

**SVERIGES  
LANTBRUKSUNIVERSITET**

## **WE EAT TREES**

**Tree planting and land rehabilitation  
in West Pokot District, Kenya.  
A baseline study.**

**Wilhelm Östberg**

Development Study Unit,  
Department of Social Anthropology,  
University of Stockholm



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**U-landsavdelningen  
Swedish University of Agricultural Sciences  
International Rural Development Centre**

**Arbetsrapport 82  
Working Paper  
Uppsala 1988**

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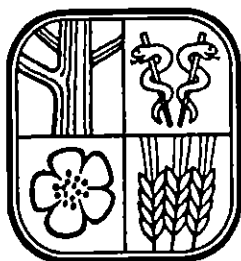
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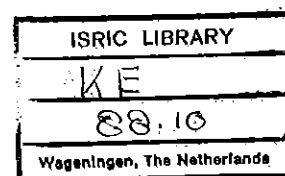
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## FOREWORD

SIDA and FAO have launched a new programme on community forestry. This programme - called Forests, Trees and People (FTP) - aims at identifying and developing effective ways of supporting people in their efforts to grow, manage and utilize trees and forests.

Though much is known about trees and the benefits that they provide for the rural poor, our knowledge of appropriate ways of planning and implementing community forestry is far from sufficient. The lessons learned have been specific to the location involved. Far too little is known about how best to enable large numbers of people to manage their tree and forest resources in a long term perspective. Forestry planners do not have the range of well-tested techniques and strategies that exist in other areas of rural development. FTP is designed specifically to provide this knowledge through a combination of in-depth studies and field activities.

There are five issues of importance to the FTP Programme:

1. Sustainability. Initiating and supporting activities which have a high degree of self-sustainability;
2. Replicability. Designing activities which from a pilot scale have the potential to spread further without large external inputs;
3. Adequate information. Obtaining and integrating adequate social, economic, technical and institutional information for successful project implementation;
4. Diversification. Developing appropriate knowledge to support diversified activities called for in community forestry;
5. Incentives for participation. Improving the understanding of incentives for participation in feasible tree management practices.

FTP's field projects are concentrated to countries where the chances for success of participatory tree growing on a large scale are high. Of the eight projects now in existence, four are FAO Trust Fund projects (Zambia, Burkina Faso, Thailand and Nepal). The other four are coordinated by the Swedish University of Agricultural Sciences (SUAS). Two of these are executed by Swedish consulting firms and funded by SIDA (Vietnam and Tanzania) and the other two are run by Swedish non-governmental organizations (The VI Tree Planting Project in Kenya and the Red Cross in Ethiopia). SUAS is assisted by the Department of Social Anthropology, University of Stockholm in providing socio-economic expertise.

Together these projects form a network: information will flow freely between them and cooperation will be encouraged. The network is managed by two coordinating units - one in Sweden and one in the FAO - which are linked by a liaison committee.



The FTP Programme is designed to help sharpen socio-economic tools and methodology for community forestry activities. As a first step baseline studies have been or will be carried out for all eight projects. These studies were initiated for three purposes:

1. to identify and describe the present situation of a project area (from a cultural, social, economical and technical point of view) to serve as a reference point for future evaluations of project impact,
2. to give recommendations for future project activities focused on people's interest and participation, and
3. to be used as a basis for methodology development. The separate studies will be compared and analyzed in order to work out a guideline for baseline studies to fit various needs in community forestry projects.

The present report entitled: "We Eat Trees, Tree planting and land rehabilitation in West Pokot District, Kenya", by Wilhelm Östberg is based on a socio-economic baseline study of the VI Tree Planting Project in April - May 1987.

VI (We) is a weekly magazine published by the Swedish Cooperative Unions. Its readers are invited to contribute money for tree planting in Kenya. The aim of the VI Tree Planting Project is to contribute towards ecological balance, and to help improve subsistence conditions for the poor, especially poor women, in project areas.

There exist very few examples of successful conservation activities in semi-arid areas. The VI Tree Planting Project is now experimenting with new ways of engaging local people in tree planting and soil conservation in a badly eroded area. The project's work is in line with the main idea of the FTP Programme, that is to let local people participate in the planning and implementation of a project.

In the main body of the report it is discussed how the project in the most effective way can support local people in their efforts to grow and manage trees. Some notes on how the study was designed and carried out are being published separately. (Östberg, 1987 b)

It is an important experiment in participatory tree planting and soil conservation that the VI Tree Planting Project has engaged itself in. We would like to thank the Project for its participation in the FTP Programme, thus helping to collectively improve the knowledge base of community forestry.

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## PREFACE

### I

On one of the first days in Chepareria division I sit talking with a small group of men, who have just finished a neighbourhood meeting. I explain the purpose of my visit. I ask about local news, as is the usual custom. I am told about the cattle which are still away on dry season grazing at the Uganda border, that people hope for rains and that food is a problem at this time of the year. An old man says, kiomechaa ket "We are eating trees".

The area is barren. It is dry, dusty, lifeless. But the tuyunwo trees (Desert Date, Balanites aegyptiaca) are green and producing fruit. The women climb the trees picking leaves to be cooked as a relish to be eaten with the ugali. It is the only vegetable available at this time of year. It helps people through the season of scarcity. The branches are also cut down as fodder for the livestock.

"We eat the trees" is true in another sense too. Trees are felled as fields are cleared to cultivate crops for a growing population and to try to produce surplus to sell. Trees are 'eaten' to build houses, and as firewood. They provide fencing material. The many goats of the area hamper their regeneration. It is rare to see young tuyunwo trees. People recognize that the environment is changing, and they express this as "We eat trees."

The trees help people to survive, and they are becoming scarce. Hence the title of this report, We Eat Trees.

### II

During the early discussions with the management of the VI Tree Planting Project, when this study was planned, it appeared to me that there were three lodestars to guide the project's activities.

First, by enclosing waste lands and planting trees in the semi-arid parts of West Pokot district, a rapid improvement of the environment is brought about. Grass invades the enclosed areas, soil erosion is arrested, and the productivity of the land is improved. This impresses the farmers of the area, who become interested in land rehabilitation. "People get hope for the future." Thus the project is able to help to stop land degradation in a badly denuded area.

Secondly, in the higher potential areas of West Pokot district and in Trans Nzoia district, the project concentrates on producing and distributing seedlings of rapidly growing leguminous species. These will improve soil fertility and provide fuelwood in these densely populated and treeless areas.

Thirdly, through cooperation with the many women groups on the settlement schemes in Trans Nzoia, the project hopes to reach a large number of families and encourage them to plant trees.

This report is largely a discussion of various aspects of the first statement. The project staff felt that they had an urgent need for additional information about the area to guide their future activities. The socio-cultural context of tree planting in semi-arid West Pokot is analyzed. The discussion is focused on the area where the project works so that the report should have direct practical relevance. Suggestions are presented as to how the project may help to bring about tree planting and land rehabilitation in this area.

Most of the project's activities take place in the settlement areas of Trans Nzoia. About eighty per cent of the budget is spent there. I have only briefly acquainted myself with this part of the VI Tree Planting Project. However, suggestions are included in an appendix for a study of those areas, and thereby also of the other two basic tenets of the project. Follow-up studies in West Pokot are anticipated.

The outline of the report is as follows:

- Part 1: Brief summary of main contents and of the recommendations.
- Part 2: A somewhat catalogue-like description of the VI Tree Planting Project.
- Part 3: Tree planting in Chepareria division, West Pokot district. This constitutes the main body of the report, and, I hope, the more original part.

There is also at the end a list of words used in the text which may require explanation. This is a mixture of technical terms used in tree planting and soil conservation, a few anthropological terms, and some Swahili words commonly used in East African parlance. The maps as well as a "district data sheet" have been reproduced from the excellent District Atlas West Pokot produced by the Ministry of Planning and National Development (Hendrix 1985).

### III

Field work was carried out during April and the first week of May. Needless to say, five weeks is a very short time in which to try to understand social processes and to assess possibilities for useful project activities. Data collection was, however, greatly eased by excellent conditions of work (official support, reliable transport, etc.) and by the fact that I had the possibility to make comparisons with experience from a few years earlier in a similar socio-ecological setting in the neighbouring Keiyo-Marakwet district.

Some notes on how the study was designed and carried out are being published separately (Östberg, 1987b).

#### ACKNOWLEDGEMENTS

Paul Njoroge, head of the Soil and Water Conservation Branch in the Ministry of Agriculture introduced me to the district staff. I am very grateful for his generosity. The project staff, Anders Carlsson, Norman Kimanzu, William Makokha, Gert Nyberg, Tor Nyberg, Margret Silali and Bo Tengnäs helped me and guided me in all possible ways, and provided good companionship. It was a delightful experience for me to join their group for a time.

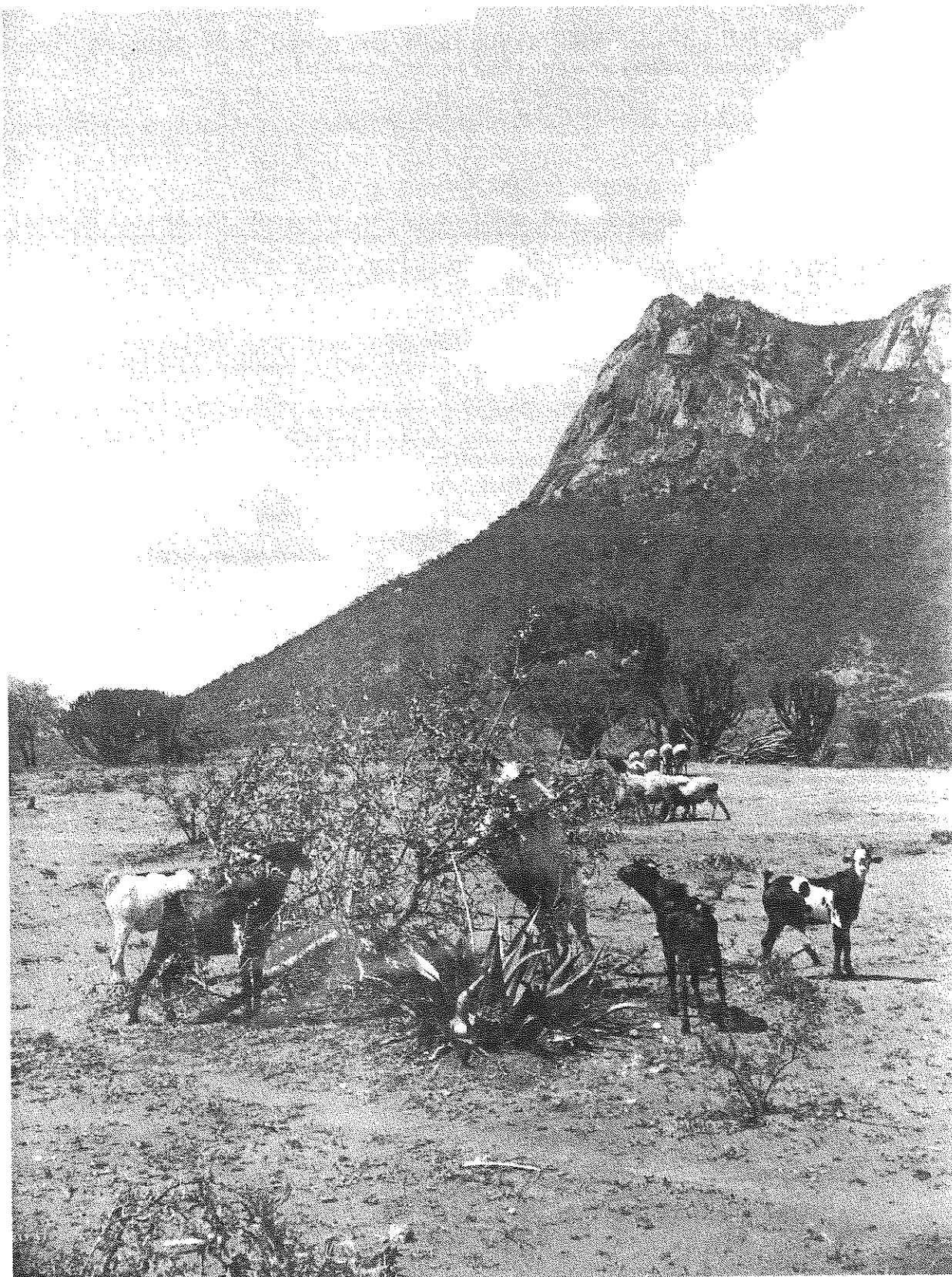
Two prolonged and interesting seminars towards the end of my stay were most useful. Most of the recommendations included in this report were chiselled out at that time, or during our numerous conversations. Bo Tengnäs contributed a good part of the text in part 2. I am grateful. At home, Lotta's interjections and comments made the writing-up worthwhile.

