

United Republic of Tanzania Biogas support for Tanzania “BiogaST”

Place:

Kagera region, Karagwe district

Beneficiary:

Rural population in the region

Partner:

NGO MAVUNO Project

Financing:

BayWa Foundation

Büchting + Streit

HMWVL

Emirates Airline Foundation

Further donators

Timeframe:

07/2008 – 04/2011

Budgetary:

76.000,00 €



Project description:

In Tanzania, meals are traditionally cooked on open wood fires. Cutting of trees and bushes to collect wood for cooking or for selling it as firewood or charcoal already led to considerable deforestation. The results are devastating since deforestation not only rapidly decreases the soil quality but also increases erosion as rainwater is running off and does not seep away into the ground where it would feed the plants. Many people in that region are directly or indirectly depending on agriculture and have to cope with the changes in soil fertility and soil quality. Therefore the basis for food security in Kagera region is endangered.

If biogas is used for cooking there is no further need for firewood which minimises the need to cover long distances for collecting. This in turn saves time for other work. Further, the risk of respiratory diseases and ophthalmitis through smoke exposure is drastically reduced. Life quality of the population is considerably enhanced using gas lamps since they provide the opportunity to reasonably spend time after nightfall. In addition, the fermented substrates can be used as fertiliser to increase soil quality and soil fertility which has a positive effect on the local agriculture. At last the application of biogas can contribute to promote regional economy by substitution of resources and an optimised use of nutrients in the life cycle.

The entire project was realised in the following stages:

Phase I: Feasibility study in Tanzania [07/2008 – 04/2009]

- three-month investigation journey to partner organisation MAVUNO Project to conduct a feasibility study (capability analysis and consideration of implementation)
- setup of a biogas laboratory for analysing and testing different substrates available in the region

Phase II: Development and research phase in Germany [08/2009 – 07/2010]

- construction of two pilot digesters in Germany (in Berlin and Hohenheim) and following testing phase
- development of an education and training concept for the implementation in Tanzania

Phase III: Implementation in Tanzania [08/2010 – 11/2010]

- construction of a pilot digester for education and further research at MAVUNO Project
- training of six local craftsmen in construction of digesters and theoretical education concerning biogas technology
- upgrading of the biogas laboratory and advanced testing
- successful start-up in November 2010 and afterwards training in operating the pilot digester in daily use

Phase IV: Evaluation und optimisation of the new pilot digester [03/2011 – 04/2011]

- evaluation and optimisation concerning the heat input and the daily use
- advanced training in operating the digester and training in using the biogas for cooking
- best practice journey to Arusha in order to build up a network in Tanzania and for further investigations concerning planned production of biogas burners in Kagera region