A REPORT ON THE DEFORESTATION OF NON-CEDAR FOREST

ON OUTERSLOPES OF MULANJE MOUNTAIN

# Abstract

In this report deforestation on the outerslopes of Mulanje Mountain is described. The cause of deforestation is discussed. Countermeasures are proposed.

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#### Introduction

Mulanje Mountain is located in Mulanje District of southern Malawi and nearly the whole range is included within the Mulanje Forest Reserve. As Mulanje District is one of the most populous areas in Malawi pressure of human activity on the natural environment is critically high.

From the current climate and some fragments of natural vegetation which have survived, it is reasonable to presume that Mulanje Mountain and its surrounding area, except marshes and precipitous rocky slopes, were once covered with various types of woody vegetation. But today one can scarcely see any forest outside the Mulanje Forest Reserve except some tiny riparian strips because the land has been almost completely developed for cultivation or cleared for firewood supply. The vegetation in the forest reserve is also suffering from this devastating human activity. And the Forestry Department does not seem to cope with this problem efficiently.

Here the deforestation problem of non-cedar forest on the outer slopes of Mulanje Mountain is reported. This report is based on personal observations in 1987 and 1988.

### 1.Human activity on Mulanje outer\_slopes

The main human activities which affect the vegetation of the outer slopes of Mulanje Mountain are as follows.

### A.Firewood gathering

Even today most of the inhabitants round Mulanje Mountain depend on firewood for their domestic energy and they heavily depend on the forest reserve for this supply because of the lack of forest resources at their villages. As well as for their own use the local people, supported by a huge demand, intensively gather firewood from the forest reserve to sell which brings them a precious cash income.

Although only dead trees and branches are allowed to be gathered, a total shortage of such materials encourages local people in illegal deeds such as ring barking, 'bottom burning' or more directly, felling live trees to give a continuous supply of 'dead' material. Usually the rate of this 'tree mortarity' is so much faster than the rate of forest recovery that the forest is gradually being degraded.

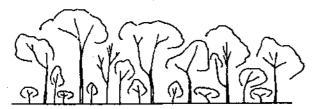
### B.Hunting & fire

Despite a ban, hunting in the forest reserve is very active all year round. Though any kind of hunting can do harm to wild life resources, of course, the most serious problem on Mulanje Mountain is 'fire hunting'. In this method some hunters set fire in the bush as a means of smoking out their prey. Eventually the fire spreads out because the hunters have scarcely any intention of controlling it within a certain area. Towards the end of the dry season smoke can be seen everyday and everywhere on the mountain and a huge area is burned annually. In addition fire may be spread from a bonfire on the mountain or from burning in an adjacent field.

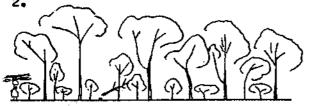
# I Firewood gathering & fire

# 2 Encroachment

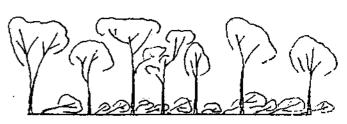
I.





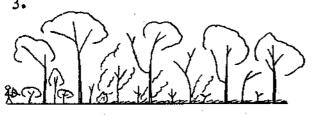


firewood gathering with ring-barking & felling

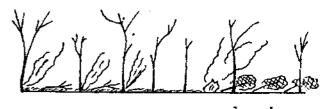


felling & ring-barking

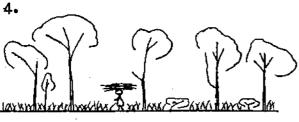
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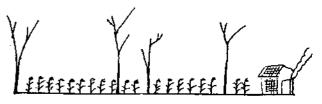


fire by hunters



burning





growing crops

# C.Encroachment

The critical shortage of farming land has brought local people to the desperate straits of cultivating inside the forest reserve. It is especially intensive on the southern slopes of the mountain.

A few years ago a reafforestation programme was started on the southern slopes by the Mulanje Forestry Office and the Wood Energy Project with the cooperation of the District Council. In the programme the farmers were instructed to move away from the forest reserve and, since then, exotic trees (Pinus & Eucalyptus) are being planted. But,

The author witnessed how forest destruction is proceeding at Chisongole forest below Manene Peak in the southeast corner of Mulanje Mountain in September 1988. At first villagers decide on a plot for the purpose, then they cut down every small tree and shrub. Big trees are ring-barked or treated with 'bottom burning' for death. After the ground layer has dried sufficiently, a fire is started. Then the ground is prepared for cultivation. On the other hand big dead trees are felled one by one at a convenient time. No extraordinary effort seems to be required throughout the whole process. Some people have built huts in their 'settlement' and others come from their home to continue clearing every day.

Ironically as the encroachments are often on steep slopes, the land will soon lose the potential for both growing crops and supporting forest by soil erosion. Considering the disadvantages of deforestation in the reserve, a crop harvest will not compensate for what is lost by deferestation in the long term.

