

Conserving the Mulanje Mountains, Malawi – Saving forests and empowering mountain communities with improved cookstoves

Key Project Information

Background Information

Forests are major sources of energy in Malawi, supplying the greatest portion of energy requirements in the form of firewood and charcoal. Roughly 85% of the people in Malawi live in rural areas and the vast majority of them collect firewood for cooking, collected firewood meets the bulk of cooking energy needs nationwide. Most households in cities and some rural dwellers choose to or must purchase their cooking fuel (e.g. charcoal) at market. Firewood or charcoal is a kind of non-renewable woody biomass. Burning firewood or charcoal for cooking is not only leading to significant greenhouse gas emissions but families also spend a lot of time on collecting firewood or money on buying charcoal, LPG or kerosene, etc. In addition, firewood collection and charcoal production leads to deforestation and environmental degradation.

Purpose of the Project

This project seeks to increase access of households and communities to improved cookstoves by disseminating affordable high thermal efficiency and low greenhouse gas emitting cooking technologies across Mulanje and Phalombe districts in Malawi. The targeted users of such technologies will be households and/or communities.

The improved stoves to be distributed would significantly reduce firewood and charcoal demand for cooking, so that greenhouse gas emissions would be greatly reduced; simultaneously they can provide co-benefits to users and families in the form of relief from high fuel costs, reduced exposure to health-damaging indoor air pollutions, faster cooking (resulting in time-savings), and increased cleanliness and convenience.

The carbon project is now applying for registration under Gold Standard certification. Gold Standard is the most recognized standard for high quality carbon mitigation projects and its rigorous requirements will guarantee that the project activities follow strict standards concerning social, economic and environmental sustainability.

Currently inefficient and polluting cooking regimes are deeply established throughout Sub-Saharan Africa and in Malawi in particular. With carbon finance this project aims to break the mould with affordable high efficiency stoves and move large populations away from conditions under which greenhouse gas emissions are unacceptably high and health effects are unacceptably harmful for the women and children spending long hours each day on firewood collection and in traditional kitchens.

Project design and technology used

The improved cookstove (Chitetezo Mbaula stove) is produced by using a kind of local clay. After modeling and baking, the ceramic chamber can be built, which can increase combustion efficiency and retain heat, then reduce the fuel consumption. During use, a single pot rests at the top of the stove. See pictures as below. The Chitetezo stove can reach a thermal efficiency of 34%. It consumes above 50% less firewood than the traditional stoves.



Figure 1: Chitetezo Mbaula stove



Figure 2: Traditional 3-stone fire with thermal efficiency of only 10%

Organization of the Project

This carbon project is developed by Swiss Carbon Value Ltd. (hereinafter referred to as South Pole), a leading carbon project developed in the world. South Pole is collaborating with a local partner - "Mulanje Mountain Conservation Trust" (MMCT) to implement the project. MMCT is a local NGO in Mulanje, Malawi, specializing in forest protection and promoting high efficient cookstoves.

MMCT is the organizer and representative of the local stove producer groups in Mulanje district. So far there are in total 66 stove producer groups, and MMCT provides stove production training and sales supports to all producer groups. Averagely each group has 15 individual producers, which are mainly women; and each producer can produce about 1 stove per day. Those groups are located in various villages and their main sales target are the villagers who live close them. With carbon finance, the project can help to disseminate the improved stoves to more expansion areas where households and communities don't have suitable clay for producing the improved stoves.

Social, economic and environmental benefits and impacts

Besides the greenhouse gas emission reductions, the project will provide numerous socio-economic, environmental and health benefits to the targeted households and/or communities:

- Reduction of cooking fuel expenditure, as less charcoal and firewood will be needed for cooking. The money saved may be channeled to other activities like buying food, cloths, paying for education, paying for medical bills, etc.
- Reduced time spent on collecting firewood and cooking meals. Gathering of firewood and cooking are major tasks undertaken primarily by females and young girls especially in rural Malawi. The time saved from gathering firewood and cooking can be spent on productive, educational and income earning activities.
- Reduction in deforestation and degradation of surrounding forests, as less firewood and charcoal will be needed for cooking. This will lead to reduced soil erosion and nutrient loss.
- Reduced adverse health effects associated with indoor air particulate matter inhalation from the smoke due to the burning of firewood in traditional inefficient stoves.
- Reduced hazards due to the exposure of the firewood collectors (mainly women) to the deep forest, related to rape cases and animal attacks during wood collection.

- Create decent work for females, as the improved cookstoves producer groups in local communities, responsible for producing and distributing stoves, are mainly made up of women, so that they could obtain a sustainable source of income.

Proposed timetable of the Project

Time Period	Key Activities
Apr 2018	MMCT organizes physical Stakeholder Consultation Meeting with all relevant stakeholders and ask for opinions and advises regarding the project
May 2018	South Pole submit the project to Gold Standard for Preliminary Review, and the Project will obtain 'Listed' status in Gold Standard
Jun - Aug 2018	Third party consultant conduct field surveys to obtain fuel and stove use patterns of target population
Sep - Oct 2018	DOE conduct onsite validation MMCT and South Pole conduct stakeholder feedback round
Nov - Dec 2018	Gold Standard conducts issue review South Pole responses to GS review comments The Project attain GS Project Design Certification (registered)