The conversations with Jennifer Joseph, James and Joseph Kalicheche, Richard Lokuk and Josaphat Tomme helped me a lot to put what I experienced into perspective. They also made me feel at home, as did many other people of Morobus and Pserum. I am very grateful.

William Critchley, Solveig Freudenthal, Jan Lindström, Annika Rabo, Eva Tobisson and some members of staff of the VI Tree Planting Project have read and commented on the manuscript. I am most grateful for their thoughtful and competent criticism. Gordon Evans revised my English and Maureen Moir prepared the final manuscript. I am indebted to them both.

Let no blame fall on any of all these generous friends for the shortcomings of what follows.

Finally, I have not discovered the limits of Bosse's and Eva's hospitality. Only wide open doors. Thanks!



Goats browsing on loppings from Balanites aegyptiaca. In the background Morobus hill, West Pokot district.

Part 1

## **SUMMARY AND RECOMMENDATIONS**



## Chapter 1

### SUMMARY

Relevant information on the socio-economic situation in the project area should enable the VI Tree Planting Project to respond adequately to the hopes and needs of the communities it cooperates with. That is the idea behind this report. Can ethnography take on such a role? This publication, modesty aside, attempts to demonstrate that it can. Information is not, however, readily summarized. This summary then is a table of contents rather than a readable synthesis of the argument.

The report is directly addressed to the project. It was the expressed needs of the project for information on particular topics which guided both how the study was carried out and how the data is now presented. Some general lessons on community forestry can however be learnt from this particular project. But these wider implications are not the main issue in this publication. They will be considered in other "Forests, Trees and People" reports.

#### The project

VI (We) is a weekly magazine published by the Swedish Cooperative Unions. Its readers are invited to contribute money for tree planting in Kenya. At present about 2.5 million Swedish crowns (US\$400,000) a year is available for the VI TREE PLANTING PROJECT. Eighty per cent of the budget is spent in the settlement areas of Trans Nzoia district and the rest in the semi-arid lowlands of West Pokot district. The project cooperates administratively with the Kenya National Farmers' Union.

The goal is to support small-scale farmers, in particular women. Through tree planting it tries to improve people's subsistence security.

Some 30 tree nurseries are in operation. Seedlings are issued free of charge. Some demonstration tree plantations have also been established.

A local committee is elected at each nursery. Its principal task is to suggest what tree species are to be raised in the nursery, and to set up production targets for the coming season.

The project has been in operation since 1984. The first years were characterized by an ambitious programme of providing farmers in the project area with a tree nursery within 4-5 kilometers' walking distance. As this goal has been achieved more attention is now paid to extension work. At present extension workers have been posted to ten of the nurseries, and more are being employed. They are to advise farmers on tree planting and agroforestry techniques.



Planting a Loquat seedling. Photo by Sten Lundgren.

This report is focused on the project's activities in Chepareria division, West Pokot district. The project intends to increase its activities there, and this study was designed to provide the baseline information needed for that endeavour.

#### Semi-arid West Pokot

The project area is characterized by severe land degradation resulting from population growth, overstocking and the ensuing destructive acceleration of the crop/bush-fallow cycle.

In Morobus and Pserum, Chepareria division, the project has established two plantations on land belonging to the local primary schools. Each plantation covers about 50 acres. Both indigenous and exotic trees have been planted.

All families in the area cultivate. The harvest is usually too poor to carry them through the year. The most important income comes from the sale of livestock. Conditions of life are hard, and there are many ways whereby the project can contribute towards improved subsistence security.

Farming is clearly on the increase. This is because of population growth, but also because of the loss of dry season pastures in the highlands where land is now under private tenure. As livestock production becomes less reliable people have to farm, although the rainfall is often insufficient. The pressure on land is mounting. The project can play a very useful role by supporting soil conservation work and introducing water harvesting techniques. Agroforestry improvements would be helpful.

The pastures of Morobus and Pserum can only support the livestock for part of the year. From December until the rains begin and the grass starts to grow, the cattle graze in the area towards Mount Kadam in Uganda. Project activities to improve the fodder situation will be appreciated.

The area is overgrazed. No form of controlled grazing is practiced at present. Cattle auctions are not organized. Commercial buyers visit the area from time to time and buy small quantities of livestock.

The most important social unit is the neighbourhood. Intensive social interaction and work cooperation takes place in the neighbourhood. It is easy to convene meetings here. Meetings are called for both small and big matters. If project activities are discussed in such a neighbourhood meeting the project can be reasonably confident that the participants constitute a cross-section of the (male) local community. At the neighbourhood meeting proposals are made public and become part of village life.

People in Morobus and Pserum do not have a tradition of planting trees. But some trees are protected. There are sacred trees that cannot be cut. Good fodder trees are left when clearing land, as are trees suitable for the housing of beehives.

Soil conservation work was initiated in the area during the colonial period. Today nothing remains of these efforts.

At present the Catholic church appears to be the most active promoter of development in the area - apart from what is done by the administration. Most of the different projects launched over the years in Morobus and Pserum are now defunct. The VI Tree Planting Project does not offer solutions for the future that are intrinsically superior to the dams, grazing blocks or cutoff drains that have previously been constructed and abandoned. But it may learn the lessons from these earlier efforts that lasting improvements must be planned locally. The project can, too, use the resources now being created in the tree plantations to negotiate with the local communities for new land use patterns.

## Chapter 2

### RECOMMENDATIONS

The following recommendations are discussed in detail in chapter 11.

Establishing tree plantations on land belonging to primary schools is a good idea, works well and should be continued.

If people living in badly denuded areas wish to rehabilitate their area, the same model as for schools is tried.

Written contracts should be signed between the local communities and the project before any activities are started.

The project should inspire farmers to try agroforestry techniques. Those who enclose their fields permanently will be given fodder for their livestock from the school plantations. If soil conservation structures are needed on a catchment basis, the project will provide and maintain these.

Few trees grow close to homesteads. Small homestead plantations would be useful. These woodlots will provide building material, fodder, fuelwood, bee forage and thatching grass. They will give shade and act as windbreaks.

Women's groups should be offered the opportunity to collect and to sell seeds to the project, but also to start small nurseries. The project provides a competent nursery warden as well as some material. It maintains the water supply required for the nursery. It buys an agreed number of seedlings from the groups each season.

Small nurseries run by women's groups offer many advantages. Locally valuable trees are propagated. The idea of planting trees is practically understood and promoted. A nursery run by local women groups provides an ideal forum for discussing agroforestry techniques.

The project moves into a phase where more active participation of the local communities is required. This entails considerably more extension work and participation in local decision making processes. Therefore an area coordinator should be recruited to lead the project's activities in lowland West Pokot. The situation here is so clearly different from the high-potential parts of the district and from Trans Nzoia that it requires its own organization.

The suggestions for how the VI Tree Planting Project should organize its future activities in Chepareria division emphasize quality in what is being done. There is no point in establishing additional tree plantations if these are not supported by intensive extension work. On their own, the plantations will not encourage farmers to embark on land rehabilitation.

Part 2

**THE VI TREE PLANTING PROJECT AND  
ITS ACTIVITIES IN TRANS NZOIA DISTRICT**

## Chapter 3

# THE VI TREE PLANTING PROJECT

### Background

It started in 1982. In an article in the weekly magazine VI (We) published by the Swedish Cooperative Unions, reporter Sten Lundgren questioned the wisdom of drowning people celebrating an anniversary with flowers. And none is given as many flowers as someone who has just died. Why not reduce this flowering splendour and instead plant trees in places where everything threatens to die?

The response was immediate and overwhelming. This was a thought many people agreed with. Money started to pour in. Today 2.5 million Swedish crowns (US\$400,000) a year is paid into the magazine's tree planting account. Week after week, year after year, Sten Lundgren continues to report on the progress of tree planting in northwestern Kenya, where the project eventually landed. Through these hundreds of articles and the concrete achievements in Trans Nzoia and West Pokot districts, probably more Swedes have come to know of and identify themselves with an effort to improve living conditions in the third world, than through any other single project. Apart from what it does to save soil and ease life in a part of rural Kenya, the VI Tree Planting Project is also a formidable achievement in personal, international solidarity.

The money comes as contributions from the VI readers, but also from school-classes and day-care centres, from groups of colleagues in companies and offices, as deductions from old age pensions and child-allowances and in all sorts of other ways.

The first tree plantations were organized and run by the project with little participation from the local communities. But even a successful tree plantation of fifty acres will not do much to arrest land degradation. The idea must be taken up by many farmers in an area if it shall have an environmental impact. This fact has become increasingly important for the project.

In 1985 a detailed strategy for the work was agreed upon. Funds should in the first place be used in the high potential areas and not in the dry lowlands where the first plantations were situated. A project manager based in Sweden was recruited, Tor Nyberg. He was soon followed by a forester in charge of the field activities, Bo Tegnäs. A professional agroforester, Norman Kimanzu, is now also on the team directing the activities. An agreement of cooperation was signed with the Kenyan National Farmers' Union. The project had moved from ad hoc planning in the aftermath of the first enthusiasm into a professionally run tree planting project.



On the almost tree-less Trans Nzoia plain it is difficult to find firewood. Children are sent out to gather sticks, twigs, dry maize stalks, whatever they can find. Photo by Sten Lundgren.

By mid-1987 about thirty tree nurseries were in operation. The goal is to produce three million seedlings a year. This corresponds to more than a dozen seedlings per cultivated hectare in Trans Nzoia. If they are planted and survive, they will transform the vast, open plains of Trans Nzoia in a few years.

The Cooperative Unions of Sweden have donated 100,000 Swedish crowns (US\$15,625 or 250,000 KShs) to establish a seed center in commemoration of the late prime minister Olof Palme. Private contributions followed and now more than 400,000 crowns (US\$62,500 or one million Kenya shillings) are available for this center. It will be built in Kitale, Kenya, and it is hoped that it may eventually serve the whole East African region.

### The objective

The aim of the VI Tree Planting Project is to contribute towards ecological balance, and to help improve subsistence conditions for the poor in the areas where it is active. In particular the project aims to support poor women, because "they have both a particularly heavy workload and an inferior standing in society." Both communal and private lands can be treated, and the work should be carried out in cooperation with those the project aims to support. (Guidelines, October 1, 1985).

### Support and budget

Expenditures in Kenya are approximately 4.3 million Shillings per year (excl. costs for Swedish staff). This equals about 1.7 million Swedish crowns or US\$268,750. Eighty per cent of the budget is spent in Trans Nzoia and 20 per cent in West Pokot district.

By May 1987 the central project staff consisted of:

Kenyan	1 Agroforester
	3 Agroforestry Assistants (management)
	1 Agroforestry Assistant (extension)
	1 Seed Collector
	1 Tractor Driver
	1 Assistant Tractor Driver
Swedish	1 Project Manager (in Sweden)
	1 Project Officer (in Kenya)
	1 Assistant Project Officer (in Kenya)

Altogether there are 110 people employed on a permanent basis, and by May 1987, additionally 125 casuals.

### Trans Nzoia district

During the colonial period Trans Nzoia was part of the "White Highlands". Most of the land was divided into approximately 500 large farms owned by European settlers. After Independence in 1963 many of these farms were divided into smaller farms, usually of between 1 and 10 hectares. Agriculture in the district is therefore presently characterized by a mixture of large and small-scale farming. Agricultural land covers 80% of the total area, or approximately 200,000 hectares. The number of small holdings is estimated to be about 30,000.

