

# Social Forestry in Lesotho

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## Introduction

Lesotho is situated in the southern end of the African continent. It is 11,720 sq. miles, about the size of Belgium, and has a population of about 1.6 million. The country is completely encircled by the Republic of South Africa and is virtually all above 6000 ft. Formally a British High Commission Territory, it gained independence in 1966. The annual rainfall of 28 inches occurs in the hot season October to March. English is the principal language. The project on which we worked is aided by the German agency for technical co-operation, GTZ.

## Social Forestry in Lesotho

Lesotho has largely been treeless throughout its recorded history i.e. since 1833, when the first permanent missions were established. When the missionaries arrived they exhausted the few remaining trees in the construction of permanent stations.

A shortage of trees for firewood and as a source of heating means the people of Lesotho have to rely on shrubs and dung as a fuel. The intensive collection of dung and shrubs has resulted in a reduction of soil fertility and water holding capacity. Fertilisation has never been practised by Basotho farmers to any extent.

Due to the breakdown of soil structure, erosion occurs extensively during the rain season. Massive gullies

(locally known as dongas) are created and this results in a lowering of the water table, restricts ploughing and reduces further the limited cultivable area of the country.

Tree planting schemes are not new to the country and various attempts to afforest Lesotho have been undertaken over the past 150 years with little success. The new initiative being undertaken by the Ministry of Agriculture to increase the forested area of the country is a Social Forestry Project aided by GTZ.

## Social Forestry Project

This Social Forestry Project was started in February 1993 and has a pilot phase of three years, after which the German agency will assess its success and decide whether or not to continue with the second planned phase for a further nine years.

Social Forestry in Lesotho is taken to mean all forestry activities planned or being undertaken with the direct involvement of local people, specifically for their direct or indirect benefit - whether the activities are carried out individually, by group or by Government authorities.

The two objectives of the Social Forestry Project are;

1. Production – fuelwood, poles, fodder, fruits, honey etc.

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During the summer of 1994, John Casey and Damian Clarke, then 3rd year forestry students at UCD were afforded the opportunity to visit Lesotho for the purpose of working on a development aid programme. The opportunity arose through APSO who kindly assisted towards the travel costs.  
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2. Protection – erosion control, donga stabilisation and rehabilitation of catchment area.

The manner in which the social forestry project differs from other projects is that it aims to educate the local people and promote a desire to plant and raise trees.

Most previous projects failed because the indigenous population do not want to plant trees. The ownership of cattle and goats in Lesotho is seen as a status symbol and this need to own cattle is reflected in the tradition where a man must give twenty three cattle to a woman's father in order that he may marry her. Therefore, the basic ideas that the people have about agriculture must be changed or modified. The Social Forestry Project which aims to do this has three main projects strategies:

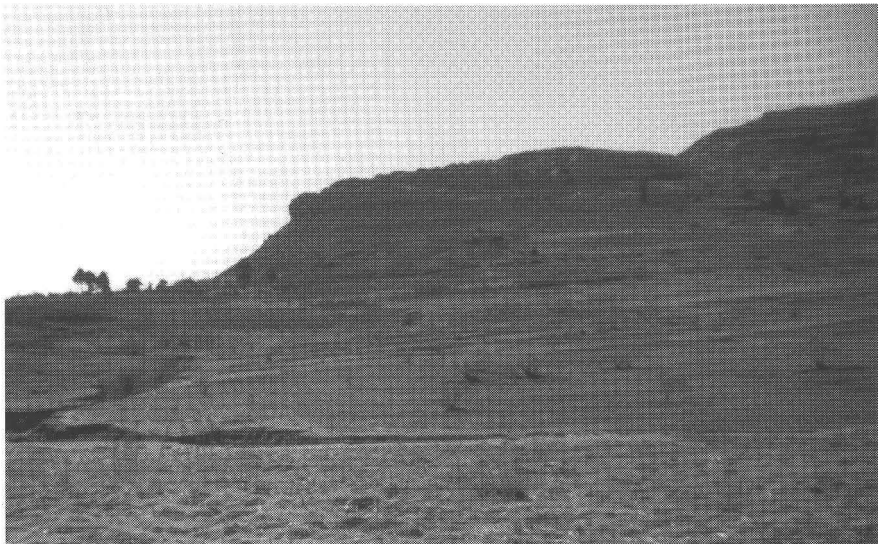
1. Extension services and farmer issues;

2. Tree management packages;

3. Management of the Forestry Division.

The Social Forestry Project is more concerned with people than the production of commercial timber. To deal with the people they operate as part of a "unified extension scheme". The unified extension scheme is under the control of a District Agricultural Officer. The Social Forestry Project is an element of a unified extension scheme in two areas of Lesotho, namely Maseru, the capital and Mafeteng.

