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Build a Sustainable Inclusive Business Model for Rural Communities in Mali through Biogas Technology

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Abstract

Population growth and urbanisation, along with changes in lifestyle and consumption, lead to large quantities of solid and liquid organic waste from agricultural, agro-industrial and urban activities. In the absence of an adequate waste management system (value chain), these can cause harm to human health and the environment. Biogas technologies are unique among renewable energy forms in that they can address several challenges in Mali in an integrated manner. They enhance the connections and potential synergies between sectors. However its adoption in the rural and per-urban areas has been very low or inexistent. Most of the biogas systems in Mali have been installed through projects and as at now about 80% of them are not functioning, the reason for that could be:

- Poor technical service: system not well design to suit the beneficiary need;
- Under feeding of input: restriction of beneficiaries to use only one type feedstock like cow dung while there are other organic waste available on site (food waste, vegetable waste ...etc.).

Looking at the failure of the first pilot projects, many people in rural and per-urban areas of Mali (Southern and Central parts) have adequate and required materials (organic wastes and water) and would like to install bio-digesters on their farms or compound, but they are sceptical about the benefit of the technology because:

- Poor advertisement of the benefit of Biogas: people are not aware of the benefit and importance of having a biogas system. They do not know the business aspect of it which can help them have more revenue streams on your farm (selling of biogas, bio-fertiliser) which save money.

- Require an upfront investment to build the system: most people don't think as an Agripreneur and for that they are not able to create other businesses around the biogas technology as mentioned earlier. The system durability (fixed dome bio-digester) is at least 15 years, with a payback period of 3–5 years when used efficiently.

Keywords: Biogas, mali, rural communities