



Domestic biogas use, India

A community based project is providing rural families with simple biogas reactors for clean and non-harmful cooking energy.

Locations



The project is located in Chickballapur district, in India's province of Karnataka, one of the country's poorest areas in strong need of development.

Project



18,000 biogas digesters of 2 m³ capacity each for single households are being built by the Coolie Sangha, a membership based people's organization of peasant farmers who solve local problems by pooling financial and social capital. About 38,000 peasant families form a network of village level Coolie Sangha Units (CSUs) in 915 villages.

With the project, emission-rich kerosene and non-renewable biomass is being replaced with biogas for cooking and water boiling. The technology is tried and tested in India, and has been in use for many years.

Each household is feeding cow dung, organic waste and biomass waste into the anaerobic digester. By utilizing these various sources of biogenic waste in a controlled anaerobic digestion and combustion system, biogas will be available for cooking energy and heating hot water. A single digester's capacity is sufficient for providing cooking fuel to a family of four to five persons.

In the years to come, profits from selling the carbon credits will be distributed to each family, providing additional resources for the Coolie Sangha to meet local needs.

This bundle of small biogas plants provides less than 15MW total generating capacity, supplying thermal energy directly to end users.



Project achievements



Socio-economic impact:

- Significantly less time is needed to gather wood, providing additional time for other activities that generate income.
- A strong reduction of health problems related to hygienic issues caused by waste disposal in and around the house is achieved.
- The project is saving the families money because of reduced kerosene usage and reduced medical bills resulting from indoor smoke related respiratory diseases.
- In the mid-term, the project is generating family income through the sales of carbon credits.
- Permanent and temporary jobs were created in building and maintaining the units as well as monitoring the CO₂ reductions.
- The project leads to a complete reduction of indoor smoke which results in less respiratory problems and premature deaths in the villages.
- The Coolie Sangha implements various grassroots planned developmental activities, including
 - children's education, community and referral health,
 - activities to support young widows and deserted women
 - a village level decentralized credit activity

Environmental impact:

- Less deforestation thanks to reduced need for firewood benefits regional wildlife and biodiversity.
- The biogas slurry is used as an organic fertilizer for agricultural activities.
- The project leads to improved air and soil conditions thanks to better fertilization and avoidance of smoke.

Checklist Project 300 777



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✓ 3 rd party verified::	by DNV KEMA Energy & Sustainability
✓ Transparency:	provided by the UNFCCC Registry
✓ Annual CO ₂ reduction:	20,000 tCO ₂ e
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