

Twin solution for energy generation and waste disposal

Reports from Shri M.J. PRABU published on "[The Hindu](#)" dated 29th July 2010 [1].

Biogas plants are not a new concept to our rural sector, but their big size, installation cost, need for large quantities of cattle dung, and space restriction prove a deterrent for those opting to install them. But Shakthi Surabhi, a kitchen waste based biogas plant developed by the Vivekananda Kendra, Natural Resources Development Project ([Vknardep](#) [2]), Kanyakumari, after nearly quarter century of experiments promises to change all that, says Mr. V. Muneeswaran, Supervisor of the Kendra.



Till date the Kendra is credited for installing nearly 2,500 biogas units across the country and orders for several hundreds more are still pending, he says.

Better alternative

In what way does this unit promise to be a better alternative to the conventional biogas plants?

Cattle dung is a major input for the conventional plants. And everyday the dung should be mixed as slurry and poured into the gas tank.

But for Shakthi-surabhi, cattle dung is required for initial charging and later on kitchen and other waste alone are sufficient for producing the required gas.

Two colours

The unit comes in two attractive colours. Made to order from 500 to 1,500 litres capacity, is easy to fix or relocate and can be installed either at the backyard (if it is an independent house) or in the terrace or sunshade in flat structures. According to Mr. G. Vasudeo, secretary, Shakthi surabhi works on similar principles of a traditional biogas plant, but modified it to suit urban requirements also.

Required feed materials

Leftover cooked food (veg and non-veg), vegetable wastes, waste material from flour mills, non edible oil seed cakes (neem, jatropa etc) are some of the required feed materials.

About 5 kg of waste is required for a 1 cubic metre plant which is equal to 0.43 kg of LPG. The unit consists of an inlet waste feed pipe, a digester, gas holder, water jacket, a gas delivery system and an outlet pipe, explains Mr. Muneeswaran.

The advantage of Shakthi surabhi is not just because it economizes and provides alternative fuel for cooking gas. It is also an excellent mechanism for biodegradable waste disposal.

The process is hygienic and is devoid of odour and flies. The unit also helps in controlling climate change effects and arrests green house gases, and the digested outlet slurry of the unit acts as good organic manure.

"It is estimated that 100 cubic metres of biogas could produce 5 KW of energy to meet a 20-hour power requirement of a house," explains Mr. Vasudeo.

No bank loans (but Government Subsidy)

Regarding availability of bank loans for setting up this unit Mr. Muni says, at present banks do not offer loan facilities for installing this plant. But the Government is offering subsidies for those interested.

"Disposal of kitchen wastes over time is a major problem, even in cities. If the garbage is not removed for a couple of days, the stink becomes unbearable.

Disposal of garbage is a major issue that confronts the government. If the wastes are utilised in a proper way to generate energy then it can solve the problem of energy requirement for both the people and the government," says Mr. Vasudeo.

Bakery unit

Not only individuals but institutions such as Swami Shivananda Hospital at Pathumadai run an entire bakery unit on biogas installed by Vknardep.

The biogas slurry was pumped out into the lush green garden in the coconut grooves and Azolla is grown on the floating beds of biogas slurry.

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