

ENERGY FOR LIFE - BEST PRACTICE AWARD 2011

System / Location

Karatu district renewable energy project - Biogas / Tanzania



Project goal: To promote the adaptation of renewable energy by removing barriers and reducing costs.

Problem statement:

- Households in Karatu District have very limited access to effective, clean and sustainable energy.
- This limited access to energy creates problems for the households themselves and for the society in general.

The objectives of this project are:

- To create awareness among the rural households in Karatu District of alternative energy systems, in form of biogas, and of the benefits they can get from the biogas.
- To provide the rural households in Karatu District access to appropriate biogas technologies, by developing, demonstrating and testing biogas technologies for the households.

Project output are:

- An annual reduction in the emission of greenhouse gases and a reduction of deforestation in a world her-itage site in Tanzania; Lake Manyara National Park and Ngorongore Conservation Authority Area.

Planning/Installation

Karatu Development Association
www.kda-karatu.org

Donation/Support

CARMATEC & HIVOS
www.hivos.nl

Operator

Karatu Development Association
www.kda-karatu.org

PROJECT DATA SHEET

Year the installation started operating	2010
Type of system	Biogas
Type of energy produced	Gas
Location	Karatu District of Tanzania
Geographical position	Karatu
Size of installation	4 m ³ , 6 m ³ , 9 m ³ and 13 m ³ biogas plants
Thermal Power of installation	Thermal
Use of energy produced	Cooking and lighting
Quantity of energy produced per day	1.6 mWh for 124 biogas plants
Type of financing	Grant and own money
Source of financing	Donor and own
system investment cost	USD 118,095 for constructing 124 biogas plant
System cost per watt	-
Income generated from installation	USD 5079
Maintenance cost per year	USD 1,574
Fossil fuel savings per year	4 tons of Fossil fuel savings per year
CO ₂ reduction per year	310 tons CO ₂
Number of beneficiaries	868 persons
Presence of renewable energy country programme	Yes



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LEGAL FRAMEWORK

The project is implementing the National Strategy for Growth and Reduction of Poverty (NSGRP) programme, popularly known by its Swahili abbreviation of MKUKUTA - Mkakati wa Kukuza uchumi na Kupunguza Umaskini Tanzania. There is at present much talk in Tanzania about the energy crisis and the high cost it has for the country. The energy crisis stems from the lack of access to electricity mainly in urban areas. But this is only the tip of the iceberg for the energy problems in Tanzania. 90 % of the energy supply for Tanzania comes from traditional biomass. The indirect cost of the problems related to this part of energy supply in Tanzania has, up to now, received minimal attention.

FEASIBILITY, SUSTAINABILITY AND REPLICABILITY

KDA will sustain the project results by seeking funds for a microfinance scheme that can finance household continued construction and the installation of biogas plants. KDA has contacts to funding agencies that could possibly contribute to such a scheme, including the McKnight foundation and HIVOS who have funded part of KDA's present micro finance scheme and biogas project.

KDA will also seek ways to develop the use of Carbon Credit for funding part of the construction of biogas plants. Subsidies from donors for this project are only 20%, while 80% is a contribution from the owner of the plant. KDA is supporting the private sector by subsidizing the construction of the plants so that after two years the client can pay 100% of the cost.

SOCIAL IMPACTS

An annual reduction of the workload for women in the households is estimated since these women no longer need to collect firewood; this reduction of workload amounts to approximately to 27,000 hours annually. Elimination of the health risk for the members of the households, who were exposed to indoor air pollution from the smoke from the traditional fire, a health risk which can lead to respiratory diseases or even to premature death. Reduced deforestation rate as a consequence of the elimination of the need for firewood.

FINANCING AND FINANCIAL IMPACT

KDA will sustain the project results by seeking funds for a microfinance scheme that can finance the households' continued construction and installation of biogas plants. KDA has contacts to funding agencies as possible contributors to such a scheme, including the McKnight foundation and HIVOS who have funded part of KDA's present micro finance scheme and biogas project. KDA will also seek to develop ways to use Carbon Credit for funding part of the construction of biogas plants. Subsidies from the donor for this project is only 20%, the other 80% is the contribution from the owner of the plant. KDA is facilitating the private sector by subsidizing the construction of the plants so that after two years of the client can pay 100% cost.

ADDED VALUE

Annual reductions of the workload for the women in the households, since these women no longer need to collect firewood. This reduction of workload amounts to approximately to 27,000 hours annually. KDA involves women groups in the promotion of biogas for cooking and lighting and in the utilization of bio slurry as fertilizer in vegetable gardening. This project is promoting income generating activities.

