

Business Model for Sustainable Charcoal Production

In many developing countries charcoal is the prime energy source for cooking and heating. The global production of wood charcoal is estimated at 50 million metric tonnes, with an annual growth rate of about 2%. Africa accounts for over 60% of global production. Charcoal production causes large scale deforestation in rural areas around cities. People in Africa have to walk up to 8 km to obtain suitable wood. Many African governments consider charcoal driven deforestation as one of their largest and most urgent problems. Since large scale replacement of charcoal by a sustainable energy source will not happen in the foreseeable future the only solution is to make charcoal production sustainable. For this purpose NOTS has developed a scalable and replicable business model. NOTS is going to test this business model through a pilot project in Mali.

Business Model

NOTS, with support from Wageningen University, has developed a business model for sustainable charcoal production. The business model consists of two main pillars: (I) efficient charcoal ovens (retorts) for increasing efficiency of production; these retorts require only 3 kg of wood for 1 kg of charcoal instead of 7; in addition the combustion times of the retorts are much shorter, 2 days instead of 14; and (II) an agroforestry system for the production of wood (80%) and food crops (20%).

Implementing the business model generates the following results:

- Charcoal-driven deforestation is stopped.
- Sufficient charcoal is produced.
- Sufficient food for the participating communities is produced.
- Income of the participating community increases by at least 20%.

In addition the business model is financially sustainable: the required investments are recuperated within less than 3 years.

Pilot Project in Mali

With the business model finalized 'on paper' NOTS is now entering the testing phase. An area of 625 ha near the village of Korokoro in Mali has been selected as a pilot site. Korokoro is located on the road to Segou, 80 km from Bamako, the capital of Mali. Charcoal production is one of the main income generating activities in the village. Large-scale deforestation takes place without there being any replanting activities.

Together with the local cooperative NOTS will organise the charcoal producers of the village into groups of 50 persons. To each group a 25ha piece of land will be allocated and NOTS will provide each group with everything needed for sustainable charcoal production: trainings, 4 retorts, a water-well, materials for fences, tools to work the land, etc. The above will be provided in phases to assure optimal participation of the members of the groups and to minimize the risk of NOTS not recuperating her investment.

The pilot project in Korokoro requires an investment of about €300.000. This amount is spent on: fencing materials, retort materials, seeds, fertilizer, trainers, etc. The investment is recuperated within 3 years, mainly with revenues generated by the sale of food crops.

Partners

NOTS will execute the pilot project in close cooperation with governmental organisations such as AMADER (Malian Agency for Household Energy and Rural Electrification) and DNEF (Direction Nationale des Eaux et Forêts; part of the Malian Ministry of Environment). In the Netherlands, Wageningen university offers NOTS knowledge support with the project development.

More Information

For more information visit www.nots.nl or send an email to info@nots.nl



The traditional Charcoal kiln



Local wood supplies in Mali



The Retort



Charcoal transport