

# Stove Project Baseline Survey Report



**Sunseed Tanzania Trust  
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## **Acknowledgements**

This baseline study has been produced in large part through the involvement of local leaders and residents - improved stove owners and non-improved stove owners from Kikombo, Chololo, Nghulabi and Nghome villages. Sunseed Tanzania Trust (STT) would like to thank Dodoma Development Association (DODEA), particularly Mr. Sudda for his involvement and tireless participation and facilitating access to the research villages. Thanks also go to DODEA village personell (VPC's and stove builders) from each village for acting as local guides and liaison between STT and village leaders and residents. STT would like to give a special thanks to the Institute of Rural Development Planning (IRDP) and four of their undergraduate students: Nassorro Shemzigwa, Alex Mirandu, Monica Ntullo and Agenes Chawene for working with STT as placements and field researchers for the second half of the study – their data gathering has greatly facilitated the production of their report.

## Executive Summary

The aim of the Improved Stove Baseline Survey (ISBS) was to collect quantitative and qualitative data to provide information on the performance of the stove element of Sunseed Tanzania Trust's (STT) Domestic Energy Project phase II (DEP II). The findings are informing the rural component of Domestic Energy Programme III (DEP III).

The research was undertaken in four villages by STT staff and trustees<sup>1</sup>, staff from DODEA<sup>2</sup> and students from the Institute of Rural Development Planning (IRDP).<sup>3</sup> The study employed a participatory and gender sensitive approach and worked in collaboration with DODEA, village level personnel and other relevant stakeholders. It was in two stages, stage one, undertaken between February and March alongside stove efficiency testing in Kikombo village (no household questionnaires were used during this stage) was a pilot for the second stage. This was undertaken in July and August and involved in-depth research in three additional villages; Nghome, Nhgulabi and Chololo. All four villages were the responsibility of DODEA.

Study participants included recipients of improved stoves (IS), IS-non recipients, stove builders, village project coordinators (VPCs)<sup>4</sup>, community leaders and government employees. In the sampled villages, recipients of IS were mostly located within, or very close to the village centre (i.e. near the Village Executive Office). A total of 54 households, of the 60 sampled (using a random number sampling technique), were interviewed. Six households were not interviewed either because they were not available for interviewing or because incorrect recipient names were provided by DODEA staff.

Almost 72% of the households interviewed have had an IS in their house. 15 respondents in this group no longer have a stove (although they had one in the past) for one of three reasons: stoves had been destroyed by rain; the stove was destroyed because of its poor design or performance; or the recipients had moved home. The majority of households had their stoves built between 2005 (25) and 2006 (27), while 2 were built in 2004. 68% (37) of respondents' stoves were built by a stove builder; 30% (16) by VPCs, who had also been trained as stove builders and 2% (1) by trainers of stove builders. 67% (36) stoves appeared to require urgent repairs. There is some uncertainty about how many stoves are being used. In the researchers' opinions, based on their observation of the condition of stoves (stoves blackened by smoke were deemed to be in past and/or current use) 46% (25) were 'in use' and 54% (29) 'not in use'<sup>5</sup>. These findings in large part verify the VPC monitoring reports. 52% (28) of stove users had learnt about the stoves from a stove builder; 35% (19) heard from a neighbour and third from a VPC 11% (6).

12 households without improved stoves were also randomly selected and interviewed. 11 of this group use traditional three stone fires; 3 use a charcoal stove

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<sup>1</sup> Two STT trustees were also involved for 4 days

<sup>2</sup> DEP was delivered in conjunction with two project local delivery agencies. For the purpose of this study STT collaborated with one of these; Dodoma Development Association (DODEA), whose location of operation best suited the village selection criteria established for undertaking the research.

