Renewable World
Transforming Lives Through Clean Energy

Technology Fact Sheet

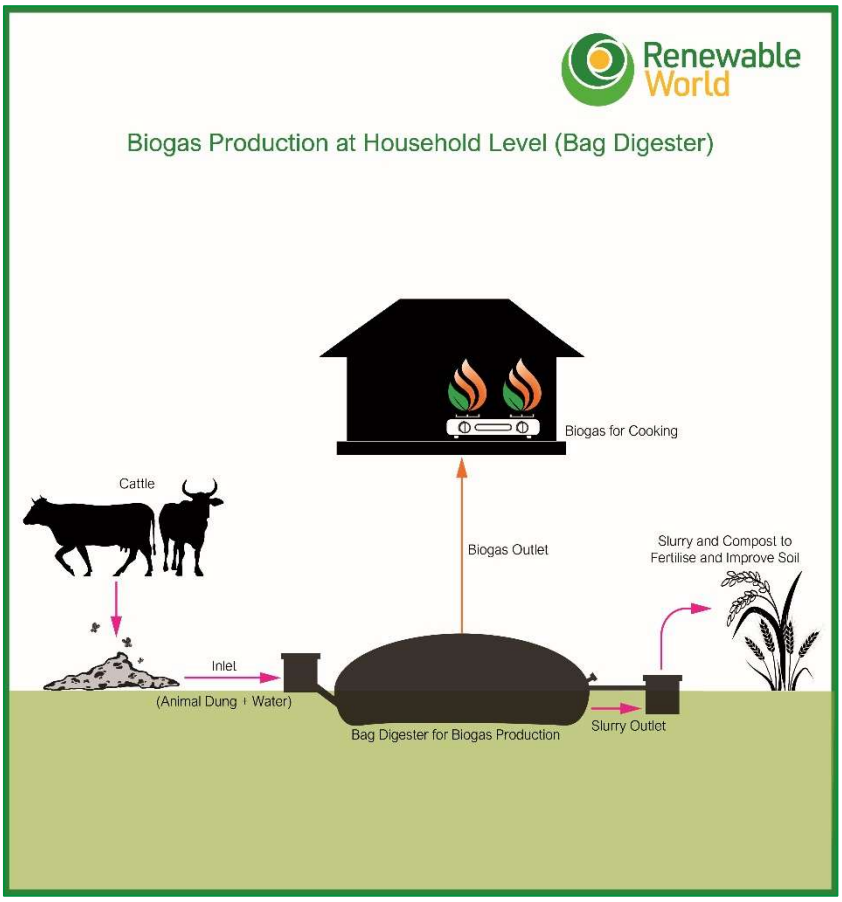
Bag Digester (Biogas)

The challenge: Traditional cookstoves using firewood generate smoke. This causes indoor pollution, respiratory issues, eye problems, etc. These health problems tend to affect women and children the most. Women are typically responsible for cooking, and children are typically cared for by the women.

The solution: Livestock, especially cows and buffalos produce large quantities of dung. This dung can be mixed with water and fed into a bag digester (i.e. pre-fabricated modular biodigester). The bag digester produces biogas and bio-slurry. The biogas - methane – can be used for cooking; it burns cleaner than firewood. The slurry can be used in the field/ garden as an organic fertiliser that improves soil structure and soil health, increases crop yields and reduces the need for synthetic fertilisers.

The technology: A bag digester is a pre-fabricated modular biodigester made of strong plastic. It has one way in and two outlets. A mixture of dung and water (1 part dung to 2 parts water) is fed into the bag via the inlet. Inside the bag, bacteria digest the dung to create biogas and bio-slurry, which leave via separate outlets. The biogas pipe is fitted with a pressure release valve and a filter to remove contaminants/ impurities. The slurry is collected in a pit for later use.

Illustrative output: Dung from two cows (fully confined) can generate 2.5 hours of biogas and 105 litres of bio-slurry every day. Dung from seven cows (fully confined) can generate 7.2 hours of biogas and 300 litres of bio-slurry every day.



Lifespan? @20 years.

Why choose a bag digester?

- ✓ Reduces the labour, danger and environmental impact of collecting firewood.
- ✓ Biogas reduces indoor pollution, improving health.
- ✓ Efficient, effective and environmentally friendly option.
- ✓ Organic slurry reduces the need for artificial fertilizer.
- ✓ Easy to maintain.
- ✓ The bag digester is both moveable and repairable.
- ✓ Very low periodic maintenance.