



TGUP Project Details

Maasai Home Betterment

Monduli District , Tanzania

PROJECT Benefits:

Three projects to benefit the Maasai's living conditions and health.

- 1) Train 10 Maasai women to be expert installers of smoke-free stoves and solar microgrids. (\$2,557)
- 2) Installation of 2 solar microgrids to help 20 homes. (\$1,800)
- 3) Installation of 100 stoves. (\$6,900)



PROJECT SUMMARY:

Mti Moja Village in Monduli District, Tanzania is one of many locations where Maasai women live and take care of their children in conditions that are bad for health, lack basic services, and require many hours of heavy menial labor fetching wood and water. They do not have any running water, indoor plumbing, or electricity.

The Maasai stoves project, launched and supported by the International Collaborative for Science, Education, and the Environment, a US based nonprofit, has proven that an efficient and well-designed chimney stove can greatly reduce wood use, speed cooking, and get more than 90% the smoke out of the houses.

Ten Maasai women of Mti Moja will be trained by women from nearby villages to be expert chimney stove and solar microgrid installers. During the training, and in the weeks to follow, 100 homes will get stoves and 2 bomas (family settlements) will receive solar microgrids. Each microgrid serves 10 homes, for a total of 100 homes that will be helped.

PROJECT PARTNERS:

The Global Uplift Project (TGUP) helps donors build small-scale infrastructure projects in developing countries from donations as small as one dollar. Since its founding in 2007, TGUP has completed more than 240 such projects in 21 countries in Asia, Central America, and Africa. TGUP is a US registered 501c3 nonprofit.

International Collaborative for Science, Education, and the Environment, (ICSEE) was established in 1992 by Dr. Robert Lange. He was conducting an education project in Zanzibar after a year as visiting physics professor at the University of Dar es Salaam. He wanted to help women organized in the Zanzibar Women's Corporation install wells and start businesses and he needed a nonprofit to do so.

In 2009 he found the terribly unhealthy homes of the Maasai called out for collaboration more loudly than the conditions in Zanzibar and so began the Maasai Stoves and Solar Project, which today, while still focused on stoves and solar development, also sanitizes water, organizes women into business groups, breeds better cattle, manufactures good cow food supplements, and does training and educational work.

A Tanzanian nonprofit corporation was also established. The **International Collaborative for Science, Education, and the Environment, Tanzania** functions as an independent partner of the ICSEE, and adds an important dimension, being able to accept and utilize funds that can be directed only to African Organizations.

PROJECT MANAGEMENT:

ICSEE

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PROJECT DATES: As soon as funding is available. ICSEE has outstanding and well-organized women and men ready to begin the work in the villages as soon as funding is provided. The leadership of ICSEE Tanzania is experienced in meeting with and explaining the program to village leaders and village women and can initiate the process at any time.

TIMELINE:

Week 1: Meeting with village leaders.

Week 2: Village meeting and selection by the women of those who will become the expert stove and microgrid installation team.

Week 3-4: Ten-day training of the installation team including the installation of the first stoves during the training.

A village coordinator will be chosen and begin to make arrangements with home owners to schedule their installation and collect their share of the cost (each home contributes \$8.50 towards the cost of the stove).

Next three or four months: Bomas will then get stoves in all the homes and have their solar micro-grid installed at the rate of about one per week for three or four months.

PROJECT DETAILS:

Maasai women spend typically 22 hours per week in the menial labor of firewood gathering. With the stove installation, this will be reduced tenfold because the firewood needed is reduced from 100 to 40 kilograms per week. Greater fuel efficiency leads to reduction of greenhouse gas emissions by 3.5 tons per year per stove.

Even more tragic is that 25 children per thousand die before the age of five due to lung disease. Getting the smoke out reduces this to almost zero. Particulates and CO of indoor air pollution are reduced by 90 percent. Maasai homes normally have carbon monoxide levels bordering on symptomatic poisoning. The stove reduced carbon monoxide to healthy acceptable levels and particulates are reduced drastically.

The solar-powered electric microgrids power one light bulb and one phone charger in each of 10 homes. Having a light bulb and cell phone charger is an unequalled lift from poverty for rural African families living off the electric grid.

This project will train 10 Maasai women to install the stoves and solar microgrids. Then they will install 100 stoves into individual homes and 10 microgrids. Each microgrid will serve 10 homes.

THE COMMUNITY:

Monduli district has a population of about 180,000 Maasai living in 65 villages. The district has an area of about 5,000 square kilometers, with an average area of 75 square kilometers per village. Most villages have 100 family settlements (also called a boma). There is no over-crowding of homes and people, but there can be issues about how much grazing land there is available and who is using it. Maasai are rural people with an economy based on livestock. They do not ranch but use grazing on shared common grassland as their primary access to value. The men control the livestock, and their wealth varies a great deal, with some having very few animals or even none, and others having hundreds of cows and goats.

The Maasai tribe is one of the best known in Africa, in part because they live near the major East African wildlife sites which are among the most popular tourist spots in the world. There are between two and three million Maasai with two thirds living in southern Kenya. They are colorful, and generally respected, but their lives, especially

the lives of women and their children, should not be idealized. It is a rain-based economy with livestock that depends on the rain. It is a strongly patriarchal society, and while women and girls are beginning to demand and grasp more freedom and power, they are still not in a commanding position. Home improvement, like these three projects will do, is a great step forward. The active role the women play in stoves and solar installation, and the fact that it benefits them mostly, is the slow establishment of more freedom and power for them.

