

# Challenges Facing Biogas users in Tanzania: A Case study of Arusha, Dodoma

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## ABSTRACT

*The advantages of using biogas energy include reduction in costs of health services and incidents of fire accidents, increase in time of doing other more productive activities including farming, taking care of business and animal husbandry. Since its initiation in the 1970s, the construction of biogas digesters have been noticeable in many parts of Tanzania, especially in the northern, central and great lakes regions. However, despite all efforts, biogas industry still faces major problems due to insufficient support from the government hence lack of bio-energy education to biogas users, scarcity of water, shortage of animal dung due to limited number of animals; very high biogas installation costs and low accessibility to biogas experts and equipment. To address these challenges there is a need for the Government through its national, regional and municipal offices to engage seriously in: the provision of public civic education and awareness; policy dialogues and processes with biogas stakeholders in order to agree on how best the challenges could be solved.; reviewing energy policy of 2003 in order to properly accommodate biogas issues.*

## 1.0 Background

Currently, Tanzania is increasingly experiencing scarcity of affordable, reliable, sustainable and efficient energy services, particularly for the household sector, that is a pre-requisite for basic living standards, survival strategies and economic development. This also has hindered successful implementation of MKUKUTA and achievement of the MDGs (UNEP, 2012). Like in much of the world communities, the current patterns of energy used in Tanzania are environmentally catastrophic in that they have been responsible for pollution; also the conventional

sources of energy such as fossil fuels are unsustainable, hence necessitating the opting for renewable energy systems.

Tanzania is endowed with abundant energy resources such as biomass, electricity, natural gas, biogas, coal and renewable energy (solar, Wind and geothermal) that could meet the national energy demand on sustainable basis if wisely planned and used (MEM, 2003). These resources if properly utilised could uplift the country's levels of success and economic prosperity. Tanzania Renewable Energy Association (TAREA) has played a big role in the development of renewable energy technologies, providing quality

energy services, supplying equipment and in promoting rational use of renewable energy (Katerezi and Kithyoma, 2005). The Government of Tanzania has also managed to create an institutional and incentive framework that is conducive for growth of renewable energy utilization. The framework includes the establishment of rural energy agency and rural energy fund, whereby the agency addresses the promotion of applied research, awareness rising, and promotion of renewable energy utilization in the country. The Government has also established legal and fiscal incentives such as reduction of import duties from 25% to 5% and exemption of value added tax for most of the components of renewable energy systems and equipment.

## 2.0 Challenges facing biogas users in Arusha, Dodoma and Mwanza Regions

ESRF (2014) and the National Bureau of Statistics (2012) found that biogas is among the energy sources which is least used by households for cooking and other domestic uses despite efforts by the Government of Tanzania, Development Partners (DP) and other NGO to promote it .

Government's initiatives include , Tanzania Domestic Biogas Programme (TDBP) which has seen construction of 10,000 household biogas digesters in the 5 years period; Electricity generation from sisal and other agriculture wastes. The study by ESRF noted the following main challenges respondents in the study faced in using the biogas. These include:

- Biogas is not a priority of the studied district councils that is why it is not given due attention in their development plans and budgets;
- The construction of biogas was based on personal initiatives whereby Tanzania Domestic Biogas Programme (TDBP) was the main source, accounting for an average of 78.3% of all awareness in all

regions.

- Lack of education, information and awareness on the biogas technology are the major limiting factors to the wider spread of the technology. For instance, majority users of biogas thought that biogas could be generated from cows' dung only while many other materials available locally, including wastes generated from birds related animals, could be used,
- There are no local technicians who could be resourceful in the maintenance of constructed biogas plants; also there were no training manuals left to the users, and hence users did not have guide on how to deal with some simple technical problems.

## 3.0 Policy Recommendations.

- The government needs to make sure that, Local technicians are strategically deployed in the areas where biogas is implemented as well as to ensure availability of maintenance and repair services within a reasonable radius and without excessive costs, time consuming and bureaucratic procedures.
- Reformed energy policies need to emphasize on biogas budgets and plans to the government especially in rural areas, so that they can make life easier and contribute to reduction of poverty in rural areas.
- Further, Policies should ensure more provision of civic education aimed at increasing awareness on biogas sector and information management in order to make people especially in rural areas to know technologies on biogas and programs.
- It is important that governments tirelessly provide and prepare biogas regulations and

guidelines for Tanzania and make these widely available at all levels, but especially in the regions and districts to ensure improvement in the biogas sector system and also re-adjustment agency must be given powers to coordinate and to get access to assistance from various government departments.

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