<sup>3</sup> These four students were on 6 weeks practical field experience with STT

<sup>4</sup> DODEA appointment one village project coordinator in each village

<sup>5</sup> As to whether the stoves had previously been in use is not known. Key signs of stoves not in use include external chimney wall not blackened by smoke, cold stove, and lack of ash and blackening inside fire-hole.

and one woman had a different type of IS.<sup>6</sup> Frequently households had both a charcoal stove and a three stone fire. All this group knew about the project, some as far back as 2002 and some as recently as 2006. These respondents lack an IS for a variety of reasons: because of their own inertia; some selective building by builders (i.e. builders not building on request because they build where they are assured of grain during famine); as well as lack of knowledge about IS. All of the group wish to learn more about the IS and to acquire a stove of their own.

The research found that the stove project was poorly implemented. Specific shortcomings include:

- low stove up take – in two of the three main sample villages there is a 14% and in one village a 28% uptake of stoves in three years;
- poor knowledge transfer to users about how to maintain and repair the stove;
- inconsistent and delayed stove payments to village level personnel;
- lack of payments by ‘recipients’;
- lack of direction from STT prior to its own management and staff changes;
- limited local government (at village and district levels) knowledge of the project;
- lack of a sensitization strategy; poor information flows from delivery agency to STT; and
- selective building by some builders.

All of these shortcomings have contributed to poor project performance. The above weaknesses have hampered sensitization activities; inspired little confidence by local residents in the management of the project by the delivery agency (ie DODEA) and village level personnel; generated criticism of the delivery agency and some village level personnel; restricted production and up-take; and inspired little buy-in from some local government officials (particularly in the early days of implementation<sup>7</sup>). Despite these shortcomings, nearly all those interviewed commented that the project should continue. All those interviewed welcomed the time and effort put in by STT in undertaking the research and its willingness to hear the views, opinions and suggestions of local people, and welcomed further contact from STT.

Some stove builders appeared demoralized and de-motivated due to inconsistent and delayed payments, with some having left or only been vaguely involved in the project. This was particularly the case in Nghulabi and this has severely hampered output. However, it must also be noted that village level personnel were the main agents of falsified stoves discovered in 2005. Therefore ongoing monitoring is required to prevent a similar incident occurring in the future.

In addition, the research has shown that stove builders and users are operating in an increasingly cash-driven economy where money is the main form of exchange even for previously free commodities such as firewood.

A combination of all these factors requires creative thinking, a strategic and a comprehensive management strategy to overcome the identified shortcomings. This would also include building on existing strengths such as:

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<sup>6</sup> Little information was recorded about this stove except that it was firewood burning.

<sup>7</sup> This was noted by one VPC in particular.

- the highly regarded reputation of STT in the project villages;
- internal organizational and management changes with STT;
- newly acquired technical expertise within STT;
- continued support in the villages for the continuation of the project; and
- recognized benefits by many village stakeholders of the IS technology.

Suggested changes to address problems of DEP II include the following.

#### **A new sensitization strategy that:**

- Identifies relevant institutional stakeholders beyond simply men and women, VEO, village chairperson. Target individuals such as neighbourhood leaders, Ward Executive Officers (WEO), division and ward forestry officers, community development/extension officers, ward councillors (particularly those with a special seat for women and the environment);
- sensitises communities at the neighbourhood level as well as through central village meetings;
- Sensitises schools to the benefit of the stove, how they are built and where they can be bought;
- uses existing governance mechanisms as avenues for reaching local men and women (see Appendix 6);
- uses existing social networks to reach men and women (see Appendix 6);
- raises awareness of the project with existing community institutions and their staff, such as faith leaders, primary and secondary school teachers, dispensary and clinical staff;
- provides sensitization resources to participants such as leaflets promotional leaflets;
- during sensitization, leaves behind posters and calendars at strategic locations such as (VEO office, primary and secondary schools, dispensaries and clinics, faith buildings, VPC residences, stove builder residences; and
- records names and contact details of relevant officials from the village (VEO, village chairperson, neighbourhood leaders, Ward Executive Officer, primary and secondary school Head teachers, faith leaders). Compile a directory of contacts for each project village.