Trans Nzoia has a highland equatorial type of climate. The dry season begins in December and ends in February. The rainfall is fairly well distributed with the highest rainfall in April/May and July/August. The average annual rainfall is 1,120 mm. On the border to Uganda in the west is the 4,313 m high Mt. Elgon, and in the east are the Cherangani Hills with a maximum peak height of 3,371 m. The farming area is at an altitude of 2,100 m on the slopes of Mt. Elgon and 1,840 m on the Kitale plains.

At the time of the 1979 census the population was recorded at 259,503 rising to about 400,000 by 1986. The growth rate is approximately 6%. By the year 2000 the population will reach more than 800,000 if the increase continues at the present rate.



### Project activities

As the large farms are divided up and people from different areas move in, new needs present themselves. There is a serious shortage of fuelwood and timber. The newly settled small scale farmers also need trees for shade, fodder, windbreaks, live fences, poles, fruits, medicine, mulch and soil improvement. Many farmers also want ornamental trees in their compounds.

It is the aim of the project to help fulfill these needs, particularly the need of firewood, by providing tree seedlings free of charge to the small scale farmers. Special attention has been paid to fast growing legumes like Sesbania sp. and Calliandra. These can be harvested for firewood and fodder within a year after planting. Local tree species are important as they provide many utilities which are important in the long run, for example medicine.

When the present expansion of the project is completed soon, there will be 27 tree nurseries in Trans Nzoia and 4 in the high potential parts of West Pokot. The nurseries have an average production capacity of 100,000 seedlings per year. In each nursery 3-8 people are employed depending on the size.

Efforts have been made to make sure that as many small scale farmers as possible have a nursery within walking distance, i.e. 4-5 km. It is estimated that 75-80% of the small scale farmers in the area will be this close to a nursery when all the planned nurseries are in operation. About 40 different species are raised in the project's nurseries, but a dozen main species make up 90-95% per cent of the total production.

In most nurseries a house is built as accommodation for the nursery foreman. Barbed-wire fencing is put up. This is later supported by a living fence. In the bigger nurseries demonstration plantations of trees are established.

### Extension

A local committee should be elected at each nursery. By May 1987 seven committees had been elected, each with nine members. The committees are expected to:

- a) assist in the selection of species.
- b) assist with seed collection
- c) help to spread information regarding for example distribution of seedlings.

Management of the nurseries, however, remains the responsibility of the project staff.

Extension workers should be posted to the nurseries. So far ten have been employed, all women, and more will follow. The extension workers should regularly visit all small scale farmers in the area to discuss agroforestry issues and to check the

survival rates of the seedlings distributed. They are also expected to collect information on local tree species and to take part in the discussions on selection of species. For this work the extension staff are to cooperate with the Ministry of Agriculture technical assistants.

### Production of seedlings

The target number of seedlings to be produced in each nursery is fixed by the project management each year. Thereafter meetings are organized in each sublocation by the project's agroforestry assistant for extension. Here the committee, nursery staff and extension workers are asked to suggest the number to be raised of each species. If women groups are not properly represented in the committee, women group leaders are invited to these meetings by the project management in line with the aims of the project. The management may make some adjustments if, for example, there are too many of the species which are not good for intercropping (Eucalyptus, Cyprus etc.) or if there are too few fast growing "firewood species". After the targets have been decided a nursery production plan is prepared.

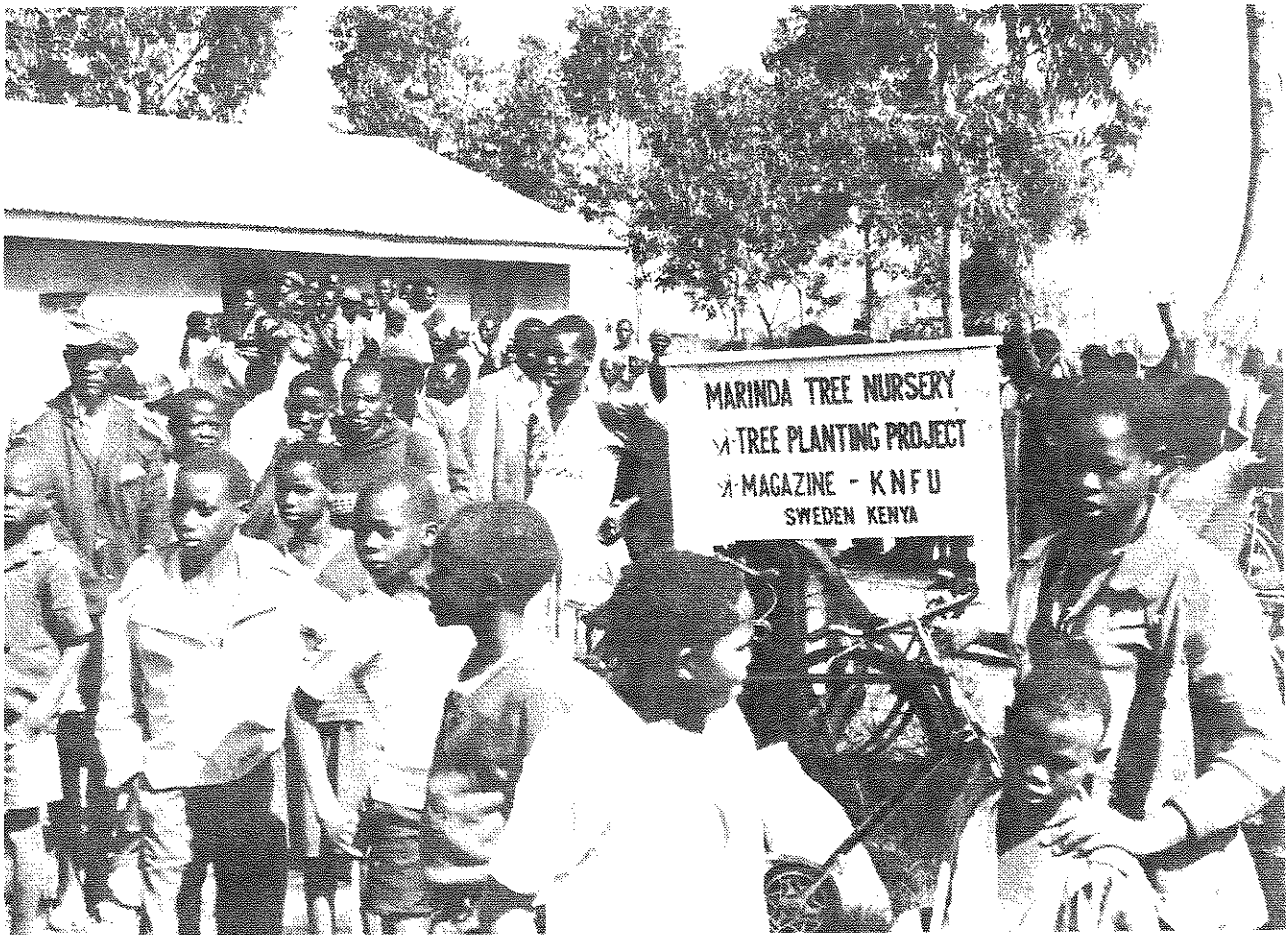
Fruit trees have not yet been included. The main reason is that there are commercial fruit tree nurseries operating in Trans Nzoia. The project should therefore not distribute fruit tree seedlings free of cost.

The number of seedlings given to each farmer is restricted. During the 1987 planting season each farmer who visits a nursery is allowed 100 seedlings. Interested farmers come back every two weeks and collect 100 seedlings each time. Schools are given 500 seedlings once a month. As a general rule not more than 20 seedlings from any one species should be given at each visit. All farmers who get seedlings are recorded in a book by the nursery foreman. It is noted how many seedlings the farmer receives of different species, the name of the farmer, location, sublocation and area where the farm is situated.

### Monitoring and evaluation

A system for checking survival rates has been worked out. It is based on random samples drawn from the nursery record. Two such studies have so far been carried out. Since a full year has not yet passed since the first seedlings were distributed in Trans Nzoia it is still too early to get reliable figures on the survival rates.

An attempt has been made to check to what extent the seedlings are received by small scale farmers. Out of 79 visited farmers who received seedlings 69 were owners of farms of 10 acres or less. As all farmers usually get the same number of seedlings this result indicates that most seedlings reach small scale farmers.



There is a considerable interest in tree planting in Trans Nzoia. When the project invites people for demonstrations they often arrive in large numbers. Most farmers in the project area now have a tree nursery within 4-5 kilometers' walking distance. Photo by Sten Lundgren.

The number of seedlings in the nurseries is checked every month and the distributed seedlings are counted every third month.

#### Long-term strategy

Eventually the nurseries are to become small "agroforestry centres". From here both seeds and seedlings are to be distributed. In the same way, small on-farm nurseries shall be encouraged, as well as the raising of trees from seeds by direct sowing.

The extension workers and the foremen at the nurseries will be the key figures in disseminating advice to the farmers. The senior staff also give lectures at schools and other public institutions.

During the initial stage of the project the nurseries will have to be used mainly to produce seedlings. This is at present done with considerable support from the central staff of the project. Apart from advice and supervision they also provide seeds, tools, transport etc. Later on the nurseries will have to be run more independently to make sure that at least some of them survive even after the financial support from Sweden comes to an end. It may later on also be a good idea to start with fruit tree seedlings for sale. This can give the nurseries an independent base.

However, the basic idea with the nurseries remains that they are to support farmers in solving agroforestry problems. The nurseries are to develop into small training and service centres.

The thrust of the project in Trans Nzoia now is to raise and distribute tree seedlings, and to encourage farmers to plant fast growing fuel wood and fodder species which also have soil improving properties. When the present intensive work of constructing new nurseries comes to an end, it will be possible to give more attention to soil- and water conservation aspects, particularly on the slopes of Cherangany Hills and Mount Elgon.

#### Cooperation with other organizations

Unlike many other non-Governmental organizations the VI Tree Planting Project does not have a Kenyan sister-organization to cooperate with. The Kenya National Farmers' Union is, however, a useful partner and the cooperation appears to be mutually appreciated. KNFU does not carry out local activities directly linked to the project's work. Therefore the project by and large develops its own framework for how to get in touch with the people of the areas where it is active. This work is only in its initial stage.

As the project becomes more and more involved in community affairs in the settlement areas, it encounters many other organizations. When visiting farmers the project's extension workers will meet the Ministry of Agriculture's technical assistants, representatives from various religious denominations, community development assistants, health staff, KANU youth wingers, as well as agents from companies selling pesticides. In Kenya there are a dozen national and international agencies promoting community forestry, and more than sixty local organizations. Hundreds of schools and various voluntary groups run tree nurseries. The proliferation of organizations has made it necessary to publish a one hundred page directory of the most established tree planting projects in Kenya (Mathu 1985).

In places there will be competition between the different messages preached to the villagers by various well-wishers and authorities. But, as the project now moves on from the initial thrust to get everything going, it will certainly profit from joining the workshops and seminars and networks arranged by the many other organizations. The VI Tree Planting Project assumes

its own position among the agencies promoting tree planting and land rehabilitation in Kenya.

### Project dynamics

The day to day activities of the project are led by a small dedicated group of professionals. They are supported by a few junior officers who through practical work have acquired a good command of the different aspects of tree planting. The recruitment of staff appears to have been very successful. The work spirit is high, the atmosphere pleasant and characterized by cooperation. The activities have, however, expanded fast, and they can no longer be supervised from the Kitale office. A decentralized organization is therefore now being introduced.

The project manager is based in Stockholm but visits the project regularly. The journalist reporting in the VI magazine about the project's activities keeps in regular touch with the field work.

The general impression is of a well-run project. There are of course weak points - as in any organization. The activities in Chepareria division, West Pokot district, require a thorough overhaul, and this study was specifically designed to provide background information for such an exercise. The project staff were anxious to have a study done in the area where they felt their knowledge of the situation was superficial, but where they also were determined to expand the activities.

