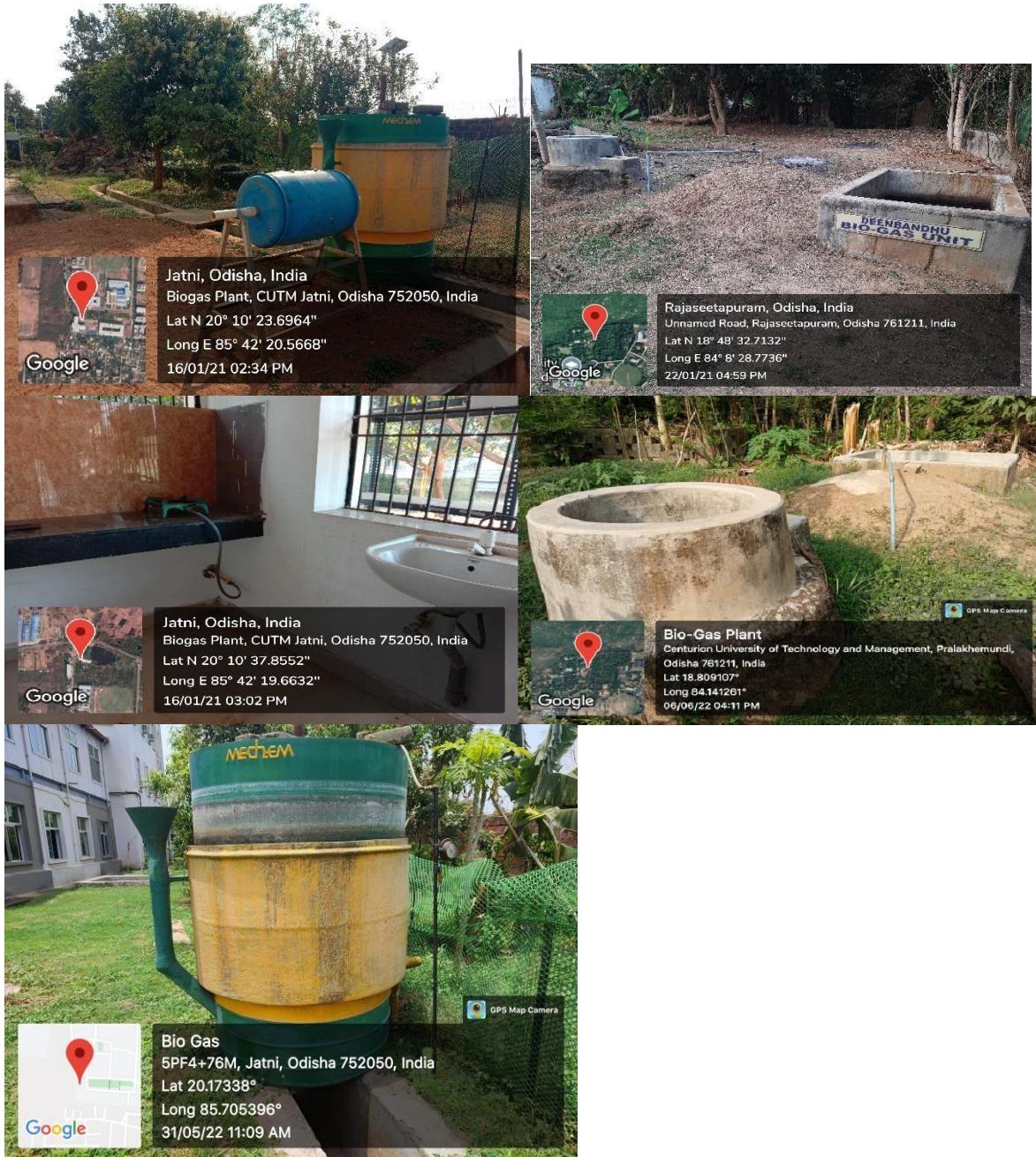


## Centurion University of Technology and Management, Odisha

### Report on Biogas plant

#### **Biogas Plant:**



**Fig. Biogas Plant**

## Biogas Production

The continuous generation of municipal wastes and kitchen wastes has become an environmental and social concern due to the large impacts of its improper treatment and management. Anaerobic digestion has the advantage of Biogas production and can lead to efficient resource recovery and contribution to the conservation of non-renewable energy sources. Anaerobic digestion is a process that degrades these wastes in the absence of oxygen, producing Biogas that can be used to generate heat and energy. Producing renewable energy from our biodegradable wastes helps to tackle the energy crisis in a “greener” manner. Methane is a very powerful greenhouse gas: its global warming potential is 23 times higher than that of CO<sub>2</sub>. In this way, recovering of biogas is very interesting to limit the greenhouse effect. Furthermore, biogas is a renewable energy form because biomass naturally releases biogas by decomposition. By using biogas as an energy source, we can reduce our dependency on fossil resources as coal, oil and natural gas.

The proper disposal of kitchen waste will be done in an eco-friendly and cost effective way. While calculating the cost effectiveness of waste disposal we have to think more than monetary prospects only. The dumping of food in places and making the places unhygienic can be taken good care of; it adds to the value of such Biogas plants. Natural components like micro-organisms, kitchen waste & biodegradable waste viz paper, pulp can be utilized. The bio-gas produced from food waste, decomposable organic material and kitchen waste, consisting of methane and a little amount of carbon dioxide is an alternative fuel for cooking gas (LPG). Also, the waste materials can be disposed off efficiently without any odour or flies and the digested slurry from the bio-gas unit can be used as an organic manure in the garden.





**Fig:** Food waste and cow dung digester (Biogas plant) for generation Biogas in tribal village, CUTM

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