There is not a strong tradition for sharing what wealth there is with the women, and the women struggle with very low levels of disposable income and need more to spend for their children and themselves.

Each of the women has her own house in the family settlements, (bomas), where they live with their children, near the houses of the other wives and relatives of their husbands. Their houses are very basic with a dirt floor, stick and mud walls, circular with a diameter of only a few meters, no windows, a stretched cow hide to sleep on, and they cook with a smoky, dangerous, inefficient, and open three-stone fire in the center of their living space.

The women know it is possible to live better. But they don't have the money to achieve what they need. Many women try to establish small businesses to augment their income. While some, with ICSEE's help, have businesses that bring money into the village from the outside, most women's businesses do not generate much income as the customers are other poor women trying to run their businesses as well.

Once it was determined that clean cooking in the Maasai context requires a chimney stove, and that chimney stoves require expert installation, the project becomes essentially a community project. You can't buy a chimney stove as a commodity and carry it home for use. The installers must come from the community and that has turned into a great virtue, since the installers could be women and the process of becoming expert installers could become a unique and powerful avenue of empowerment, both through earning a meager income and helping others.

The first two steps in establishing the project in a village are 1) meet with the village elected leaders and discuss the fitness of the program for their village and explain what the project needs from the village and how the village and its people will benefit, and 2) hold a full village meeting called with the village leadership at which the project is introduced, mostly by women from a village already enjoying its benefits. At that meeting the women caucus and select their members to be trained as the installers for their village.

Once the program is running, the householders pay part of the stove cost and their payment goes to the three or four women from the village installers team who install their stoves. The community has a member who is the coordinator as well. He or she identifies the next households wanting the stoves and works with the project management to make sure the materials are delivered and the installing team engaged.

The needs are obvious. Women are cooking in conditions so bad that they force people who are not accustomed to the smoke to flee these homes in minutes. Toddlers too frequently fall into the open fires used in these homes with terrible burns resulting.

Having electric light helps lift people from poverty like nothing else, bringing freedom into the home, enabling work and cooking and comforting of children to be practiced in new ways most of us can't imagine ever being without. The microgrids not only provide a light source within the home but also shine outside in the livestock pens to protect the cattle from predators.

PRIMARY BENEFICIARIES:

There are approximately 180,000 Maasai living in Monduli district, in 65 villages, where 100 women and their 500 children will be the immediate beneficiaries. This project will introduce stoves, saving lives and making homes livable, and electricity in the village of Mti Moja.

Health improvement of the kind these stoves enable is both long term and short term. Smoke in houses causes obvious eye discomfort, respiratory stress, and illness in the short term. Lungs and eyes exposed to smoke of any kind, and especially concentrated in such poisoned air, are found to cause damage to the lungs, and create high blood pressure that can become the basis for a lifelong health struggle.

IMPACT METRICS (BOTH LONG AND SHORT TERM):

Long term:

The health of the 600 people living in the improved homes will be better for life. There will be electricity with light and cell phone charging in the 100 homes, freeing people to live more full lives, and motivating the entire village to work for this life improvement.

Fuel woodlots will be under less pressure, and will last longer, as the society heads slowly toward better cooking technology. The fuel wood consumption will go down from 100kg to 40kg per week for each stove. Greenhouse gas emissions will be reduced by 3500 tons per year.

The stove-installing women will become members of a large effective collaboration, the Monduli Pastoralist Women 's Organization.

Short term:

The expert stove installing women will have income based on this new work. Local merchants and suppliers will get additional business supplying materials for 100 stove manufacture and installation.

600 people will experience immediate comfort and improved health in their homes because of reduced smoke and the benefits of electric lights and cell phone charging at night. Their livestock will be protected from predators. At least 10 women will become skilled installers of stoves and microgrids, skills that will help them as more and more homes adopt the new stove technology.

BUDGET SUMMARY:

\$ 2,557 Training of 10 Maasai women
 \$ 6,900 Installation of 100 stoves
 \$ 1,080 Installation of 10 solar microgrids
 \$10,537 Total for three projects

DETAILED BUDGET:

Training

Training costs	cost	people or number	cost (TSH)	Total (TSH)	Total USD\$*
Transport of ICSEE team (fuel for 1 vehicle)	60	2	2,000	240,000	\$104
Accommodation cost (10 nights)	10	7	20,000	1,400,000	\$609
Stipend/allowance (trainers)	10	7	30,000	2,100,000	\$913
Local transport within villages	11	30	2,000	660,000	\$287
Stipend/allowance (trainees)	10	10	5,000	500,000	\$217
Project management				980,000	\$426
Total for Training costs				5,880,000	\$2,557

Stove Installation

\$55.00	Stove manufacture and materials
\$8.50	Paid per stove by Maasai
1	Number of villages
\$11.00	Installation stipend for team per stove
100	Number of households served in a village
\$57.50	Total requested cost per stove
\$11.50	Project management
\$6,900.00	Total cost stoves and installation

Microgrids

\$90.00	Cost per house for the solar microgrid equipment and installation team stipend
2	Number of bomas to receive a microgrid
20	Number of homes to receive electricity from the microgrids
\$180.00	Project management
\$1,800.00	Total cost microgrid installation