TABLE OF CONTENTS

Background ................................................................. 1
The project ................................................................. 1
Objectives ................................................................. 3
The technologies ......................................................... 4
Beneficiaries and partners ........................................... 5
Achievements ............................................................. 8
Lessons learnt ............................................................ 9
Impact ................................................................. 10
The future ............................................................ 12
Background
Today the Maasai have had to come to terms with the sedentary rather than semi-nomadic lifestyle. One of the consequences of this is that there is a new and growing demand for more durable housing. Some of the Maasai families can afford to put up improved structures, while others are hardly able to maintain their existing temporary homes.

The initiative for improved Maasai housing originated from the Arid and Semi-Arid Lands (ASAL) Programme in Kajiado District which, in 1990, asked Intermediate Technology Development Group (ITDG) for assistance in developing appropriate shelter strategies in response to requests from Maasai households.

The project
Intermediate Technology's Maasai Housing Project in Kajiado is a community-based project, working, in collaboration with other agencies, with women in a rapidly sedentarising pastoral area to help them develop and acquire improved and more permanent
housing. It aims to respond to the various housing needs of the community and other local institutions on a range of housing options.

The project focuses on women knowing that:

*Women head about 40% of African households. They supply an average of 70% of the labour for food production, 50% of labour in domestic food storage, as well as 60% in on-farm food processing.*

*Findings, No. 20, July 1994*

and further that:

*Women in pastoralist societies are disadvantaged in that they can seldom own property and generally cannot inherit it.*

Earlier work using new construction methods, like ferro-cement and rammed earth on “modern” style buildings, was technically successful, but socially inappropriate. The houses remained unoccupied for many months because people “didn’t like them”. Discussions with women’s groups identified inappropriate internal layout and the need for “modern” furniture as part of the problem. The houses were cold at night because of the corrugated iron roof. In addition, the Maasai house is not only seen as a physical structure to shelter people and young animals; it is also a social sub-unit of the individual family. Thus, the women preferred to have simple improvements on their traditional houses.

Since then, the project has continued working with women to explore possibilities of improving traditional houses. Care has been taken not to alter internal designs as the house provides the physical setting for rituals associated with the creation of femaleness and reproduction. The size of the walls and windows have been increased.

*I used to spend a lot of time fixing our walls and roofs, and the long distances involved in getting water was very discouraging. When we all have houses like mine, we shall be able to find the solutions to the other problems that we are faced with.*

Nolari Nkuruna
The ferro-cement skin roof structure with a water jar

Different methods of using ferro-cement techniques to build "traditional style" houses have also been explored. The concrete skin roof, for example, seeks to address one of the most pressing needs of the Maasai women. It involves the addition of a thin watertight ferro-cement coating onto the old wattle and mud or dung roof. This not only makes the roof waterproof, but also incorporates guttering which can be used to channel rainwater into a water collection jar. Several women, young girls and local artisans have been trained in these new building techniques.

**Objectives**
The objectives of the project are to:
- Encourage and facilitate capacity building with respect to shelter within the Maasai community.
- Stimulate housing improvements that meet the changing needs of Maasai communities.
- Maintain the status of women in house building and management.
- Research and develop appropriate and affordable building techniques and technologies.
- Disseminate these techniques and technologies through training and demonstration.
- Stimulate discussion on shelter, land ownership and other related issues.

**The technologies**

The main technologies that have been adopted include:

- Ferro-cement skin roof
- Ferro-cement panel walls
- Rammed earth
- Stabilized soil block walling

Of these technologies, the ferro-cement skin roof is most popular. It is a layer of thin mortar cement usually constructed on a base of twigs, grass and compacted soil. To further safeguard against leakage, a polythene sheet is put between the base and the concrete layer. The concrete layer is further reinforced with chicken wire. The ferro-cement panel walls are constructed by fixing chicken wire on ordinary posts, usually placed at 1.2 m intervals, with thin horizontal tension wires nailed at the top, middle and bottom of the wall for reinforcement.
Rammed earth technology uses carefully selected soils which are usually pounded within some kind of formwork. This technology tends to be too laborious for many women. The need for fairly expensive formwork further makes this technology less popular.

Stabilized soil block technology, on the other hand, involves the use of a small quantity of binder and a simple press to compact a wide variety of soils into cheap and solid building blocks.

Assessment by beneficiaries of these technologies, showed that about 60% of the women who had used them found them relatively cheap. This was attributed to the fact that the materials used for most components of the structures were locally available.

Before the introduction of these appropriate technologies, stone filling seemed the only way to improve the Maasai house. A three-roomed stone-filled house would cost about KShs 80 000. A ferro-cement house of similar size, on the other hand, costs KShs 45 000, while a mud and wattle house costs KShs 36 000.

Beneficiaries and partners
There are many partners who actively participate in the project. These include men, women, both groups and individuals, young girls, community-based organizations (CBOs), other non-governmental organizations (NGOs) and government departments.

The women are, however, the key beneficiaries and partners in this project and have been fully involved since its inception. They are, for example, the ones who decided that the project should focus

“I have ensured that I can stand upright without hitting the roof and I have enlarged my windows. I will build a separate kitchen next to my enkaji to reduce the irritating wood smoke inside the house”

Mama Saitoti
DEMONSTRATION SITES

LOCATION MAP OF KAJIADO

ETHIOPIA
UGANDA
KENYA
TANZANIA
SOMALIA REP.
on small improvements such as increasing wall heights and window sizes instead of complete new improved housing. The women have mobilized financial resources from their own sources and indirectly from men through *harambees*. They have also been actively involved in the actual improvements of their houses. Since its inception, about 800 women have benefitted directly from the Maasai Housing Project.