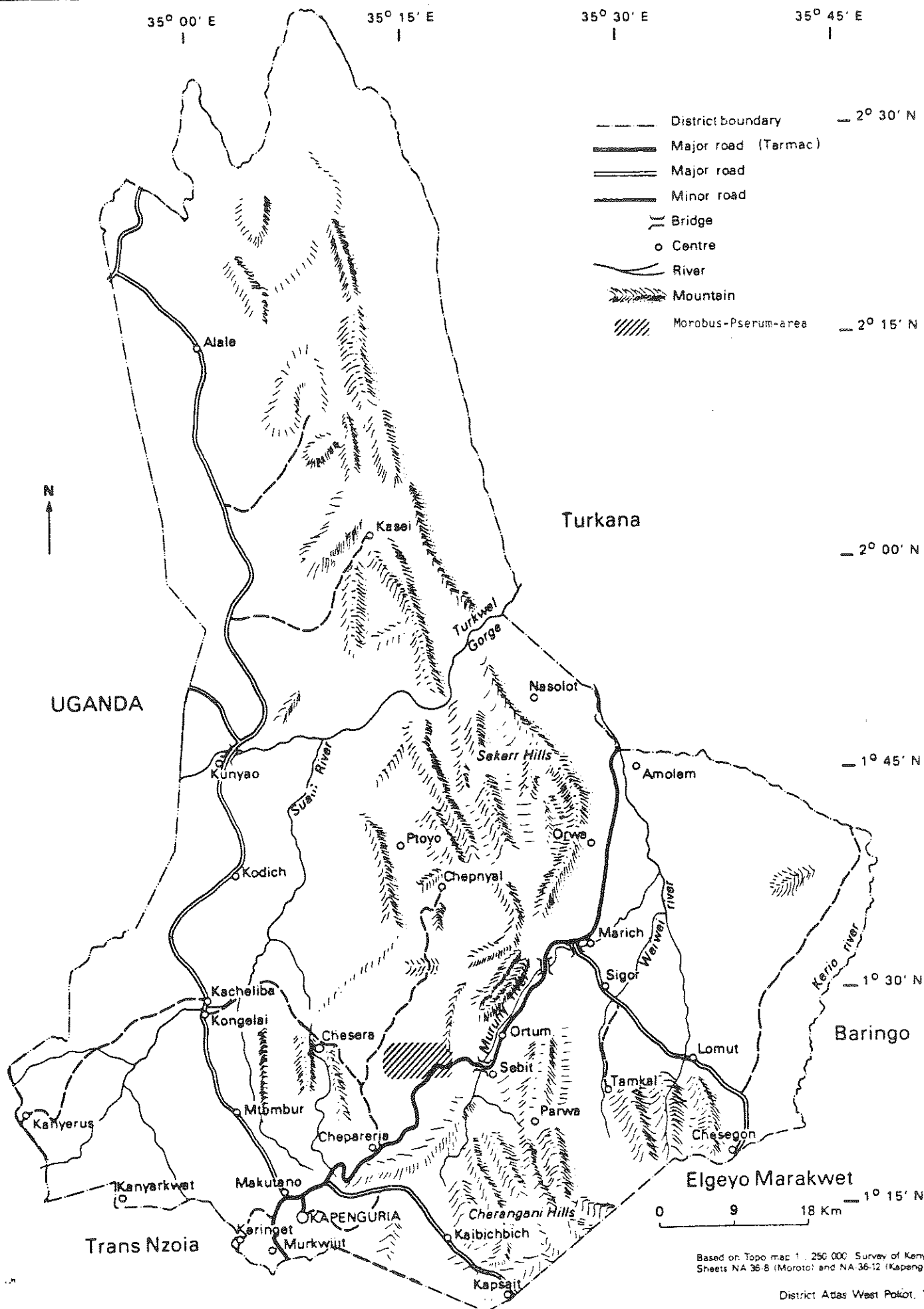
A cautious tension at times characterizes the relationships among the senior project staff. The desperate need for fuelwood in Trans Nzoia and the severe land degradation in West Pokot provoke a sense of urgency. It is vitally important that substantial areas are planted each year - or one may feel that the battle against ecological collapse is being lost. But then again, if one moves too fast one may lose track of developments so that the project cannot guarantee that the contributed money is correctly used. Small but crucial changes in the local mode of production can have a more important impact on land rehabilitation than any number of hectares planted. From that point of view, successful extension work may be more important than enclosing large areas.

These conflicting opinions all reflect realities in West Pokot, but carried to their extremes they cannot be contained in one and the same strategy. Finding workable compromises is at times trying for the advocates of the differing viewpoints. But the present debate is healthy for the project too. Arguments are scrutinized, positions are made explicit, goals are better defined. The conflicting interests only come to the fore during budget and policy discussions and thus do not poison the daily activities. Instead, the two "ideologies" may have a salutary effect. The "expansionist" is saved from losing money, time and credibility by premature investments, whereas the "safe sailors" are at times urged to try approaches they do not feel have a proper backup, but which may nevertheless work.

Part 3

**TREE-PLANTING IN CHEPARERIA DIVISION,  
WEST POKOT DISTRICT**

# West Pokot District topography



## Chapter 4

### THE AREA

#### Arriving

##### I

From the crest of the escarpment the impression is: looking out over the rest of Africa. Down there, a thousand meters below, the hot, dry country dissolves in a haze with hundreds and hundreds of shades of blue. Somewhere far out in the north is Lake Turkana, and beyond that, Ethiopia. In the northwest are the pastures around Mount Kadam in Uganda where the people of Morobus and Pserum drive their animals during the dry season. In the east, beyond the Marich pass, are the irrigated fields at Sigor, Lomut, Chesegon. There, down in the dry-lands, the Pokot are able to cultivate their crops and fruits.

One stands in green, lush hills. Maize grows taller than a man, crops sprout from the ground after the rains. Down below is the quivering heat. Ridges disappear into an enormous expanse of land, land, land. Among scattered acacia trees, the herds of livestock move in a landscape that seems unable to produce anything, but where people make their living.

The elephants and the rhinos are gone. A new tarmac road transects the hills on its way to a multi-million power dam being constructed at the Turkwel gorge. Oil prospectors have been around. In the Kerio valley tractors prepare cotton fields. Yet, the impression the lowlands create is that of belonging to eternity. Hard compacted soil, stones, sand, bush, thorns, the acacia trees, the termite hills, the dust clouds. It is magnificent and austere.

At the beginning of the rains the lowlands are suddenly and miraculously transformed. Tiny flowers dot the acacia trees, their sweet smell lingering in the heat, and the ground comes alive with small yellow flowers.

##### II

Morobus and Pserum are two communities between windswept ridges and dried-up river beds. Barren ground for most of the year, with goats moving among the rocks. The scattered homesteads melt into a landscape of grey and red and brown. One is surrounded by the intensive, high-pitched sound of insects. Voices float in the air, sometimes close, sometimes distant.

The soil is often hard and crusted. When the rain falls it skids over this rhino-hide, unable to infiltrate the ground. It carries with it whatever loose materials it finds. When the floods rush down the slopes into the gullies, the ground is



ripped open. It is a mighty, devastating spectacle. It catches people's imagination. The Pokot say about a courageous person that he is brave as a flood.

Morobus Hill towers some 500 meters above the settled plains. Climbing the hill one may encounter women who have walked for hours from their home villages. They are looking for thatching grass which is difficult to find in settled areas. Young herdsman follow livestock, slithering on the stony hillsides. They too are looking for grass.

From the top of Morobus Hill there is a bird's-eye view of the newly established tree plantations in the school compound at the foot of the hill. Here the VI Tree Planting Project is covering some 50 acres with a variety of indigenous and exotic trees. In a few years time there will be fodder and thatching grass. In the flickering sunlight one can also make out another plantation surrounding Pserum school a few kilometers to the West. Dotted about in the landscape are smaller enclosures, cultivated fields of a couple of acres. From above, the impression is that perhaps as much as fifteen per cent of the land area is cultivated. In the dry season big dust clouds follow the livestock.

People of Morobus and Pserum regard themselves as kapkewis, people of the lowlands, and as cattle people. This is in contrast to the Pokot living in the highlands who are primarily agriculturalists, although they also keep livestock.

A casual visitor's first impression may be one of sleepy stagnation. Yet this is an area of profound change!

### The road

A new tarmac road connects Turkana district with the highlands at Kapenguria and Makutano, and thus with Kitale and the rest of Kenya. It passes through West Pokot district, and it has changed everything.

For several years there were major construction works going on in the area. People came from all over the country to work on the road. Traders brought in new goods. The market places grew big. Second-hand clothes were all of a sudden plentiful in the market and the prices fell. The Pokot of Chepareria division have changed to Western-type clothes made of cotton and synthetics. Pokot jewelry is now only worn at ceremonies. Young women do not even own sanai or keltamah, the traditional necklaces.

In Morobus the road is a living presence. It cuts right through the area. As you sit talking on one of the hillsides, you see lorries from Mombasa and Nairobi on their way to Lake Turkana and the Sudan. Then moving through the area with livestock you cross the road and meet the overloaded busses heading for the highlands. The workers from the dam site at Turkwel gorge arrive by lorry. Cars carry administrators, nurses, project staff, priests, school inspectors, visitors from far and near. Young men

and boys sit by the road hoping to sell a hen, or a few eggs. They also have simple ashtrays and bowls carved out in softwood for sale. Maybe a tourist on the way to Turkana will fancy one.

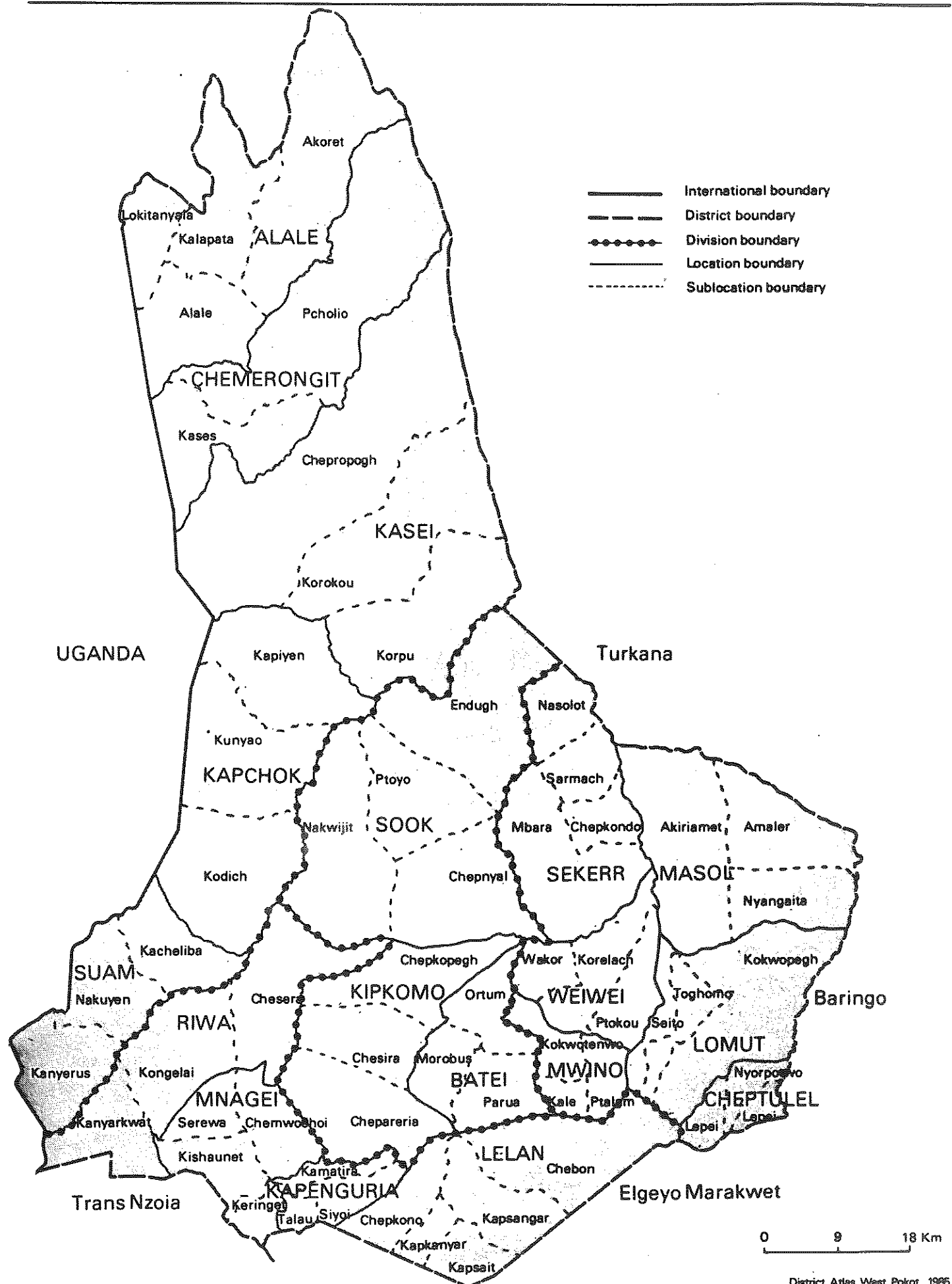
There are a few places by the road where people assemble to pass the time of day. As the evening draws closer there is always a small group by the roadside kiosk. People come to buy sugar, matches, or a piece of soap. They may drink an occasional Coca-Cola but mostly they just sit talking, watching the traffic pass.

