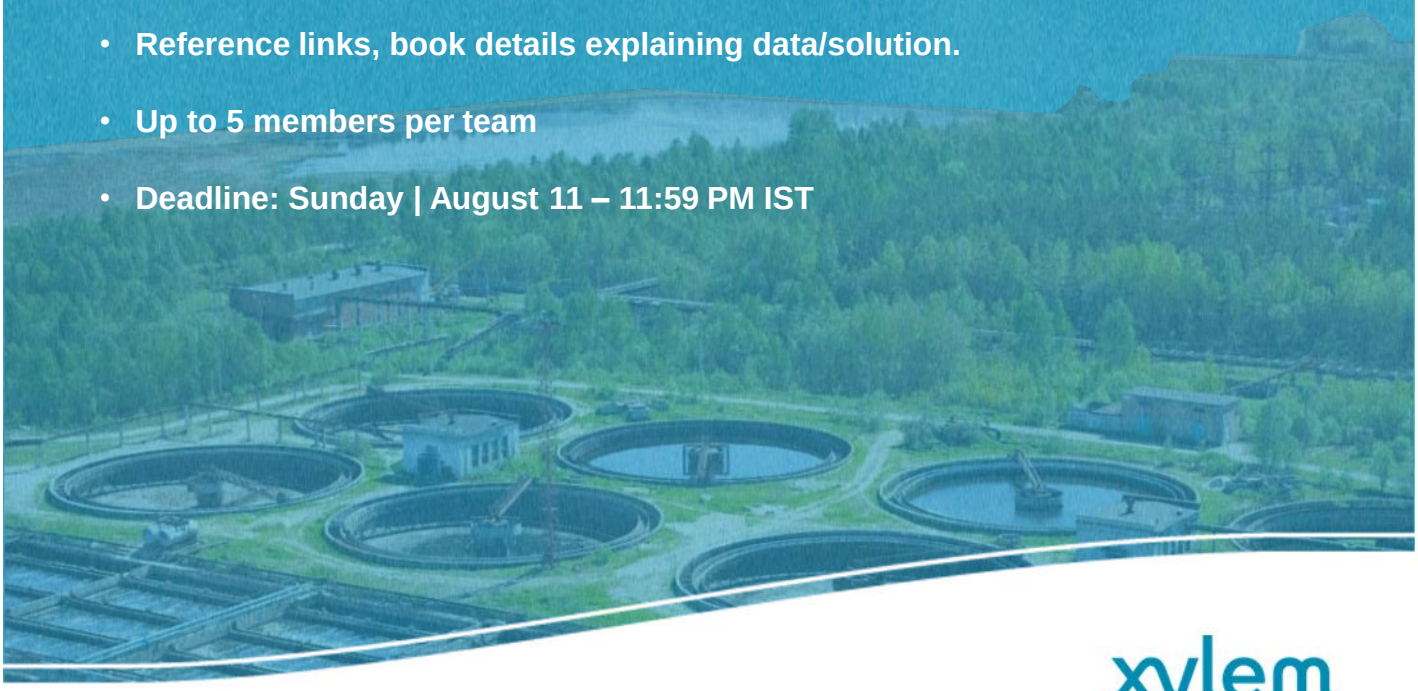
Sustainable and Affordable Wastewater Management in Rural Communities

JUDGING CRITERIA

- Understanding and Knowledge of Technology.
- Experimental studies conducted.
- Technical Data.
- Technology feasibility and scalability.
- Technical Report.

SUBMISSION GUIDELINES

- Introduction (Team /Individual - Names, college, graduation)
- What is the problem?
- Methodology & Approach to the solution in which show Block/flow diagram explaining steps followed to solve problem.
- Which hardware or software were used in this solution.
- Reference links, book details explaining data/solution.
- Up to 5 members per team
- Deadline: Sunday | August 11 – 11:59 PM IST



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