

Sustainable Biomass Energy for Rural Bangladesh

S. Chowdhury

Kazi Shahid Foundation, Bangladesh

Email: shahana.chowdhury@kazishahidfoundation.org

Abstract

Bangladesh is a densely populated country with limited natural resources, and suffering from severe energy crisis since the past few decades. Due to the limitation in fossil fuel reserve, the only way to minimize the supply-demand gaps in the energy sector is switching towards the alternative renewable energy sources. Kazi Shahid Foundation (KSF) has been working in partnership with rural villagers for over 15 years. In order to make rural people's lives healthier and more productive, KSF has developed an innovative "Biogas Program". The continuous burning of biomass fuels leads to long term health issues, predominantly among women. The amount of wood consumed, also contributes to an increase of greenhouse gas (GHG) emissions and partly responsible for deforestation. Bangladesh has a long standing tradition of utilizing dung exclusively as the feedstock for biogas plants whereas India has focused mainly on food waste. Attempting first in Bangladesh, KSF is utilizing the "no cash" microfinance repayment system, where KSF will be reimbursed the cost of the biogas plant through the effluent slurry, as well as, excess cow dung or milk. This bio slurry and dung are used for organic tea plantation at the Kazi & Kazi tea estate (Teatulia organic tea) in Panchagarh district and as well, for organic farming of fruits and vegetables to supply all over the country's chain of super shops. In order to make biogas a viable alternative to the current biomass fuels used in cooking, this multi-purpose approach was developed through careful research into the latest technologies, fiberglass bio-digesters that is now available in Bangladesh. Fiberglass bio-digesters are portable, easy to install, need less space, and the use of water (as charging material) is half compared to the conventional brick-layered biogas plants.

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