The influence of the road is particularly noticeable in Morobus, but even in Pserum, one and a half hour's walk from the road, it has a definite impact. People's minds turn towards Chepareria with its schools, vaccinations, churches, new crops, wage labour, "Kenyan" life. The change had of course started long before 1983 when the new road was finished, but now it is happening much more quickly.

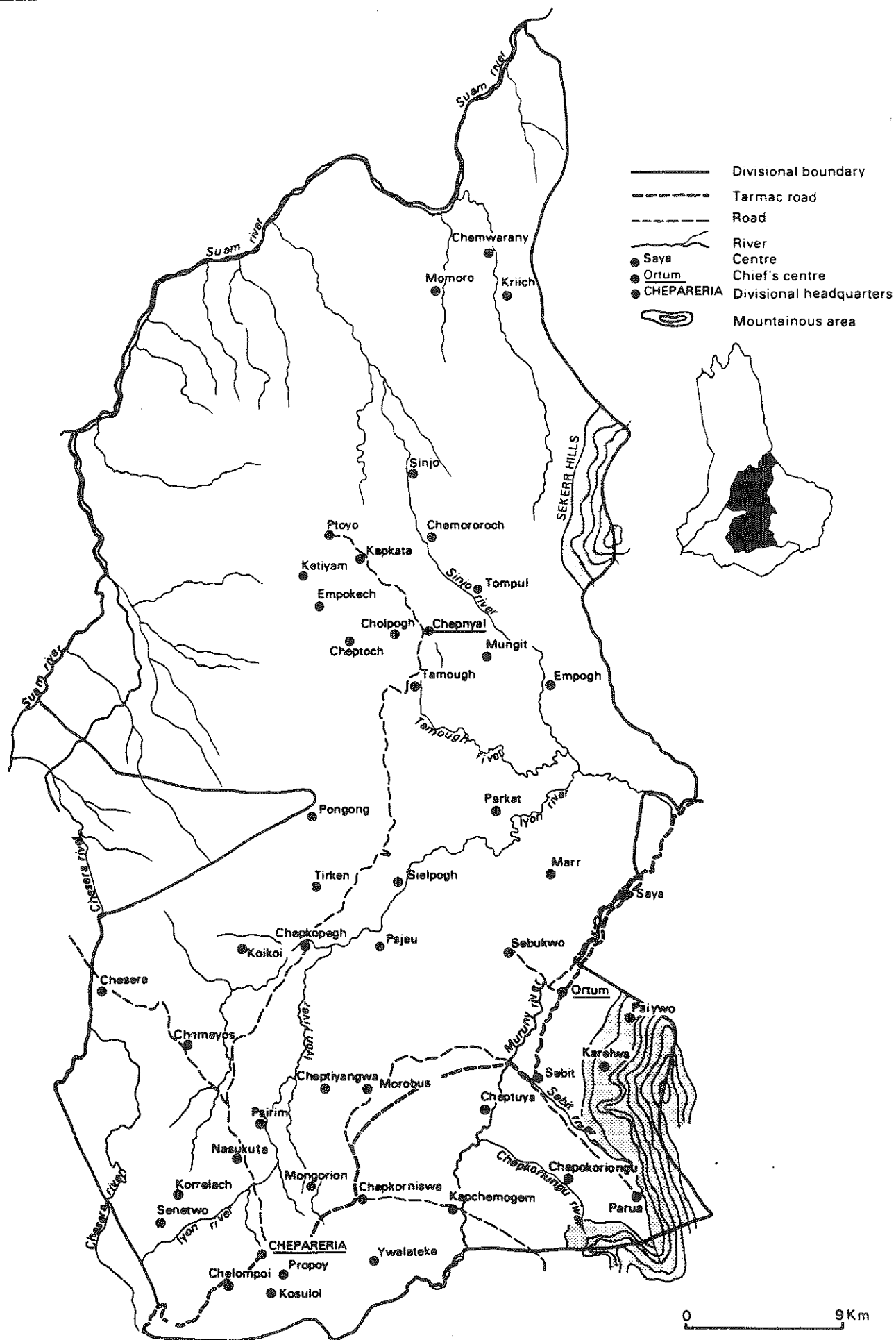


Young boys by the highway cutting through Morobus. They hope to sell decorated gourds to tourists speeding through their village at 100 km/hour.

# Administrative boundaries West Pokot District, 1983



# Topography of Chepareria division in West Pokot District, 1983



# Table 1 West Pokot District Data, 1983

## Topography

Location: 1°7' North to 2°40' North; 34°37' East to 35°49' East  
 Boundaries: Republic of Uganda, Turkana District, Baringo District, Elgeyo  
 Marakwet District, Trans Nzoia District  
 Size: 9 100 square kilometers  
 Highest Point: Chapkotet Peak, 3 370 meters above sealevel  
 Main Rivers: Suam, Weiwei, Muruny

## Administration

District Headquarters: Kapenguria  
 Divisions: Kapenguria      Chepareria      Sigor      Kacheliba  
 Locations: 4      3      6      5  
 Sublocations: 15      10      18      15

## Political

County Council Headquarters: Kapenguria  
 Number of Councilors: 18 elected, 3 nominated, 1 ex-officio  
 Number of Parliamentary Constituencies: 2

## Population

Number of Residents  
 1979 (Census): 158 652      Annual Population Growth: 4.3 per cent  
 1983 (Estimate): 187 800      Population Density: 21 persons per square kilometer  
 1988 (Projection): 232 700

## Agriculture

Land Potential (Estimates)		Annual Production for Some Crops (Estimates in a reasonable year)	
High Potential Land:	26 500 hectares	Maize:	40 000 tons
Medium Potential Land:	53 600 hectares	Beans:	2 200 tons
Marginal Land:	256 600 hectares	Sorghum:	1 750 tons
Rangeland:	402 700 hectares	Millet:	1 800 tons
Other Land:	170 600 hectares	Pyrethrum:	25 tons
		Potatoes:	1 100 tons
		Coffee:	16 tons
		Cassava:	450 tons

## Livestock

Estimated Numbers		Livestock Facilities	
Zebu Cattle:	80 000	Cattle Dips:	25 operational, 23 under construction/ not operational
Goats:	165 000	Watering Dams:	16 operational, 26 requiring attention
Sheep (Traditional):	70 000	Holding Grounds:	6
Woolsheep:	35 000		
Dairy Crossbreed Cows:	4 000		

## Infrastructure

Roads  
 Class A (Tarmac): 119 km  
 Class B: 44 km  
 Class C: 41 km  
 Class D: 234 km  
 Class E: 590 km  
 Water supplies: 12 piped supplies, 800 connections, 54 boreholes  
 Telephone Subscribers: 51 subscribers, 3 public boxes  
 Electricity: no mains  
 Airstrips: 5  
 Licensed Business Premises (1982): Retail 234, Hotel/ Kiosk 141, Bar 27, Posho mill 29, Butcher 51,  
 Boarding/ Lodging 5, Wholesale 8, Other 21

## Education

Number of Primary Schools (1982):	202	Boys Enrolled:	19 763	Girls Enrolled:	12 258
Number of Secondary Schools (1982):	5	Students Enrolled:	1 513		
Number of Primary School Teachers (1982):	985	Trained:	540	Untrained:	445
Number of Secondary School Teachers (1982):	5	Approved/Graduate Teachers:	15		
		P1/S1/A Level Teachers:	26		
Number of Adult Education Centres:	134	Men Enrolled:	1 220	Women Enrolled:	990
Number of Village Polytechnics:	5	Boys Enrolled:	141	Girls Enrolled:	23
Percentage of Boys Enrolled 5-14, years. (1982):	72				
Percentage of Girls Enrolled 5-14, years. (1982):	47	Percentage of Persons over 20, Having Attended Formal Schooling (1979 census):		Men: 25	Women: 10
Percentage of All Children, 5-14 years, Enrolled in Primary Schools (1982):	58				

## Health

Hospitals: 2  
 Healthcentres: 3  
 Dispensaries: 15  
 Hospital Beds: 204  
 Annual Number of Out Patients Seen (1982): 504 000  
 Annual Number of Vaccinations (Including BGG): 52 966  
 Child Mortality, Under 2 Years, (1979 Estimate): 216 per thousand

### Basic facts

Morobus is a sublocation within Batei location, and Pserum belongs to Kipkomo location, both within the Chepareria division of West Pokot district. Chepareria is situated 16 kilometers north of Kapenguria, and 40 kilometers from Kitale. The distance to Nairobi is 450 kilometers. Morobus and Pserum are some 15 kilometers north of Chepareria.

The altitude in Morobus and Pserum ranges between 1500 and 1800 meters. Morobus Hill is 2269 meters. No rainfall data is available. Sebit, north of Morobus, has a recorded annual average of 875 mm. Sebit however, is surrounded by hills which will increase the rainfall. The area is mainly situated in the semi-humid to semi-arid zone IV (of the Agro-climatic Zone Map of Kenya) where the ratio rainfall/potential evaporation is estimated to be 40-50 per cent. The distribution of rains within a year is erratic, and between years, unreliable.

The main river in Morobus is the Muruny which discharges water from a big catchment area in the Cherangani hills. It finally drains into Lake Turkana. Through Pserum flows the seasonal river Iyon which joins Muruny.

The Muruny is the only perennial river in the area. The other watercourses contain water only when it is raining, and for a few hours after the rains have stopped. The water rushes through at high speed causing severe erosion.

