Monthly Programme Report

St.Xavier's College for Women Aluva BMC

Institution Name: **St.Xavier's College for Women Aluva** BMC Code: **ERM/2010/08**

ProgrameTitle: **Robobin installation and training**

Program Category: **Training Programmes Conducted/Attended**	Activity Type: **Awarness Program**	No.of participants: **7**
Planned Date: **23-01-2025**	Renewed date: **-**	Program Date: **23-01-2025**
Budgeted Amount: **Rs 0/-**	Total expenditure: **Rs 0/-**	Balance: **Rs 0/-**

Brief Report

The Robo Bin–Advanced Bio-GAD Plant was installed as part of the Aluva Muncipality's initiative to adopt sustainable waste management practices and promote environmental responsibility. The system is designed to process biodegradable waste generated from the campus, including food waste, garden waste, and other organic residues, in an efficient and eco-friendly manner. They installed the bins at Aluva Town hall and Aluva market.

The collected biodegradable waste is fed into the Robo Bin unit, where it undergoes controlled anaerobic digestion using Bio-GAD technology. This process enables the breakdown of organic matter by microorganisms in the absence of oxygen, leading to the generation of multiple valuable outputs. The digested material is converted into high-quality organic compost, which is utilized for campus gardens, green spaces, and landscaping activities. Simultaneously, biogas produced during the digestion process is captured and can be used as a renewable energy source for cooking or heating applications. The system also facilitates the extraction of bio-oil, further enhancing resource recovery from waste.

The installation and operation of the unit were accompanied by awareness sessions and demonstrations for students and staff, highlighting the principles of anaerobic digestion, waste segregation, and the importance of reducing organic waste at source.

The Robobin system comprises **three integrated units**. The **first chamber** functions as the inlet unit, where biodegradable waste is introduced along with water. In this chamber, **anaerobic digestion** takes place, resulting in the formation of slurry. This slurry is then transferred to the **second chamber**, which operates in a batch mode.

In the initial batch of the second chamber, only water is allowed to enter and is subsequently directed to the **Effluent Treatment Plant (ETP)** for treatment. The solid fraction undergoes further decomposition, during which appropriate inoculum is added to enhance microbial activity and facilitate conversion into compost. The liquid generated during this process is again routed to the ETP, where it is treated before safe disposal or reuse.

The **biogas produced in both the first (anaerobic) and second chambers** is collected in a dedicated **gas chamber** and utilized for cooking purposes. While the first chamber carries out **anaerobic treatment**, the **second chamber functions as an aerobic digestion unit**, ensuring efficient stabilization of organic matter and maximum resource recovery.

The initiative not only addresses waste management challenges but also serves as a live demonstration unit for environmental education and research.

Overall, the Robo Bin–Advanced Bio-GAD Plant has significantly contributed to reducing the environmental footprint of the institution by transforming waste into valuable resources. The project reflects the institution’s commitment to sustainable development, innovation, and the promotion of eco-friendly practices in alignment with national and global environmental goals.

Photographs

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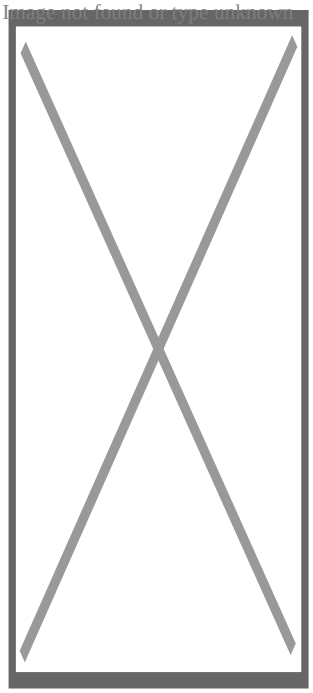

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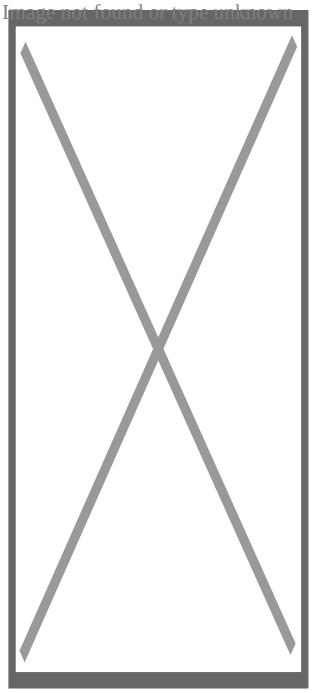

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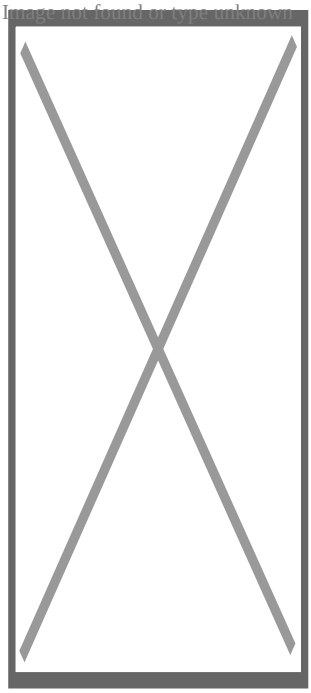

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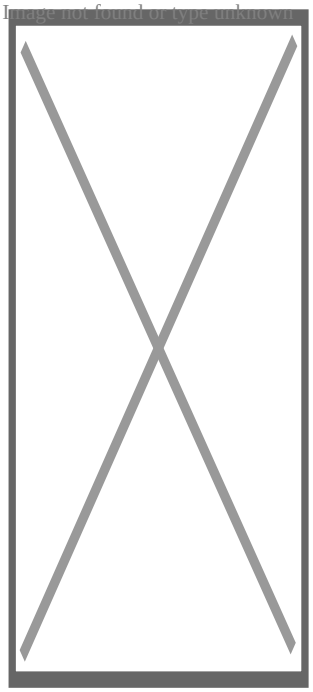

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