The unified extension scheme personnel organise meetings with villagers which are called village headman workshops (VHW). At the VHW, representatives from various aspects of agriculture tell the villagers about the various areas with which they deal. When the villagers have heard from all the representatives they form into Common Interest Groups (CIG) to discuss further topics or detail of the



*Typical Lesotho countryside*

*Attempting to  
rehabilitate a donga  
using cuttings of  
grey poplar*



specific interest area. The CIGs are headed by Subject Matter Specialists who hold degree or diploma qualifications in one of the four topics, namely forestry, livestock, range and conservation.

When villages have shown interest in a certain topic and have decided to implement some of the ideas suggested, they are aided by an extension agent. These hold agriculture certificates and live out in the countryside and thus are close at hand for advice as required.

The second project area concerns the development of tree packages which are made available to the people. The packages include the recommendation of forestry advisors concerning species selection for planting. Under this project, trees are made available to people free or at reduced cost depending on the circumstances. For the purpose of the tree packages, six categories are recognised: individuals;

communities; public institutions; schools; donga owners; and groups. Each of these categories must satisfy certain criteria to obtain their trees.

The Social Forestry Project recommends certain species. Individuals, public institutions, groups and donga owners will be advised towards the planting of multipurpose trees, shrubs and the planting of mixed stands.

Within communities, the emphasis is on growing trees for timber production whilst in the schools, the emphasis is on the educational value. All the packages are supported by training courses and technical advice. If tools are required they will be supplied on loan under the scheme.

The third area within which the Social Forestry Project is actively working is improving the Forestry Division. Social forestry training is carried out where a lack of training in an area is a hindrance to the fulfilment of project goals.

## Nurseries

The main nurseries of the Social Forestry Project are based in two regions. The Maseru region has seven nurseries whilst the Mafeteng region contains five. The main species grown in these nurseries are pine and eucalyptus. A wide variety of multipurpose trees are also propagated.

A large proportion of the trees produced in the nurseries are grown from cuttings and are normally grown in shade sheds to prevent them drying out. Average summertime temperatures are 85° F. The shade sheds are necessary to give seedlings and cuttings a chance to harden off before being placed out in the sun.

A system of small local nurseries – micronurseries – has been established for the purpose of providing seedlings. This approach ensures that knowledge is imparted to the local farming community on nursery management and demonstrates that income can be earned from this source as seedlings are sold on.

A farmer who wants to establish a micronursery is supplied with all the initial inputs from the Social Forestry Project. These inputs consist of a shade net, plastic sleeves and seed. Training is also provided in the pre-treatment of seed and the raising of seedlings. When the seedlings have been raised to the desired stage they are sold to people in the village and neighbouring areas. They are priced at 20 cents which is 4p each in Irish money.

Micronurseries are not intended to be the main source of income for anyone. They are intended to be run as a sideline and whilst they produce a local supply of seedlings to an area they also increase and encourage an interest in trees.

Certain problems exist with the micronurseries. The main one being that there is a conflict with state nurseries which provide seedlings free in certain circumstances.

## Donga rehabilitation

A major area of the Social Forestry Project is that of donga (gully) rehabilitation. Dongas are a common sight around the country and they have a severe adverse effect on agriculture. Dongas account for 60,000 ha of the land in Lesotho, a sizeable area compared with 12,000 ha of land covered by forestry.

Landowners whose land contains dongas receive free trees under the Social Forestry Project if they request them for donga rehabilitation. Advice on species selection is also provided.

There are three main categories of trees selected for this purpose. These are as follows;

1. Grey poplar (*Populus canescens*) which tend to throw up suckers and form new trees when roots become exposed. This is a very useful characteristic when dealing with erosion. Similar species used are black locust (*Robinia pseudoacacia*) and honey locust (*Gleditsia tricanthos*).