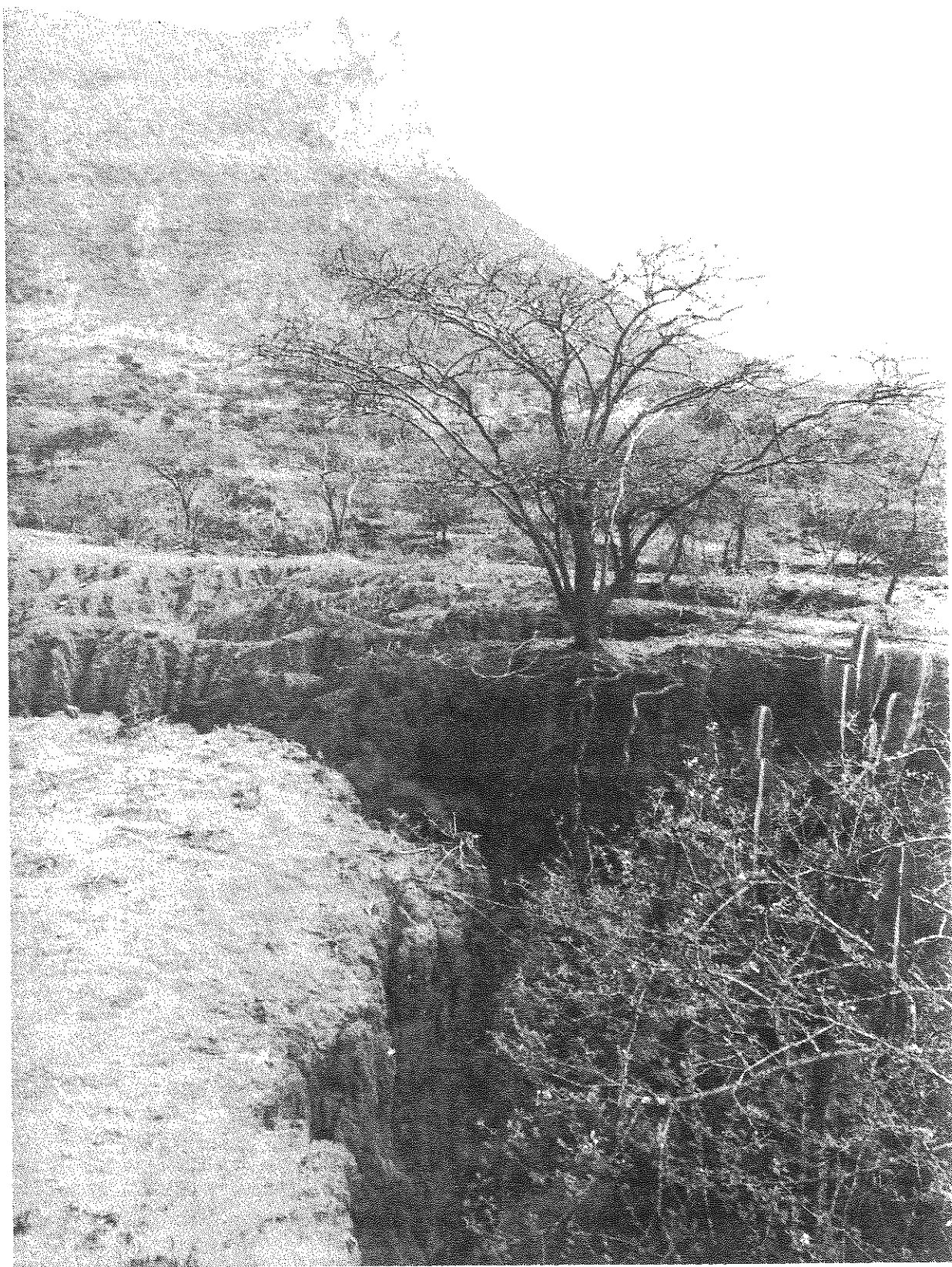
Household water is collected from shallow wells dug in the dry river beds. Most families spend at least one hour a day collecting water. During the dry season several hours will be required.

Morobus and Pserum are situated on a vast old peneplain. These are marginal lands. The soils are moderately deep and natural fertility is fairly low. They contain little organic material. They are often comparatively well drained and able to retain moisture for plant growth after rains. In places stone layers can make cultivation difficult.

Detailed information on geology and soils - as well as other basic facts - is available in publications by Hendrix (1985), Gallé (1986) and Vermaat (1986).

The vegetation is mainly acacia thickets and scrub bush with a poor ground cover except for the period just after the rains when the annuals appear. The bush is interspersed with taller woody species of, for instance Acacia tortilis, Balanites aegyptiaca and Terminalia species. Along rivers Ficus sycamorus and Tamarindus indica grow.

The area is quite densely populated. Forty persons per square kilometer is estimated which is high for these semi-arid areas of marginal lands. The population increase is rapid, about 4.5 per cent per year. Half of the population is below 15 years of age.



Exposed roots in a gully below Morobus hill.



This rapid population growth is an increasingly important factor in shaping local attitudes towards planned change.

On average there are two wives in a family (Vermaat 1986:19). Each wife, and her children, forms a separate household within the family. Women have usufruct rights in the family's fields and herd.

The most important income is from the sale of livestock. The largest expenditure is on buying grain. Household items and clothes are other demanding expenses. Only food crops are grown, of which a minor part is sold. Since people seasonally buy grains for their subsistence all families are involved in some market exchange.

A dozen persons from Morobus and a handful of people from Pserum are employed either at the dam construction at Turkwel gorge or by the Kerio Valley Development Authority. In Morobus more than ten people are employed outside the area in the lower ranks of different ministries and organizations. In Pserum I only heard of a few individuals in similar positions.

Apart from selling animals and crops, and earning salaries, there is one other potential source of income in the area. In several of the rivers in West Pokot people are panning for gold. Muruny river is one. Most people who pan do it only for a few weeks of the year. One estimate is that the gold money reaches 15-20 per cent of the district's households (van Haastrecht and Schomaker 1985:39). An average result is 0.5 to 1 gram a day. This is equal to at least five times the pay for an agricultural day-labourer (Dietz, van Haastrecht and Schomaker 1983:15). Of course these incomes are very unpredictable.

Implications for the project: Conditions of life are precarious in Morobus and Pserum. Failed harvests are a recurrent fact. In these years people exhaust their resources in order to survive. They hope the project will provide employment to help balance their uncertain subsistence.

Lack of water is another major problem. The project will be asked for assistance. There is logic here: the project needs water for its nurseries and plantations. In my opinion, one should be restrictive. Water development is difficult and expensive. Cooperating with water development agencies is better than starting independent projects. Nurseries can be constructed where some water is available, if they are kept fairly small. A number of species will survive even on scarce rain water if proper water conservation structures are prepared. One hundred per cent survival is not necessary. And it is known that grass will return by itself to enclosed areas when the rains come again.



## Chapter 5

### THREE TREE PLANTATIONS

#### The background

The VI Tree Planting Project landed in West Pokot by chance. When money started pouring into the VI Magazine's tree-planting account, a practical start was urgent. The magazine looked for a partner already in the field who could make good use of additional funds. The Kenyan-Swedish church "Faith Homes of Kenya" ran a few nurseries in West Pokot district. Fine - this was the kind of area (semi-arid, with considerable problems of land degradation, and in an underprivileged, remote district) that the contributors to the tree planting campaign would be particularly concerned to support. Soon, however, cooperation with Faith Homes of Kenya was terminated and the project established its own set-up.

One of the nurseries the project took over management of was located in the Chepareria region. Here the chief suggested that the school area at Pserum would be a suitable site for a tree plantation. Water was available from a borehole on the compound. The school itself had a reputation for being in good order, and the teachers could probably lend a helping hand with organizational matters. And the chief himself originated from the village. With his help it was easy to get started. People were hired to fence the school area. Twenty-eight people joined the pay-roll in Pserum.

A few months later a public meeting was called to explain to the people of the area what was happening. It then transpired that some people had believed that it was a Forestry Department plantation and that the land had been taken over by the government. Misunderstandings were sorted out and a local committee elected.

The committee is not to have a final say in the running of the plantation, but is to pass on information between the project and the area. The project hopes to get information on suitable tree species to plant, and also help with collecting seeds. The committee has met once on its own and formulated requests to the project:

- a tree nursery should be started at Pserum,
- one or two school leavers from the area should be given further training in forestry,
- long-time serving employees of the project should be given in-service training,
- more women and middle-aged men should be employed by the project. At present there are too many young men.

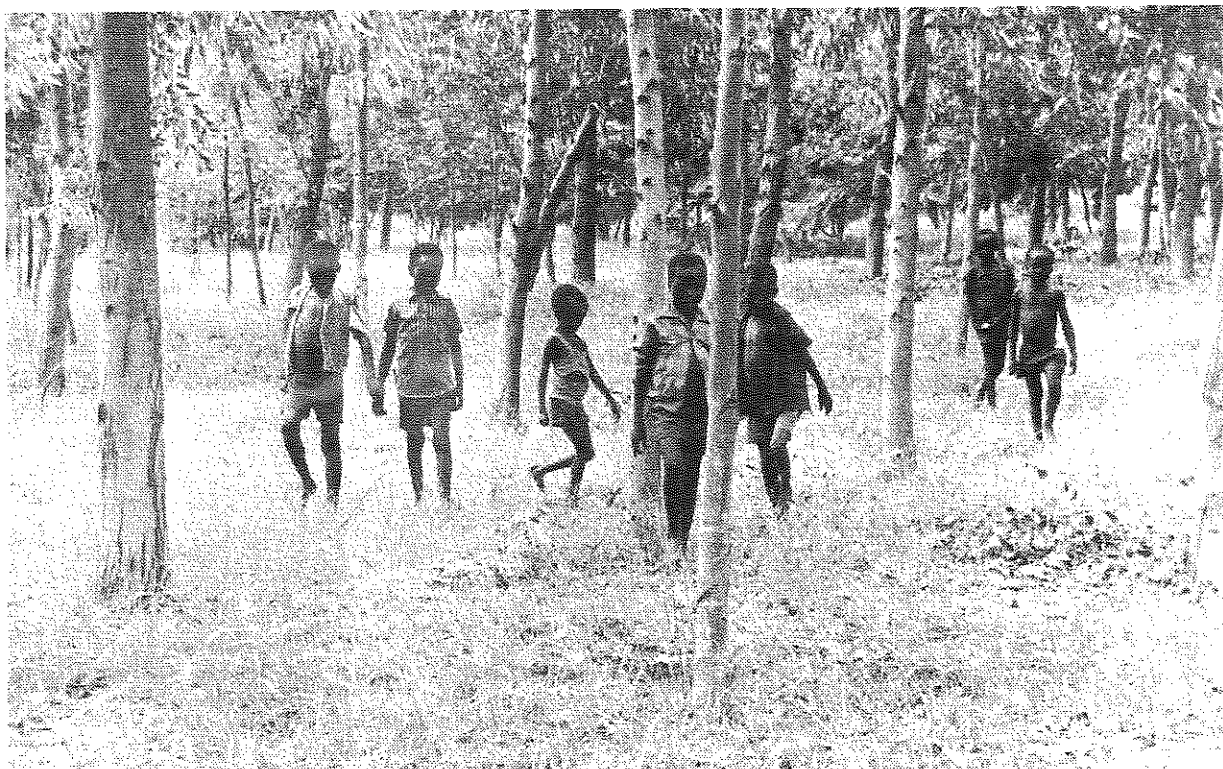
Neither the project nor the committee have a clear grasp of what its purpose is. For the committee members it is always

useful to try to bring more goods to the area. Their suggestions reflect that: a new nursery means five or six new jobs to Pserum, and training eventually means salaries etc. The future role of the committee remains to be worked out.

The Pserum plantation was started in 1986, and one year later another one started in neighbouring Morobus. During the period when the project still operated with Faith Homes of Kenya a few more plantations had been established. In Kainuk a forest had been planted in 1984. At present the VI project has 40 people employed there. In Chemarel a plantation dried up and has been abandoned. There is another plantation in Nakuyen, but no project activities there for the moment.

### Kainuk - on the border

The Kainuk plantation is situated by the Weiwei river on the border between West Pokot and Turkana districts. The land was apparently unutilized in 1984 because of a tense situation along the border. This was why the project was offered the land. Now the trees grow magnificently. They are 10-12 meters high and some are nearly ready for cutting. There is an abundance of fodder which cannot be utilized since no one is prepared to take livestock into the border area.



In a formerly denuded area along the Weiwei river now stands the forest at Kainuk. The workers' children play in the shade of the trees. Photo by Sten Lundgren.

For the moment it is not known who has a valid claim to the land, or to the forest plantation. The chiefs on either side of the district border regard the area as belonging to their respective location which further complicates the situation. The project has not yet had an opportunity to look into all these matters. But as the trees mature, an agreement must be reached. This is not only a problem. It is also a fascinating possibility. In the VI Magazine (No. 22/1987) reporter Sten Lundgren writes:

"Imagine if the Turkana and the Pokot could agree on allowing their animals to graze one week each in the VI forest!

Then the prayers of all the Swedish children who have drawn doves of peace on their paying-in forms to the VI forest would be answered. Then the VI forest would mean something also in the service of peace.

We have saved the soil. Right here. Next step is to save the peace. Right here."

Trees grow by a river. On another continent, dreams are formulated about what they can achieve. Can these trees encourage peace and cooperation between two groups of people presently at loggerheads; or will they be felled for the private profit of an entrepreneur biding his time? We do not know. For the moment they are trees without roots.

A wasteland has been transformed into a valuable forest. The Kainuk area now possesses a resource which could make the local communities thrive. But because of the tense situation between the Pokot and the Turkana this possibility cannot be realized for the moment. In the meantime, the forest provides the workers with a regular cash income and offers travellers on the way to Lake Turkana a delightful resting place along the route.

