

## Challenges Faced

Despite progress, several operational and structural hurdles persist into the 2026-27 period:

- **Feedstock Supply Chain:** Ensuring a consistent supply of cattle dung and agricultural residue remains a primary challenge. High collection and transportation costs—sometimes between ₹3,500 and ₹4,500 per tonne—often lead to underutilization of plant capacity.
- **Market Development for By-products:** Finding a consistent market for [Fermented Organic Manure \(FOM\)](#) is difficult. While government subsidies like Market Development Assistance (MDA) provide ₹1,500/MT, local demand remains low.
- **Technical Constraints:** A lack of technical expertise at the grassroots level hinders the maintenance and productivity of rural biogas units.

## Operation and Maintenance (O&M) Arrangements

Standardized O&M frameworks are essential for plant longevity in 2026:

- **Structured Maintenance Plans:** Routine checks on [anaerobic digesters, pumps, and gas holders](#) are now part of project proposals to prevent leakages and maintain efficiency.
- **Automation:** Plants are increasingly equipped with automated monitoring systems to track waste levels and gas production rates.
- **Five-Year Warranties:** Modern turnkey contracts for community plants often include a [five-year free O&M warranty](#) to ensure "trouble-free" operation.
- **Local Involvement:** Many O&M arrangements actively involve [Self-Help Groups \(SHGs\)](#) and [Gram Panchayats](#) to manage decentralized community plants.

## Functionality and Impact

In 2026-27, the functionality of GOBARdhan plants is measured by their dual output of energy and fertilizer:

- **Energy Generation:** Large-scale [Bio-CNG plants](#) can process up to 550 tonnes per day (TPD) of waste, producing fuel for public transport and industrial use.
- **Soil Health:** Plants provide [nutrient-rich slurry](#) that serves as a direct substitute for chemical fertilizers, improving long-term soil productivity.
- **Environmental Impact:** By capturing methane that would otherwise enter the atmosphere, these plants contribute significantly to [India's Net-Zero emission targets](#).
- **Revenue Streams:** Functionality is enhanced through [carbon credit trading](#), which provides plant owners with an additional revenue stream beyond gas and manure sales.