#### **A new training approach**

Training in stove production should be improved by:

- increasing the number of stove builders with at least two builders located in each neighbourhood so as to facilitate wide coverage and to prevent overstretching and fatigue;
- developing a training manual for stove construction;
- leaving a training manual with trainees after training to reinforce learning;
- conducting training over 5-7 days, covering such issues as IS theory, building approaches, maintenance and repair, follow-up, how to arrange a building session for client, transferring knowledge of use, maintenance and repair to users and how to promote and market the stoves. Within this a practice session should also be undertaken covering a period of 3-4 days;

- issuing stove builders with certificates after successfully completing a full course of training; these certificates should be used as evidence to certify that a builder is qualified to build;
- issuing badges or t-shirts to builders (and VPCs alike) to indicate that they are project personnel and a point of reference for stove customers;
- stove builders issuing stove customers with user leaflets detailing how the stove should be used, maintained and repaired as well as good cooking tips to enhance energy efficiency;
- informing village level personnel about STT and its relationship to the delivery agency and village level staff and their roles and responsibilities; and
- extra training of stove builders in group management procedures, such as regular meetings, dispute resolution, organisation, time management etc.

### **Project financing**

Optimise use of STT financial resources to ensure sustainability by:

- introducing charging mechanisms so that stove customers make a financial contribution towards the cost of a stove and change terminology from 'recipients' to 'customers' so as to emphasise ownership;
- providing business, enterprise and marketing training and combined with savings strategies to help builder's incomes yield greater returns in the long run;
- delivery agencies seeking matched funding for stove delivery and other overheads;
- performance related financing of project grant allocations to delivery agencies;
- scaling back on the number of villages that are worked in to a more manageable number.

### **VPC training and stove monitoring**

Improve on training of VPCs by:

- STT to delivering training to VPCs in essential project delivery areas such as stove construction, marketing and promotion, monitoring and evaluation;
- refresher training for village level personnel (such as VPCs) in project planning and co-ordination;
- yearly reviews with VPCs of the year's activities – problems and opportunities;
- STT with local staff designing monitoring forms for VPCs, delivery agency project officer, stove builder record sheets;
- issuing stove ownership cards to customers recording information such as customer name, neighbourhood, date of construction, name of builders, how much they paid, and how they heard of the project;
- regular communication between VPCs, delivery agency and STT;
- maintaining regular monitoring of stove builders and delivery agency.

### **Stove building: climatic impacts**

- Finish stoves with cement as a protective layer against the rain. The cost of this is to be borne by the customer, but with strong recommendation do so in order to preserve the life of the stove.

## **Village level personnel: motivation and incentives**

To improve morale of village level personnel undertake:

- regular refresher training of VPCs in various aspects of project management;
- business and marketing training to stove building groups;
- exchange visits between villages of village level personnel;
- stove production competitions between villages and between neighbourhoods within a village;
- loans of bicycles to VPCs to facilitate easier access across villages.
- provision of badges or T-shirts to mark their involvement in the project; and
- provision of training certificates for stove building.

## **Good governance**

Improve working relationships with all levels of local government by:

- ensuring district authorities issue a letter of introduction to the villages endorsing their support of STT, the delivery agency and the DEP itself;
- working in partnership with a number of government personnel at the village, ward and division level; (see Appendix 7 for overall roles and responsibilities of various village level government personnel)
- seeking to work within existing village development structures and approaches to development projects in the village see Appendix 7.

## **DEP implementation structure and information flows**

Organise a stronger management and accountability framework by:

- setting STT clear direction and framework for how the DEP should be implemented in order to improve accountability of delivery agencies to STT and STT to donors;
- Linking the funding of delivery agencies (ie DODEA) to performance and delivery of outputs;
- STT producing (with the involvement of the delivery agency) relevant project delivery documentation such as:
  - Stove sensitization strategy
  - Up-to-date VPC monitoring forms
  - Delivery agency project officer monitoring forms
  - Stove builder record sheets
  - Names and contact details of VEO and chairperson for each village
  - Names and numbers of neighbourhoods for each village
  - Up-to-date list of stove builder names and numbers for each village
  - Maps