Kainuk then, is a legacy more complex than the project management would perhaps have wished for. They will now have to try their very best to, together with the authorities and the local communities, work out a solution. How should the forest be managed and its commercial value realized to the benefit of the people of the area? Once this has been achieved, then something remarkable has been brought about. And the old lesson that success in development work depends on both social and technical excellence has once more been demonstrated. It may be over-explicit to point this out. Admitted. Yet, it remains an important fact.

#### Pserum - both local and introduced trees

The Pserum plantation is fenced with thorns. The school children climb over the fence using simple ladders made out of tree posts.

Simple bunds are constructed across the slopes. These have a slight U-shape and are of varying lengths. The ditches measure one meter by fifty centimeters. Water is arrested and

infiltrates. The terraces do not follow the contour lines but are laid out according to the judgement of the local foreman. Tree seedlings are planted just below the bunds where it is estimated that most moisture is preserved. Holes for planting trees are also dug between the terraces. Simple "catchments" are constructed to lead water towards the seedlings. These are planted in the topsoil from the planting hole. No fertilizer is added.

During rains the holes and the ditches are quickly filled up by soil, which must be excavated regularly - at least during the first years before the vegetation has established itself.

The trees were watered throughout the first year. In one section of the plantation watering was discontinued after three months. Interestingly, these trees appear to have survived about as well as the trees watered throughout the entire year.

About twenty different species of fast growing exotics, mixed with local trees have been planted. There are both fodder and timber varieties. Some also have the capacity to fix nitrogen in the soil. Casuarina equisetifolia, Parkinsonia aculeata and Prosopis juliflora have proved to do well during the plantation's first year. Only some of the Leucaena leucocephala survived but the successful saplings are developing well. Both Acacia albida and A. tortilis have had a good start, as has an acacia from the Marich area, which the project has not yet identified botanically. Balanites aegyptiaca were planted directly from seeds. Close to the school some Cassia siamea were planted to provide shade.

The project has made a point of raising a fairly wide selection of species in its nurseries. Therefore it is also able to plant a useful variety of trees in the plantations. The mix of fast growing exotics and multipurpose indigenous trees appears wise in the light of the following experiences from neighbouring Turkana district:

"The majority of indigenous species have shown a slow initial growth....until an extensive root system is established. After this initial period they seem to perform well,...particularly several Acacia species (tortilis, mellifera, senegal, nilotica, nubica).

Several of the introduced species might grow quite well initially, yet after a period of two or three years they stagnate showing often a scorching of new shoots..." (Zumer-Linder 1984:11)

### Morobus - the battle for 20 jobs

A little way into April 1987 the rains held up for a few weeks. The project was given a period of grace to get everything ready for planting. The Morobus plantation was not yet fenced and only a fraction of the land had been terraced. To speed up the work it was decided to increase the workforce by twenty people.



Acting assistant chief Peter Acherengprok addressing the meeting at Morobus on April 15, 1987.

The school committee and the assistant chief were asked to find candidates for the jobs. The project announced that it would be glad if particularly needy families were considered and if at least five of the persons selected were women. The issue was briefly discussed at a local meeting on April 13th and it was concluded that the jobs should be equally divided between the different neighbourhoods. Two days later, the people were to start work. I shall relate what happened as it is illustrative of decision-making processes in Pokot society of relevance for the project. And in any case, it is an interesting story.

Early on the morning of the 15th of April, people assembled under some trees close to the school buildings. The assistant chief arrived and the chairman of the school committee inquired if he had prepared a list of the people to be employed. He was told that the list was ready and nothing further needed to be discussed. With this the school committee had to be satisfied until the project staff arrived from Kitale and the names were announced.

Some sixty people had by this time turned up hoping for employment. The names were read out. It seemed that no women had been included and that there was a disproportionate number of people from the assistant chief's own part of the sublocation. This became the starting point of a more than three hour long meeting attacking the chief's list.

- Why are not all areas equally represented?
- Why are no women included and yet there are both widows and single mothers in the area who find it difficult to support themselves?
- Why have so many young men been listed when there are families who struggle to find money for secondary school fees for their children?
- Why hasn't the man who used to cultivate inside the area which is now to be planted been employed in compensation for what he is losing?
- Why not give five jobs each to the four major divisions of Morobus, and let them decide for themselves who shall be employed?

People spoke their minds. For a few hours the different arguments were fired, new names suggested and others withdrawn. Some people advised the chief not to give up: "Do not let people rule you. You are the chief. Be firm". The school committee went aside to discuss with the assistant chief. Young men discussed among themselves. A small group of women seated by themselves added their views. While the committee and the chief sat down to prepare a new list, discussions continued under the trees. An old man suggested that three or four people could be picked from each area and the rest of the jobs given to the women. Many supported him and agreed that this was what people should suggest to the assistant chief when he came with the new proposal.

Eventually four women were employed. The assistant chief got seven people that were considered his people on to the list. The remaining jobs were by and large evenly distributed. The meeting ended in unity and a feeling of relief. The assistant chief's suggestions had been criticized, but it was no rebellion.

After the deliberations the project's representative Norman Kimanzu was asked to address the meeting. He said that he had witnessed an exercise in democracy. The assistant chief is formally the President's representative in the area. He is to promote unity and development. He shall look to the common good. If people disagree on the way this is done it is good if all together can sort out misunderstandings and disappointments. This is what had happened during the meeting. "This is something for us all to be happy over. We are all stronger now. We have all learnt something."

I find these remarks pertinent. They suggest why the meeting was so important to the project. The local community managed, to some small extent, to capture the project from the official sphere. Had the assistant chief been allowed to select the job candidates on his own, the discontent with his decision would

have added to the sentiment that development projects are for "big people" who share the benefits among themselves.

The twenty new salaries became somewhat more equally distributed in Morobus as a result of the meeting. This is in line with the project's goals, but it also drew the project a little closer to the Morobus community.

The meeting was concluded by Mzee Alingonyang Lokuk, a former assistant chief of the area, with the traditional Pokot blessings on a successfully completed task.

Most issues in Pokot are discussed publicly. The more the project's local planning takes place at local meeting the better. (This argument will be developed at some length below.)

### The salaries

Pserum has a monthly inflow of about 15,000 shillings from the project. At the height of the campaign to establish a plantation at Morobus, almost 30,000 shillings a month were earned. This represents a considerable amount to communities where many families are forced to buy grain during the dry season. It is common to sell a goat for 100-150 shillings after some five, six weeks to top up what is brought home by family members working for food in highland shambas, or carrying home gifts of maize from highland relatives.

Reporter Sten Lundgren writes in VI (no. 51/52-1986) about one of the project's employees, thirty year old Penina Lounjareng who works in the tree nursery of Chepareria. He gives a telling account of what the 23 shillings a day means to her. I quote a few passages from his article:

"She is alone with six children since her husband deserted her. Apart from the six children she is also responsible for her old mother who lives in the hut next door.

Penina has ten kilometers' walk to reach her work. She leaves home 5.30 in the morning, just as the day breaks, to be at work in time at seven o'clock. She is back home six o'clock in the evening, just before sunset. She earns about ten Swedish crowns a day.

Penina says she is happy. She has work, she feels rich. The maize growing at home looks promising. They will not have to starve.

She can afford to let the older children go to school. They learn to read and write:

- I also learn how to write. The children teach me.

At thirty years of age she has suddenly climbed several steps. She supports herself, her children and her mother. She knows how to write her name! She writes it on the receipt for her salary from the VI Tree Planting Project.

Maybe we should consider this more often. The project not only saves soil with the trees planted. It also gives people employment, a new life.

Penina is one of 160. There are many like her."

Apart from the good the salaries bring to a number of families, they also have a few other effects. After just two days' of work at Morobus, a small canteen serving beans and maize for lunch had been established, providing a few women with income. In Pserum there are three tea-houses serving food at lunchtime. A few secondary school students now also have their school fees guaranteed through the incomes their parents earn.

The assistant chief was anxious to find out when the first salaries were due to be paid in Morobus. He wanted to make sure that harambee contributions were promptly paid. The project will strengthen his standing in the district. Fifty new jobs in his sublocation means more contributions at fund raisings. His area may become known as "development oriented" which will reflect favourably on its leader.

#### The possible drawbacks

Now that the plantations are successfully established and much appreciated in the area, one may perhaps hint at a few possible drawbacks, to keep in mind for the future.

When a, comparatively speaking, affluent project lands on a local community, there is a danger that responsibility is handed over to the project staff. This has happened on a small scale when the Pserum school no longer organizes its pupils for tree planting on the school compound. Before the arrival of the project they had planted trees, but this year they did not do so. "There is no need now as people are employed to plant trees," a teacher explained.

It would be far more serious if soil conservation was now regarded as the responsibility of the project - or an activity too demanding for individual farmers to attempt. This has happened in a neighbouring district (Östberg 1984:18).

A moot point is what good tree planting in Morobus and Pserum will bring in the long run. The project will propagate fodder trees. But what the exact consequences are of producing a lot of fodder is not known. It will enable people to keep more animals at home during the dry season. There are many advantages. Does it also mean further devastation of the area? Maybe also a good part of the salaries now being paid by the project will be used to buy cattle, further increasing the pressure on land.

In order to have an impact on land rehabilitation, tree planting must be integrated into soil conservation work. This involves enclosures, soil and water conservation, agroforestry, and intensified permanent agriculture. The project promotes a major ecological change. Its instigators argue that this is



necessary since during dry years the area is not feeding its population.<sup>1</sup> Yes, but upgrading denuded land will also make it more attractive to the local elite, and this may result in less and less communal land where poor people may graze their goats. Yet the project aims to support equity!

More enclosures will lead to increased crop production. Is sustainable agriculture possible in this semi-arid environment? Will the enclosures lead to reduced herds? Will this mean more reliable subsistence conditions?

A tree planting project rests on the hope that the answer to this type of question is yes.

### The context of tree planting

Having now introduced both the area and the project's activities there, the next four chapters will analyze the environment for tree planting in Chepareria division. The mode of production is described; the relevant social institutions that a tree planting project may cooperate with are identified; the land use system is explained, as are the many different uses that trees have in lowland Pokot. The infrastructure for development planning in the area is described in one additional chapter and the fate of previous projects recorded. Chapter 11 suggests how tree planting activities can be organized in Chepareria division.

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<sup>1</sup>The carrying capacity of the area has been calculated by van Haastrecht & Schomaker (1985:11,32) and Vermaat (1986:37).

## FARMING AND HERDING

### Subsistence farming

The crops traditionally grown in Morobus and Pserum are sorghum and finger millet. Maize (usually hybrid varieties) is nowadays the most widely grown crop. Beans are commonly interplanted with maize. Some households cultivate small quantities of tobacco. Maize and beans are the only introduced crops that have been widely accepted. Both can be cultivated without changing prevailing work routines. In fact, they reduce the labour requirement.

Apart from these main crops some ground nuts, green gram, cow peas may also be grown. Lack of water makes it difficult to grow bananas or citrus. Cassava is not an important crop, neither is pigeon peas. Sunflower has been tried around Chepareria, but the farmers stopped growing this after difficulties with the payment. Birds were a problem too.

Very few vegetables are cultivated - but many different wild plants are picked during the rainy season to be prepared as vegetables. The most commonly used are Karelmot (Helichrysum glumaceum), Ksoyo (Solanum nigrum), Ptanya, Ptopuro, Suroya (Gynandropis gynandra) and Wachan. In the market places at Chepareria and Ortum, cabbage, tomatoes, onions, kale, and fruits are sold.

The main responsibility for looking after fields rests with the women, but one commonly also sees young men digging in the fields together with their wives. For land preparation, harvest, and other more demanding farm work, neighbours are usually asked to come and help, and are afterwards rewarded with food and/or beer. This form of neighbourhood cooperation, kiyech, is common. Both men and women participate. Fencing or house building is also carried out by kiyech. A few neighbours may also arrange to work each other's fields in rotation.

