

## PROJECT ENERGY



ALT's "Project Energy" funded by the Community Fund UK, was launched in 1999 to bring fuel efficiency training to women in rural areas of southern Madagascar, in particular to train them to build a fuel efficient stove - the "**Toko Mitsitsy**"™ - which can produce fuel savings of up to 65% whilst also reducing the amount of time spent by women searching for wood, or family income spent purchasing wood.

The TM is built from local natural materials, including red earth, termite mounds, or clay, and ashes or sand – with mixes varying according to region. It is therefore accessible to all and additional stoves can be built easily.

## TRAINING AND SKILLS

During an eighteen month pilot phase followed by a 5 month interim collaboration funded by WWF, and the first two years of a three year expansion phase, the project trained 10 Malagasy trainers (core field trainers) in Amboasary, three volunteer extension workers for Tsihombe and Ampanihy, and 124 Fokotany Trainers (local village trainers).



## BUILDING LOCAL TRAINING

month pilot phase, month interim by WWF, and the first two years of a three year expansion phase delivered training sessions including 10 Malagasy TM team), 2 supplementary Ambovombe and

Amboasary, three volunteer extension workers for Tsihombe and Ampanihy, and 124 Fokotany Trainers (local village trainers).

### **703 training sessions were carried out across the south from Amboasary to Tulear**

After an initial preparatory visit, the team return to the village and trains 12 or more women at a time, paying attention to find one or two women who will be particularly dynamic at passing on the technology to others in the village. The trained women then receive a further two visits from the team, after two weeks and again after six months. These visits enable the team to review the training process, monitor the number of women using the stoves, how many additional stoves have been built and new women trained, and to take measurements about changes in domestic fuel use, gathering time and family expenditure on fuel.

### **36,839 stoves were counted as built by villagers after training**

The trainers offer support and discuss maintenance of the stove. Sometimes they are shown adaptations to the stove suggested by the villagers themselves, which is a positive measure of the ownership of the stove and the accessibility of the new technology.

Follow up support and training sessions ensure a further sharing of this simple technology between households and communities. The three year expansion phase aims to popularise the stove in 40 communes between Tulear and Fort Dauphin.

During this phase the project has also initiated urban commercialisation of the stoves and a tree planting pilot scheme which planted 3,632 trees.



## **PARTNERSHIP**



28 partnerships were built in the region to create synergy on energy issues and increase access to stove training sessions, including Centre Ecologique Libanona, WWF, PNEBE (Ministry of Mines and Energy) and World Food Programme.

The project benefited from inputs and collaboration from 5 Peace Corps Volunteers based in Ambovombe, Ampanihy, Tsihombe and Tulear, who helped to deliver trainings in the south.

Peace Corps volunteers were also trained at national level to share the technology into other regions around the island.

## **EFFICIENCY OF THE TOKO MITSITSY STOVE**

The stove has proved immensely popular with local communities and the projects' independent evaluation, carried out in February 2001, and December 2004 has born out their observations of the savings and efficiency that the stove brings:

- ❖ 30-65% savings in firewood use
- ❖ 30-70% savings in cooking time
- ❖ 20-60% costs savings in purchase of firewood
- ❖ TM is easy to use and accepts a variety of fuels e.g. maize husks
- ❖ TM can boil water in a quarter of the time of traditional open stoves
- ❖ TM reduces the number of visits a woman makes to the forest to collect fuel. Time saved increases economic opportunities for women e.g. increased income from additional weaving each month.
- ❖ Wood saved per 2500 stoves in use is accruing at approximately 5,342 tons per annum

It became clear from local research and from the project evaluation that the TM is able to impact positively on the ability of local populations to reduce their consumption of wood and manage this resource more sustainably.

The villagers reported many other benefits to the stove as well as fuel efficiency:

### **BENEFITS OF THE STOVE**

- ❖ TM is easy to use and accepts a variety of fuels (e.g. maize husks)
- ❖ TM can boil water in a quarter of the time of traditional open stoves
- ❖ TM reduces number of visits a woman makes to the forest to collect wood
- ❖ TM frees up women's time during the cooking process
- ❖ TM frees up women's time for other economic activities
- ❖ TM is safer in the kitchen - less smoke and reduced accidents with children

### **ADDITIONAL SAVINGS**

Other savings calculated during the pilot phase include:

- ❖ wood gathering time @ 3 hrs per week, women days: 37,500
- ❖ time saved in tending fires @ 1.5 hrs per day, women days: 131,000
- ❖ cash value wood saved on regional average £0.0035 per kilo: 18,700
- ❖ cash value on time saved @ 6700 fmg (67 pence) per day min wage: £88,000

A good example of how time saved by the TM has benefited women is women weavers who have tripled their output of mats generating income of up to 140,000 FMG per month (£14) - an excellent income for a local weaver (average family income is approximately £23 per month)

### **MOBILISING PARTICIPATION**

The project has also produced visual training materials (Pagivolts) and events to promote the stove in the region. The energy program worked with its sister project, ALT Projet Radio, to market the stoves via radio broadcast across the region and ensure full participation at group training sessions.



Where women had access to radio broadcasts in villages, they built 14% more stoves, demonstrating the importance of the mass media in creating interest and take up of this new technology.

A 'Ready Steady Cook' event drew crowds in Ambovombe town and a representative of the British Embassy to watch two local restaurants test the stove – they prepared traditional meals, one on an traditional stove and one on the TM stove. The event was recorded for radio and students from Tulear and Tana University also participated in the judging of the results.

## CARBON OFFSETTING



Andrew Lees Trust is not currently participating in any carbon offset schemes. Although ALT has previously engaged in a small carbon offset project (see below), the provision of offsets is not our core objective and we are not considering them at this time. As a result we will not respond to offset enquiries.

### Carbon Offset Project 2004-2005

The carbon offset provider Climate Care approached the Trust in 2003, at which time we had already been working with fuel efficient stoves for 5 years. The funding offered created an opportunity to extend our existing fuel efficient project stove into an extremely remote area Mahafaly region where we were able to train and enable local women to build over 9,000 fuel efficient stoves (Toko Mitsitsy).

ALT agreed to the project, but set strict conditions. The client was only to be The Co-operative Bank, and the carbon credits were not to be used to offset flights.

We were happy to work with Climate Care and The Co-operative Bank since the Co-operative Bank promotes ethical banking and has a long history of supporting environmental research. It has shown leadership on climate change issues, tackling its own emissions and investing in renewable energy sources and has taken pains to engage with its customers on this issue. ALT is also aware of their support for non-governmental organisations (including those working on climate change) and has a lot of respect for their work on environmental issues.

Further carbon offset funding was offered but not taken up. The Board of Trustees declared a moratorium on the debate around carbon offsets due to new research findings and information which expanded the discussion about its viability in Madagascar.