



**Uka Tarsadia University**

**Kishorbbhai Institute of Agricultural Sciences  
and  
Research Centre**

**Report on Student Orientation Program**

**(Batch 2024-25)**

**Day 5: Sunrise to Sunset: A Day of Agri-Exploration**

**Date:** 26<sup>th</sup> July 2024

**Venue:** Dungra, Kamrej (Surat)

**Time:** 9:00 AM to 2:00 PM

**Total Number of Participants:** 9 (Nine)

**Name of the Expert (Outside UTU expert):** Zoheirbbhai Y. Lokhandwalaa

He is CEO of Green Glow Biotech Company and technical expert in production of biofertilizer from slurry. He connected and working with Green Glow Biotech Company since last five years.

**Event Coordinator:** Dr. Nikunj Sohaliya, Ms. Snaa Mistry, Dr. Ankit Chaudhary and Dr. Rajdip Vaja

**Program objective:** To enhance students understanding and familiarity with biofertilizers, organic manure and biogas plants, as well as their respective production processes.

**Program outline:** The biogas plant visit program begins with a welcome briefing, which provides an overview of the tour's objectives and introduces the significance of biogas technology. Following this, participants receive an in-depth introduction to biogas technology, covering the principles of anaerobic digestion and the types of feedstocks used. The core of the visit is a guided tour of the facility, highlighting key stages such as feedstock processing, anaerobic digestion, and the systems for biogas collection and utilization. The program concludes with a Q&A session, where participants can inquire about the biogas production process and a discussion on the benefits of biofertilizers, organic manure, and the overall advantages of biogas technology.

*R. K. Khumbar*

**Program outcomes:**

- Enhanced understanding of renewable energy
- Practical insights into waste management
- Awareness of environmental benefits
- Understanding of biofertilizers and organic manure
- Exposure to industrial practices
- Critical thinking and problem-solving skills
- Inspiration for future careers

**Schedule of Events:**

Time	Activity
09:00 am	Departure from University campus
10:30 am	Arrival at Glow Green company
10:30 am to 12:30 pm	Biogas plant visit
02:00 pm	Return to University campus

**List of Participants:**

Name of Participant	Stream	Name of Program
Vasava Parthkumar A.	Agriculture	B.Sc. (Hons.) Agriculture
Chaudhari Pritiben P.	Agriculture	B.Sc. (Hons.) Agriculture
Chaudhari Nidhikumari R.	Agriculture	B.Sc. (Hons.) Agriculture
Gamit Shahilkumar V.	Agriculture	B.Sc. (Hons.) Agriculture
Jalondhra Vishal M.	Agriculture	B.Sc. (Hons.) Agriculture
Patel Ankur S.	Agriculture	B.Sc. (Hons.) Agriculture
Patel Mihir P.	Agriculture	B.Sc. (Hons.) Agriculture
Patel Dhruvikumari R.	Agriculture	B.Sc. (Hons.) Agriculture
Chaudhari Abhishekkumar S.	Agriculture	B.Sc. (Hons.) Agriculture

**Introduction**

A biogas plant produces biogas through the anaerobic digestion of organic materials like agricultural waste, manure, and food waste. Key components include a feedstock input, anaerobic digester, biogas collection, storage, and digestate handling. Microorganisms break down the organic matter in the digester, producing biogas (mainly methane) and digestate, a nutrient-rich byproduct. The biogas can be used for electricity, heat, or as vehicle fuel, while the digestate serves as fertilizer.



**Objectives:**

1. Renewable Energy Production
2. Waste Management
3. Greenhouse Gas Reduction
4. Nutrient Recycling
5. Energy Security
6. Economic Benefits

**Key highlights**

The key highlight of a biogas plant is its ability to convert organic waste into renewable energy through the process of anaerobic digestion. This transformation serves several important functions:

- **Plant's role in renewable energy:** The primary highlight is the production of biogas, a renewable energy source. Biogas, primarily composed of methane, can be used to generate electricity.
- **Waste management:** Biogas plants process organic waste materials such as food scraps, agricultural residues, and animal manure. This waste is transformed into biogas and digestate, significantly reducing the volume of waste that would otherwise be disposed of in landfills.
- **Greenhouse Gas Reduction:** By capturing methane a potent greenhouse gas from decomposing organic materials, biogas plants prevent its release into the atmosphere. The controlled combustion of methane for energy production results in lower greenhouse gas emissions compared to uncontrolled landfill conditions.
- **Production of Nutrient-Rich Digestate:** The anaerobic digestion process produces a byproduct known as digestate. This material is rich in nutrients such as nitrogen, phosphorus, and potassium, making it an effective and eco-friendly fertilizer for agricultural use.

- **Resource Efficiency:** Biogas plants make efficient use of organic waste by converting it into valuable resources energy and fertilizer. This efficient conversion process maximizes the utility of available resources and minimizes waste.

### Summary

In summary, the key highlights of a biogas plant include its role in renewable energy production, effective waste management, greenhouse gas reduction, the generation of nutrient-rich byproducts, and overall resource efficiency. These aspects underscore the plant's contribution to sustainable development and environmental management.

### Conclusion

A visit to a biogas plant provides a comprehensive understanding of how biogas is produced, managed, and utilized, highlighting its importance in sustainable energy and waste (solid and slurry) management.

### Day 5 Highlights: Photos







### Closing ceremony

**Date:** 26/07/2024

**Venue:** KIASRC, Classroom-1

**Time:** 2:00 am to 3:00 pm

**Event Coordinator:** Dr. Kalpesh Raval, Dr. Kala Chaudhary and Dr. Vikram Shiyal

The closing ceremony is not only a celebratory event but also a crucial part of the orientation process. It helps participants feel valued and recognized for their efforts, encourage a sense of achievement, and support their connection to the organization or institution. The ceremony also helps in solidifying the transition from orientation to active participation, setting a positive tone for future engagement and success.

In summary, the orientation closing ceremony is a milestone event that marks the end of an introductory phase, celebrates achievements, distribution of certificates and prepares participants for the next steps in their journey. It is a blend of reflection, recognition, and motivation, designed to enhance participants' willingness and enthusiasm for what lies ahead.

**Report prepared by:** Dr. Vaishali Birari

**Date:** 7<sup>th</sup> August, 2024

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