

The Sustainable Livelihoods Study

In August 2010 STT staff, with the assistance of four students from the Institute of Rural Development Planning (IRDP) Dodoma, repeated the Sustainable Livelihoods impact study that was undertaken in 2009, using two new villages - Matumbulu and Chinangali 1. Again the study reviewed the generally positive impacts of an energy efficient stove on all livelihood capitals - social, natural, human, physical and financial. In the main the study produced, as summarised below, similar results to the 2009 findings although with a few additional unexpected insights. One of the most encouraging was the sale of a stove to a woman who suffers epilepsy. She fell regularly on her three-stone fire burning herself, but now she has a rocket stove she feels comfortable and safe when cooking.

Social capital

Social capital relates to networks of trust, cooperation and support within the community. The introduction of stoves has led to:

- Improved and increased communication among households who meet to learn about stoves.
- Respect by the villagers and village leaders for stove builders who are now given important seats at village meetings in order to educate villagers on the importance of rocket stoves.
- Time savings leading to in-creased participation in social groups; e.g. stove owners now participate in other NGOs.
- Improved relationships within the family because food is cooked faster and quarrels are less likely to occur; children can be allowed to cook as it is safer; men are more likely to enter the kitchen and even help with cooking now that smoke is reduced.

Natural capital

With natural capital, the focus is mainly put on forest, land, rainfall pattern, and air pollution. Perceived benefits include:

- Reduction of indoor air pollution thanks to chimneys, contributing to better health.
- Contribution to forest preservation since only dried branches of trees are cut for firewood and growing trees are used less.
- Better soil condition since the erosion caused by cutting trees is reduced.

Human capital

Rocket stoves have impacts on both the health and educational/skills aspects of human capital:

- Health is improved thanks to a reduction in respiratory and eye problems and women's back pain caused by carrying heavy loads of wood.
- There is less likelihood of children being burnt.
- There is a greater environmental awareness as the knowledge of the benefits of using less fire-wood spreads.
- Children's school attendance has improved.
- Food cooked by the rocket stoves is not impregnated by smoke.

Physical capital

- The rocket stove keeps/maintains house cleanliness as well as that of cooking pots, utensils and clothes.
- Materials used to build the stoves are easily available within the community and have no transport costs.
- Plastic utensils (plates and cups) no longer get burnt as they did with the three-stone fire.
- The stoves decorate the house and make the kitchen look attractive and clean whilst the fire is not exposed to wind and is not spread everywhere.

Financial capital

- The stoves are cheap to obtain and do not have any running or management costs.
- Equipment required for using the rocket stoves is also cheap and affordable by most villagers.
- Stove owners save money because they only have to buy an average of one bundle of wood, at a cost of 1,000Tsh per week, compared with two bundles using the three stone fire.
- Stoves give owners more time to participate in money making activities.
- Stove builders can invest the money they earn building stoves in increasing their other businesses; e.g. growing and selling tomatoes and grapes.
- Some rocket stove owners save money they would otherwise spend on buying charcoal at a cost of 5,000-6,000Tsh per sack.

The main negative financial impact is on the livelihood of the charcoal seller who is finding it increasingly hard to generate an income from his trade as the increased number of rocket stoves has decreased the demand for charcoal.