2. Weeping willow (*Salix babylonica*) which owes its usefulness in donga rehabilitation to the fibrous nature of its root system which acts effectively in the binding of soil particles.

3. Mexican red pine (*Pinas patula*) and similar species retard surface run-off by covering the soil with a thick mat of fallen branches and leaves. Other methods of donga rehabilitation practised includes planting of grasses and the building of small dams which are created from stones or sandbags filled with soil and grass seed. The grass grows out through the bag and

helps stabilise the dam.

All these methods of donga rehabilitation are cheap and effective. They also demonstrate the usefulness of trees in conjunction with other agricultural practises in minimising erosion during the rainy season which lasts from November to February.

### Research division

The Lesotho Forestry Department has a small research division, staffed by three people. The activities of the research division consists of;

- (i) Silvicultural research – species and provenance trials,
- (ii) Forest inventory, permanent sample plots,
- (iii) Seed supply, improvement of local seed, mainly eucalyptus and the increased collection of seed of indigenous species.
- (iv) Protection – the monitoring of pests and diseases in nurseries and plantations.

The research division receives 20% of its funding from the forestry division. Funding also comes from the Canadian Government and the EU. It is aided in its goal of seed improvement by being a member of the Southern African Development Councils Tree Seed Centre Network Project. Arising from this they have a specialist in forest genetics working on a part time basis with them.

The Southern African Development Council includes nine other countries with Lesotho. These are Angola, Botswana, Malawi, Mozambique, Namibia, Swaziland, Tanzania, Zambia and Zimbabwe.

The research division is compiling

information on the selection of species for the different site types in the country. This information gathering is ongoing but the process is hampered due to lack of manpower and vehicles.

### Pest problems

At present there are only three major pests affecting the forests of Lesotho.

1. The Pine wooly aphid (*Pineus pini*). This pest is rather common and attacks pines causing a yellowing of the needles and dieback of the growing tip. Death is uncommon but it does slow growth and causes deformity in the trees.

2. The Pine needle aphid (*Eulachus rileyi*). All pines are susceptible to this species but *Pinus greggi* is the most susceptible. This pest causes premature needle cast although death is rare.

3. The Eucalyptus snout beetle (*Goniapterus scutellatus*). This beetle is the major pest on eucalyptus in Lesotho. It has a preference for *Eucalyptus viminalis* and in areas where this is grown in mixture the beetle will transfer to other species of Eucalyptus. For this reason, *Eucalyptus viminalis* is not being planted on a large scale anymore. Where it occurs in mixture it may be cut out.

Pest control is not generally practised due to high cost. Biological control is practised in South Africa however, and this benefits Lesotho due to its proximity.

### Existing Projects

Two forestry projects were already in existence in Lesotho prior to the introduction of the Social Forestry Project. These projects are titled the "Woodlot Project" which was introduced by the old Forestry Division and the "Plenty Project" which is

organised and funded by a Canadian Agency.

The woodlot project was organised on the basis of the Forestry Division being allocated land by a local community. They then hired local labour to plant and fence the land. The trees produced on the land belong to the Forestry Division but the community receives 20% of the revenue which the Forestry Division receives for the timber.

The plenty project is a food for work scheme. People are given food and rations to plant and fence an area of land. The planted land is then given to the people and they own everything that accrues from it. This method succeeds in production forestry but it would appear that once the timber is felled there is no incentive for the people to replant the land.

Of the three projects currently operating in Lesotho, the Social Forestry Project is probably the most expensive to operate and the slowest to get land planted. The expense is incurred as the majority of seedlings are provided free and it takes a considerable amount of manpower on the ground to instruct and educate partici-

pants in the planting and care of seedlings.

Of the three projects, the Social Forestry Project is the only project that addresses the real needs of the people. It would appear that only the Social Forestry Project stands a real chance of successfully meeting the timber/fuel needs of Lesotho. With an average 60% survival rate of trees planted under the scheme the goal of self sufficiency in fuel needs is a long way off.

### Conclusion

The scale of the problem facing the Forestry Division and Development Aid Programmes can be highlighted by the following points;

- it is estimated that the agricultural land in Lesotho will support one more generation.
- An estimated 9000 ha of forestry need to be planted each year for Lesotho to achieve its fuelwood needs by the year 2010. At the moment, approximately 300 ha of forestry are being planted per year.