NABISAWA JESCA (2010-M152-20042)

Establishing the Contribution of Biogas Fuel Technology in Promoting Sustainable Agro-ecosystems in Malangala Sub-county, Mityana District, Uganda.

This study is titled: Establishing the contribution of Biogas Fuel or Technology in Promoting Sustainable Agro-ecosystems in Malangala sub-county Mityana district. The objectives were: to assess the potential benefits of using biogas technology, to identify the challenges faced by respondents in adoption and use of biogas technology and, to recommend possible interventions that would improve adoption of biogas technology as a low cost renewable energy. Literature from previous studies and researches conducted by other scholars that have a bearing on biogas fuel or technology as a low cost renewable energy were presented under three sub-headings that were drawn from the study objectives. The tools that were used in collecting data for the study included: an interview guide, a questionnaire, focus group discussions, library search, observations and interviews. The data were collected from a cross section of respondents such as 80 farmers that have and use biogas in their homes, 2 agency officials that promote the technology, 2 community development officers, 2 NAADS coordinators, 3 opinion leaders, 2 local leaders, 4 extension workers, 4 local artisans and 1 natural resource officer from the district. Purposive sampling strategy was used to choose key respondents of the study. Both qualitative and quantitative data were coded and analysed using the Statistical Package for the Social Sciences (SPSS) and qualitative tools respectively. The study revealed the benefits of using biogas fuel or technology that include: It saves time for cooking, provides energy for both cooking and lighting, promotes good sanitation, no smoke, increases food production, saves money on buying firewood and paraffin, improves dairy production, soil improvement, reduces deforestation, ecosystem sustainability. Despite this, the results indicated that the technology faces a number of challenges for enhanced usage and adoption that included; labour intensive, less waste, lack of skilled personnel on the technology, inadequate lamps, it is not easily socially acceptable by other members in the community, not easy to use both at ago. In conclusion, biogas technology has the potential to highly contribute to socio-economic and environmental improvement of the households in the region and beyond. It also has the potential to mitigate against the negative processes of climate change as well as promoting sustainable long term ecosystems in the community. It was recommended that government should provide financial loans to the potential users who may be unable to raise the initial capital for the construction of biogas digesters. Awareness of value of biogas digesters needs to be addressed by government agencies, sub-county authorities, opinion leaders, agency officers that promote the technology, extension workers using different methods of dissemination, such as electronic and printed media, workshops, field days, demonstrations and farmer to farmer contacts.

Key words: Boigas, Fuel, Sustainable, Agro-ecosystem