

# **Chapter 1**

## **1. INTRODUCTION**

The electricity requirement of the world including India are increasing at alarming rate and the power demand has been running ahead of supply, the fossil fuels like petroleum , coal etc are used as other conventional energy resources presently where as nuclear power plant causes pollution . Even thou its production is more but it may cause in future. And another important factor is disposal of waste of manure of animals or the waste across the city are rural side , if we analyze the demand and the need ,a proper cultivation is achieved.

About 80% of rural energy consumption comes from non-commercial sources such as fuel wood, animal dung and agro wastes etc. biogas meets 57%of the national energy demand biogas technology is particularly useful in Indian economy and can fulfil several end user needs

Biomass is one of the longest used energy sources employed in human activity. The bioconversion of organic matter to biogas is a complex anaerobic fermentation process involving the action of microorganisms such as methane producing bacteria. In these paper, biogas and energy production from cattle waste, are any forms of organic waste of silkworm is investigated. There are two significant reasons that motivate this study. first treating animal waste with the technology of anaerobic digestion can reduce environmental pollution and generate a relatively cheap and readily available source of energy in the region of cultivation farms .the gas produced can be used for space and water heating of farm houses, cooking, and used as electricity source, second, it is an effective way of managing waste of manure by producing a quick acting, non toxic fertilizer for agriculture use. In these paper and its economic value as an alternative energy source is examined. An alternative to direct generation of electricity is to convert the methane, from the biomass to methanol. Where methane is excellent fuel for internal combustion engines

As long as sufficient supply of biomass stocks is assured many agriculture and forest product residues can provide feedstock for energy conversion without increasing land requirements local farmers can generate additional income by providing biomass fuels for small local power plants

## **1.1 Problem Statement**

Every system has their own merits and demerits while processing the system some may be fetch you a desirable aspects but certain feature while contributing may impact on whole system in a disaster manner here certain aspects which mainly causes problem is the leakage in the digester causes environmental pollution because of strong methane gas ,which causes and also delayed process of fermentation and in the monitoring system the amount of energy supplied readings may be inaccurate and controlling of system if manually done the erroneous info is updated which may cause the production value. The usage of non reliable sources in operating the system which uses reduces the efficiency and also costlier

## **1.2 Objective**

India's energy demand is increasing day by day. About 80% of rural energy consumption comes from non-commercial sources such as fuel wood, animal dung, and agro wastes etc. Biomass alone meets 57% of the national energy demand. Biogas technology is a particularly useful system in the Indian rural economy and can fulfil several end users. Problems in meeting even minimum energy needs for cooking and lighting in many areas. The alternate solution to overcome from LPG and electrical demand is to generate biogas from organic wastes and using it as cooking gas and for generating electricity.

**Biogas:** typically refers to a gas produced by the biological breakdown of organic matter in the absence of oxygen. Organic waste such as dead plant and animal material, animal dung, and kitchen waste can be converted into a gaseous fuel called biogas. Biogas originates from biogenic material and is a type of bio-fuel.