Biogas Plant

Waste output: 100 kg per day

Biogas potential: 600 m^3

The biogas plant is based on the model developed by ARTI which is the sintex tank based biogas digester. The total amount of waste being into the digester on a daily basis is maximum 100 kg.

Additional equal amount of water will be required to make 50:50 slurry of waste. This waste will be put into the digester from the bottom using a pipe. The slurry is allowed to ferment/breakdown in the tank in the absence of air/oxygen leading to the development of an anaerobic condition in the tank. This condition promotes the production of methane from organic materials which is what is called as biogas.

The slurry is kept in the tank for a minimum of 60 days after which it flows out on its own through a pipe on the top. This slurry needs to be filtered to separate out the liquid from the solid component. The liquid component can be used directly on agricultural fields as liquid fertilizer. The solid component needs to be dried and then can be used as manure.

The gas can be used for cooking purposes. This biogas unit is capable of producing enough gas to fill 10 cylinders in a day.

Cost Estimates

Sr.no.	Particulars	Amount	Rate	Total
1.	Sintex Tank 15000 litres	2	130000	2,60,000
2.	PVC Pipe 1' diameter	3m	1500	4,500
3.	Rubber Gas Pipe 1.5" diameter	10m	300	3,000
4.	PVC U joint 1' diameter	2	500	1,000
5.	Gas Valves 1.5" diameter	2	3000	6,000
6.	Pressure Guage 15 bar	2	2500	5,000
7.	Metal stand for gas collection tank	1	3000	3,000
8.	PVC pipe 1.5" diameter	10m	300	3,000
9.	PVC T joint 1.5" diameter	2	600	1,200
Total #Administration charges will be applicable				Rs. 2,86,700