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Implementation of Biogas Plant in Sahwa yogurt kitchen

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Implementation of Biogas Plant in Sahwa yogurt kitchen

Context

The Lake Victoria region is densely populated and has been for many decades. Population growth alongside great economic expansion has led to a consistent population increase. For instance, in the 1960s there were 6 million people in the area and this has grown to about 30 million today. This population explosion has had severe environmental implications as overpopulation has put a strain on natural resources and has increased environmental degradation and pollution. Alongside this, many economic activities that rely on natural resources have been negatively impacted by environmental strains. Among many effects of this high population density is the competition for energy resources, especially inexpensive energy sources such as charcoal and firewood. As fuel prices increase, deforestation rates also increase as firewood is increasingly being utilized as an energy source. Energy is a key factor for development, especially at the local level for processing raw products into value added products for example. Renewable energy is an alternative solution to promote environmentally friendly economic activities.

Objective

To implement biogas technology as an alternative to charcoal and gas (LPG) energy sources within women's groups who are producing probiotic yoghurt.

Results/outcomes

- One biogas plant is constructed and well-managed by one women's group
- This biogas plant provides 80% of the fuel to process milk at Sahwa yogurt kitchen
- The biogas plant serves as a demonstration plant to sensitize the community as well for other yogurt kitchens on biogas technology.
- A waste collection system is implemented among the beneficiaries.
- The equivalent of 0.6 T of charcoal (about 12 bags) are saved or 5.4 T of CO₂ emissions per year through the use of this biogas plant.
- 7 women in the group and 55 people living with HIV/AIDS are direct beneficiaries and 350 community members are indirect beneficiaries.

Activities

1. Sensitization/Assessment

A first visit to the group will be carried out to introduce the concept of biogas and to explain its benefits and logistics. Energy use, energy needs and organic waste availability will be assessed.

2. Construction of the plant

With the participation of the women's group, the plant will be constructed in situ which will enable the future users to understand very well how their biogas plants operate. The construction is conducted like a training session in which everyone will be involved in the hands on experience. Explanations are also given regarding feeding, gas use and trouble shooting.

3. Technical monitoring

The day of the construction, detailed recommendations are left with the group (a manual is given to the group) explaining the different steps from day one to the optimum use. Regular contact will be made by phone with the group to ensure adapted follow-up. After 2 weeks a monitoring session will be held in situ to install the gas cooker, to address any project problems (if any) and to give recommendations if needed.



Partners

APYN – African Probiotic Yoghurt Network - supports the establishment, development, and continuation of small-scale probiotic yoghurt community health micro-enterprises that economically empower at risk and/or impoverished women and youth while at the same time improving community health and nutrition, especially for people living with HIV/AIDS. APYN was established in 2011 through Western Heads East (WHE) from the Western University of Canada, **Kivulini**, and National Institute for Medical Research (NIMR) who have a long history of implementing community health and development projects in East Africa. Since 2004, Kivulini and WHE have been working together to develop an extended probiotic yoghurt community health network which is now registered as its own NGO, APYN, through which probiotic kitchens are created, supported, and quality control is maintained.

RONGEAD aims at boosting solidarity and sustainable development within a global economy, acting for and with developing countries populations. Created in 1983, the organization has been working in various countries in the world, on projects using its specific skills such as agronomy, agriculture, macro and micro economy, sociology, environmental sciences, geography. Since 2008, RONGEAD is in the Lake zone, Tanzania and has started to implement the Sustainable Energy and Economic Development (SEED) project with EMEDO. One of RONGEAD’s staff is based at EMEDO’s office in Mwanza: this enables to have regular and constructive exchanges on the project implementation as well as to discuss potential areas and sector of development. Rongead will be coordinating the actions as well as responsible for technical monitoring.

EMEDO - Environmental Management and Economic Development Organization is a registered NGO established in November 2006. The overall aim of EMEDO is to contribute in improving communities’ livelihoods and managing the environment through sustainable utilization of natural resources. Its expertise on natural resources management with community based approach and its renewable energy skills will ensure to good implementation of this pilot project within the target group and the community. EMEDO will be in charge of technical implementation and close follow-up.

Budget

	item	unit price	nb of units	total	western	rongead
Material	set of tanks	400 000	1	400 000	400 000	
	set of fittings	300 000	1	300 000	300 000	
Logistics	material transportation	100 000	1	100 000	100 000	
	local transp (construction + monitoring)	50 000	3	150 000	100 000	50 000
Human resources		150 000	3	450 000	300 000	150 000
total (TSh)				1 400 000	1 200 000	200 000

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