**Achievements**

In partnership with local institutions, particularly women groups, the project has so far been able to achieve the following:

- Construction of 82 ferro-cement skin roofs, mud and wattle houses, rammed earth houses and ferro-cement walled and roofed houses.
- Training of over 100 artisans and women in stabilized soil block production and use, plus ferro-cement skin roof and water jar construction from ten different locations.
- Construction and installation of water jars in different locations throughout Kajiado.

*A Maasai woman applies a cement slurry layer on a ferro-cement skin roof*
Conducting exchange visits. The areas visited include Busia, Machakos, Samburu, and Nairobi. Internal visits have also been conducted within Kajiado district.

Awareness creation of the importance of improved housing including sanitation.

Facilitation of debates on shelter and land issues.

Lessons learnt

Both the beneficiaries and project staff have learnt some lessons in the process of implementing the project. Some of these include:

- In housing, cultural values significantly dictate the nature and extent of acceptable housing improvements.
- To maintain credibility and momentum, it is essential to be responsive to the changing needs and priorities of project beneficiaries and partners.
- Maasai women will remain in control of housing as long as the readily available traditional materials and technologies are used. Men tend to take over the planning and management of housing as soon as money demanding conventional construction materials and techniques are adopted. Therefore, traditionally determined gender roles in housing significantly change with introduction of conventional materials and techniques.

"I am discouraging members of my group from building the stone-filled house. It has taken me five years to complete it and so far I have used 55 bags of cement....... I want to request Intermediate Technology to assist me put up a ferro-cement kitchen since my neighbour has built one which took only two weeks to complete"
If community members are not actively involved in all stages of the project, their full participation in the project's activities is inhibited.

Impact
A survey was carried out on the impact of Maasai Housing Project on the community. Based on the findings, it was noted that the women now had:

- Increased ability to fund their own housing improvement. Naning’o Women Group improved their houses with help from ITDG in 1992. ITDG provided some of the materials, and the women did the rest. The group members later obtained a *posho* mill from another agency. With the money raised from mill operations, they bought iron sheets for all the unimproved houses.

- Increased ability to organize their own training. Mama Saitoti is one of the earliest ITDG trainees, having been trained in 1992 to lay a ferro-cement roof. Using their own contacts, Olooshoibor, Orinie and Pelewa Women...
Groups have invited her on different occasions to train them. Over 20 women so far have been trained.

❖ Increased ability to lobby for government services. Women groups are now increasingly approaching the Public Health Department either seeking assistance on construction of water jars or latrines, or to be included in community-based health care programmes.

❖ Increased ability to make group decisions. Many women have been trained to build improved houses, and the groups who have worked with ITDG have an increased awareness of housing issues. They now make decisions within the group as to whose house is to be improved next and distribute the construction workload within the group.

❖ Women are now aware of the options available for improving their houses. An example is Kumpa Group who have independently devised procedures of assisting members, detailing who is to be assisted first, the monthly contribution and the materials to be used for the houses.

❖ Some women have reported improved health with the new style of housing. There are less incidents of chest and eye infections. In addition, accidents in the house are fewer because of improved lighting and space. The improved houses are larger and well lit. In addition, air circulates more easily. This means less heat when cooking.

❖ Those who have built water jars need not walk long distances everyday in search of water anymore.

❖ There is a notable improvement in the performance of children from families with improved houses since they can do

"I used to spend most of my time fetching water. Now with on-site water harvesting, I am able to engage in other activities. I have started a business of selling shukas in the neighbourhood."

Mama Saitoti
their homework in a more comfortable environment. This is due to the fact that the houses are no longer filled with smoke, do not leak during rains, and are not dark.

- Less time is spent by the women repairing roofs. They now have more time for other activities and some have begun small-scale businesses at the local trading centres. These include selling soap and paraffin, and working in their posho mills. They have also initiated small kitchen gardens. Examples of these are in Pelewa, Enkaroni and IIDoinyo.

**The Future**
The Maasai Housing Project is working in an area that is undergoing rapid change and is on the "cutting-edge" of development in social and technological terms. This offers scope for many spin-offs into research and development work in other fields, such as smoke extraction, sanitation and environmental aspects. In future, the project aims to broaden its scope by extending its activities into other districts and pastoral communities, and deepening its work through involvement in other aspects of Maasai household survival strategies. It also aims to investigate the changing roles of women as providers of housing by:

- Developing a clear policy on strengthening women's control and capacity to improve shelter.
- Empowering women to address their shelter problems by strengthening indigenous organizations and providing technical training.
BEFORE

A leaking roof in a traditional House.

Fetching Water from far.

Darkness in a traditional house

Low height and lack of vents in a traditional house

AFTER

A Skin roof on a traditional House. No more leaking.

Water collection at home

Large opening bring in ample light

Improved height and ventilation

Fetching Water from far.

Water collection at home

Large opening bring in ample light

Improved height and ventilation
Maasai Housing is a project of the Building Materials and Shelter Programme of Intermediate Technology, Kenya. For more information, please contact:

The Programme Manager
Building Materials and Shelter Programme
P O Box 39493
Nairobi
Kenya

Tel. 442108/446243/444887 Fax: 445166

The Intermediate Technology Development Group (ITDG) was founded by the late Dr. E F Schumacher. Intermediate Technology enables poor people in the South to develop and use technologies and methods which give them more control over their lives and which contribute to the long-term development of their communities.

ITDG has offices in the UK, Bangladesh, Kenya, Peru, Sudan, Sri Lanka and Zimbabwe.