# D.Firebreak (early burning)

On Mulanje Mountain firebreaks are laid across and round the plateau area to protect existing Mulanje Cedar forests. Essentially any firebreak must have two parallel burning-lines between which early burning must be done. However, many of the firebreak which lie along the edge of the plateaux, as planned for the purpose shown above, have only a single burning-line, the other side being open toward the

foot of the mountain where there is no cedar forest. Thus the outer slopes are repeatedly burnt by the Forestry Department.

#### E.Others

Many trees and grasses are utilized for various purposes. Some trees produce valuable timber which is often exploited illegally. Tall grass is used for thatching. Some edible fruits are harvested, etc.

### 2.Present vegetation

The present vegetation of this area is formed under considerable human influence. The outline of the vegetation of Mulanje outer slopes is as follows.

- (1) The foot of the outer slopes on the east, north and west sides supports <a href="Brachystegia">Brachystegia</a> woodland. Most of it has retreated within the forest reserve boundary. The bases of trees are scorched in most cases and the tree canopy is very open in some areas.
- (2) On the upper area of the <u>Brachystegia</u> woodland, forest vegetation is usually absent except along stream banks. But occasionally <u>Brachystegia</u> woodland is replaced by evergreen forest toward the upper slopes.
- (3) On the southern slopes forest has been almost completely destroyed. Some fragments of forest have survived along deep valleys and deformed small forest patches remain on the slopes. A rehabilitation programme is in progress but it will take many years before these areas are covered with forest again.
- (4) On the southeast corner below Manene Peak is the most extensive evergreen forest on Mulanje Mountain. This forest is thought to be the typical forest of the wetter side of the mountain and little is known of it. Now this forest is disappearing by intensive encroachment.
- (5) There are some plantations in the forest reserve. At Fort Lister Gap there is the Match Industry Plantation mainly consisting of <u>Pinus pseudostrobus</u>. A plantation of <u>Eucalyptus</u> and <u>Pinus</u> spp. is on the Eastern Outer Slopes (Muloza). Reafforestation is in progress on the southern slopes. Other small plantations are at Thuchila and Likhubula.

#### 3.Countermeasure

As is generally understood today, forest plays a big part in ensuring the health of the population - the forest on Mulanje outer slopes is no exception. Thus the forest must be conserved and utilized properly to contribute to the life of local people on a long term basis. Now drastic countermeasures are required to solve the problem.

But because the deforestation on Mulanje outer slopes derives from the larger problem of 'overpopulation', a superficial countermeasure, such as the strong enforcement of the present forest law, is not in itself sufficient. It is also worth remembering that any countermeasure not approved by local people cannot be fulfilled. The cooperation of local people and their education is essential to a solution. The Forestry Department Which could start fire in it should be banned. But a strict enforcement of a ban on hunting — the biggest cause of fire — is neither practicable nor would be approved by local people; it would inevitably result in illegal hunting because of the constant shortage of food, especially animal protein.

Here the propagation of small domestic animals, such as rabbit and guinea pig, to supplement the diet is suggested. Those animals are easy to keep and multiply, moreover they do not require a large investment for local people. The Forestry Dept. should have a seminar with the Agriculture Dept. on this issue. The Forestry Dept. is also asked to have a talk with the veterinary office about the distribution of a vaccine for Newcastle-disease (CHITOPA) in this area because many chickens are killed by this disease yearly. This would also contribute to the alleviation of the problem. Unless a substitute for game is offered, local people will not be able to cooperate with the Forestry Dept. in a ban on any activity causing fire, including hunting.

Treatment as well as prevention is important also. Mulanje Forestry Office organizes fire teams during the dry season, but the office is quite indifferent to fire in non-cedar natural forest. Although the frequency of bush fires may be beyond the capacity of the fire teams, they must do their best to diminish their effect.

political level must be held to find alternative land or work for them.

The Forestry Dept. should replant the encroachments quickly and protect the existing forest against further destruction. Another important role for the department is to educate the local people on the unique function of the forest.

(D) Misguided early burning is a complete mistake on the part of the Forestry Dept. Those firebreaks must be reconstructed as soon as possible. It is ridiculous that the Forestry Dept. itself should burn forest resources.

People round Mulanje Mountain still cling to the life style of the days when the area was sparsely populated. Then the natural environment

was the subject of exploitation and even regarded as an enemy. But today nature is especially vulnerable because of the pressure of a dense population, and it must be conserved and cared for. People must learn to adapt their life to an era of dense population; government organizations must facilitate this adaptation by means of economic development, family planning, education etc.

Lastly it is emphasized again that cooperation between various organizations is necessary for a fundamental solution to this problem. It is often said by government officers that this is none of our business. Although there are many obstacles to the solution, bureaucratic sectionalism may be the biggest of all.

#### Reference

- 1. Chapman, J.D.; 1962, The Vegetation of The Mulanje Mountain Nyasaland
- 2. Edwards, I.; ----, Conservation of Plants on Mulanje Mountain Malawi :Orix Vol 19 No2