All families cultivate in both Morobus and Pserum, most of them on a modest scale. A survey carried out in 1979 in Chepareria gave the average cultivated land per household as 3.2 acres (Yadeta 1985:129). Another from 1986 gives the average as 6.9 acres (Vermaat 1986:33). A survey was also carried out in Chepkopeh (a few kilometers northwest of Pserum) and here the average was about 4.2 acres per household (ibid., p. 36). In these two later surveys the average number of wives per household was 1.9, which means that each "house" cultivated about half the sizes quoted above. My own impression from Morobus and Pserum is that it is quite common that each house (= a woman and her children) cultivates about two acres.

The fields are dug by hoe and are usually fallowed for about four years after three to five years of cultivation. The fallows have become shorter during the last decades. Manure is only applied to particularly stony parts of the fields. A small portion of the harvest is marketed. Some of the harvest is given away as gifts to relatives and others to whom the family has outstanding obligations.

A few families cultivate larger fields, about ten acres. They hire a tractor from Chepareria to plough. These families consist of several "houses", each with its own part of the land to weed and harvest. The biggest shamba in Pserum is cultivated by a family of five houses.

Although farmers say that trees make crops weaker, some trees will be allowed to remain in the fields. The trees which are kept are those that do not compete unduly with the crops for nutrients, do not shade too much,<sup>1</sup> and which are valuable fodder trees. Neighbours will not lopp these trees and they are thus a useful fodder reserve for the dry season. This, however, presupposes that one does not cut the trees too heavily when fencing. (Many species have thorns and are useful as fences.) Farmers who have planted an euphorbia fence around their fields are usually able to save the fodder trees standing inside the fence. There almost appears to be two different types of cultivated fields: the thorn fenced shamba with heavily lopped trees inside, and the shamba with a living fence and moderately lopped trees.

Trees commonly found in cultivated fields include Aron, Koloswo, Songowo, Tingwo, Tirokwo, Tiyin and Tuyunwo, whereas Chesams, Chuwu, Kopko and Manampelion are removed. (For identification of the trees and information on their various uses see appendix 1.)

Farming is clearly on the increase. This is because of increased population, but also because of the loss of dry season pastures in the highlands where land is now under private tenure. Livestock production is becoming less reliable, and people in Morobus and Pserum are more and more forced into cultivation. In this way stock density is increased - and the ecological basis for the way of life people prefer is undermined. The whole process is aggravated by the fact that highlanders take their livestock to the lowlands during the rains.

Implications for the project: Soil fertility in cultivated fields is decreasing because of reduced fallow periods. Soil conservation and water harvesting techniques could usefully be introduced into the existing farming system. Agroforestry improvements would be helpful. Innovations that do not fit into existing cultivation practices have little chance of being widely

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<sup>1</sup>That the trees after harvest provide shade for the livestock was invariably pointed out as a particular advantage.

accepted. The people of Pokot (men in particular) show no enthusiasm for extra work input (cf. Schneider 1953:221 f; Edgerton 1971:126). Ambitions for land rehabilitation should be balanced against this fact.

Women take a greater interest in farm work than do the men. Farming provides them with a certain economic independence. Women will probably be more prone to care for tree seedlings than men. The project should therefore make particular efforts to involve them. Women are also largely responsible for the care of the animals kept at home during the dry season. Fodder trees planted close to the home should be of help to them.

### Livestock keeping

#### I

Although cattle keeping is clearly associated with men, women and children too have important functions. The daily herding in the home area is carried out by children, often boys of around eight to ten years of age. Women milk the cows, and they may also herd. They care for goats and sheep with the help of their young children.

The pastures of Morobus and Pserum can only support the livestock for part of the year. From December until the rains begin and the grass starts to grow, the cattle graze in the area towards Mount Kadam in Uganda.

Looking at the denuded lands of Morobus and Pserum it may seem obvious that too many animals are kept there. But from the point of view of supporting the people of the area, the situation is different. Since it is difficult to subsist only on crop production, people must have additional sources of food. They need money to buy grains for part of the year. The most obvious solution is to keep livestock.

Apart from offering some security against the recurrent droughts, the animals also serve many other vital functions. They facilitate marriage transactions. They are used to establish relationships of cooperation with other households. Fines are paid with stock. They are sold to finance children's further education. Schneider lists more than twenty different uses and roles livestock have in traditional Pokot society and economy (1953:299-302). From Tamkal, which is in Mwino location, east of Morobus, Edgerton reports that people considered themselves poor compared to other Pokot. In Tamkal people keep comparatively few cattle. Edgerton's psychological tests documented how a feeling of frustration and self-pity prevailed (1971:102f). It is the wealth in livestock which is particularly meaningful.

How important livestock is to subsistence is clearly reflected in the herd composition. There are commonly four to five cows to one steer (Schneider 1957:287; Widstrand 1973:42). This figure may well be changing at present. Fewer animals are killed today

for local consumption since maize meal has become so important. An interesting figure is reported however from Mwino location. Although few cattle are kept here (the largest herd in this survey was 30 head of cattle), the total value of the livestock products (mainly milk) was almost as high as the total production value of home consumed maize, millet and sorghum (Dietz, van Haastrecht and Schomaker 1983b:17f).

A characteristic feature among the Pokot is that some of a family's cattle will be under the management of another household, while one's own herd is partly made up of animals that other people hold varying rights to. In this way cattle owners have animals distributed in different areas and are thus to some extent able to reduce the threat of both drought and cattle raiding. Strong social partnerships are established between men exchanging livestock. This is an important aspect of livestock keeping. Cattle are repositories of value, allowing people to make transactions that extend over long periods of time. Schneider even goes as far as arguing that this is the ultimate concern of cattle keeping in Pokot: "whatever may be the optimum arrangement of a herd for the production of milk and meat, this will largely be subjugated to the need for stock associateship" (1981:216). Walter Goldschmidt, who has written extensively on the neighbouring Sebei, is of the same opinion: "cattle are not merely a food resource; they are also capital essential to all kinds of negotiations involving influence and alliance" (1981:55). This aspect is particularly important in areas, like Chepareria division, where cattle auctions are not held. From this point of view it does not make sense to reduce one's herd to help improve the environment as conservationists recommend.

Good ecological management is one of the stated reasons why the government has established group ranches. The other major motive is commercial integration. But people actually join for quite different reasons. They want to benefit from the water development and the control of livestock disease that the government is to provide. An evaluation team from the University of Nairobi was told all this in no uncertain terms at Kongelai group ranch. People had not come there to cull their herds they said. No, they were there "to accumulate wealth" (measured in number of livestock owned). They did not want to hear of destocking, "animals are life" (I.D.S. 1975:10-8f).

That cattle is what makes life particularly meaningful to the Pokot has often been reiterated in the literature. In a study of four East African peoples who are all differentiated into either primarily farming or primarily pastoral sectors, the particular importance that cattle has to the Pokot comes out in clear figures. Faced with a choice between farming and cattle keeping the following responses were recorded:

	Land	Cattle
Hehe	112	11
Kamba	109	17
Pokot	24	104
Sebei	114	14

The high evaluation of cattle was shared by agricultural and pastoral Pokot alike (Edgerton 1971:116f, 169).

## II

It is notoriously difficult to estimate livestock numbers accurately in this type of environment. Cattle owners have good reason not to disclose their wealth to the authorities, or to visiting researchers. The herd size also differs between seasons, and between different years. In surveys usufruct rights to livestock are often mixed up with ownership - and so on. The published figures can only be taken as an indication of the approximate size of the herds in an area.

A survey carried out in Chepkopch (close to Pserum) indicates that the average number of "stock units" per household is over 20 (Vermaat 1986:42. One "stock unit" was calculated as equal to 1.4 mature zebu cattle or 7 goats/sheep). Estimates made when the Morobus group ranch was established in 1974 indicated that the households there kept slightly below 15 stock units on average (Gallé 1985). In the 1950's one looked "upon a man with a hundred head of cattle as rich, one with ten head as poor, and one with no cattle as 'dead'" (Schneider 1959:155). Today it is generally assumed (by range assistants, chiefs and others well informed about the area) that herd sizes are smaller, but that the number of cattle owners has increased so that the total number of livestock in the area remains high. And there are still cattle owners who would be considered rich by the old standard.

If livestock are thus an integral part of the local economy, it is also true that the area is overgrazed and that no form of controlled grazing is at present practiced. Controlled grazing is difficult to organize for at least two different but related reasons.

Since land is communally owned, but livestock is not, it "pays" for the individual cattle owner to allow his animals to use as much of the free grazing as possible. What he leaves will be grazed by someone else's animals. If I reduce my herd he thinks, this will only benefit the other livestock owners. Relatively speaking I become poorer.

I am aware of all the criticism that can be raised against this tragedy-of-the-commons argument. I return to this point in the chapter on land use where additional information unfortunately will indicate that it is here a reality.

The other reason behind overgrazing is the poor marketing facilities. No cattle auctions are held in the area. The prices at the local market places are low. Therefore people only sell animals when they absolutely need money. Commercial buyers visit the area to buy at low prices in private dealings.

Attempts to establish a holding ground at Nusukuta (close to Pserum) as part of an organized stock route to Trans Nzoia has been abandoned. In fact, it never worked. Some (illegal) livestock marketing takes place through Keiyo-Marakwet district.

Implications for the project: People in Morobus and Pserum need to keep livestock as an insurance against the recurrent droughts, but also to create relationships of cooperation with others. To the extent that the project aims at reducing the grazing pressure on land, it will at least have to offer a better insurance than livestock against the vagaries of nature. Previous attempts have not been successful. Project activities to improve fodder supplies will be greatly appreciated.

#### The seasonal pattern

The rains are expected in April. The fields are prepared for planting. As the grass appears the cattle are brought back from the dry season grazing. The cows look pathetic at this time of the year. They do, however, recover quickly, if the rains continue. The rain eventually penetrates the hard, sealed surface of the soil and people plant. In 1987 very few farmers planted during the first rains.

For months people have been surviving on whatever they can come by. In most cases this means ugali and leaves from the desert date tree. Usually there is no grain left in the stores at this time of the year. People sell goats or hens to buy grain. It is a season of austerity.

Some of the men are away with the cattle in the lowlands to the west. A few women may accompany them to assist with milking and other tasks. Many women walk up to the highlands to look for temporary farm work paid in grain. One also asks relatives and others with whom one has established relationships, to help out during this period. They return when they have procured the load they are able to carry. Along the roads and paths connecting the lowlands with the highlands one keeps meeting women and children carrying maize home at this time of the year.

However, the cows soon start to produce milk. Wild vegetables and mushrooms enrich the diet. Termites appear and can be collected. Soon the first beans can be harvested - if the rains do not fail. There is always this uncertainty.

Some of the inhabitants of Morobus have inherited rights to cultivate small irrigated plots in the Sebit area just north of Morobus. During normal years they do not bother, but during

droughts they walk to Sebit to claim their land. Those who do not have this possibility are forced to sell animals, look for temporary jobs or rely on gifts.

Most years the livestock can graze for a couple of months in the home area. As from September they are driven into kamass, the higher area, which here will mean Mount Morobus and the Samor ridge. The Chepungwa hills, however, are kutung - not quite highlands - as are also the lower reaches of Samor. Formerly the highland pastures of Sondany, Lelan and Mnagei were utilized during the dry season but following land adjudication, it has become difficult to take animals there. The grazing pattern was traditionally one of fairly stationary transhumance, but people have for decades now been more and more forced into long-range migrations with the cattle (cf. Widstrand 1973:46f).

Finger millet and sorghum are harvested in August and September. The animals feed on the crop residues for a few weeks, at best. Manure is virtually the only organic material returned to the soil. The maize harvest may be extended for a long period depending on the type of maize planted. Farmers using hybrid variety 511 harvest early, but those who have planted for instance H622 have to wait until October-November, if they get a crop at all. (For several reasons it is not always the recommended variety which is grown.)

As from December there is no grazing left anywhere in the area. There is no choice but to move the cattle towards Uganda, despite the security problems there. Neighbours will agree to cooperate with the herding during these months. In small groups of about five people they help each other digging shallow wells in river beds, guarding against raiders, etc. The goats and sheep and a few milk cows and calves will be left behind. Weak cows may also remain at home. One sometimes sees small quantities of grass stored in a tree or on the roof of a house. This is for sick animals. A particularly good fodder tree may also be saved close to home for the same purpose.

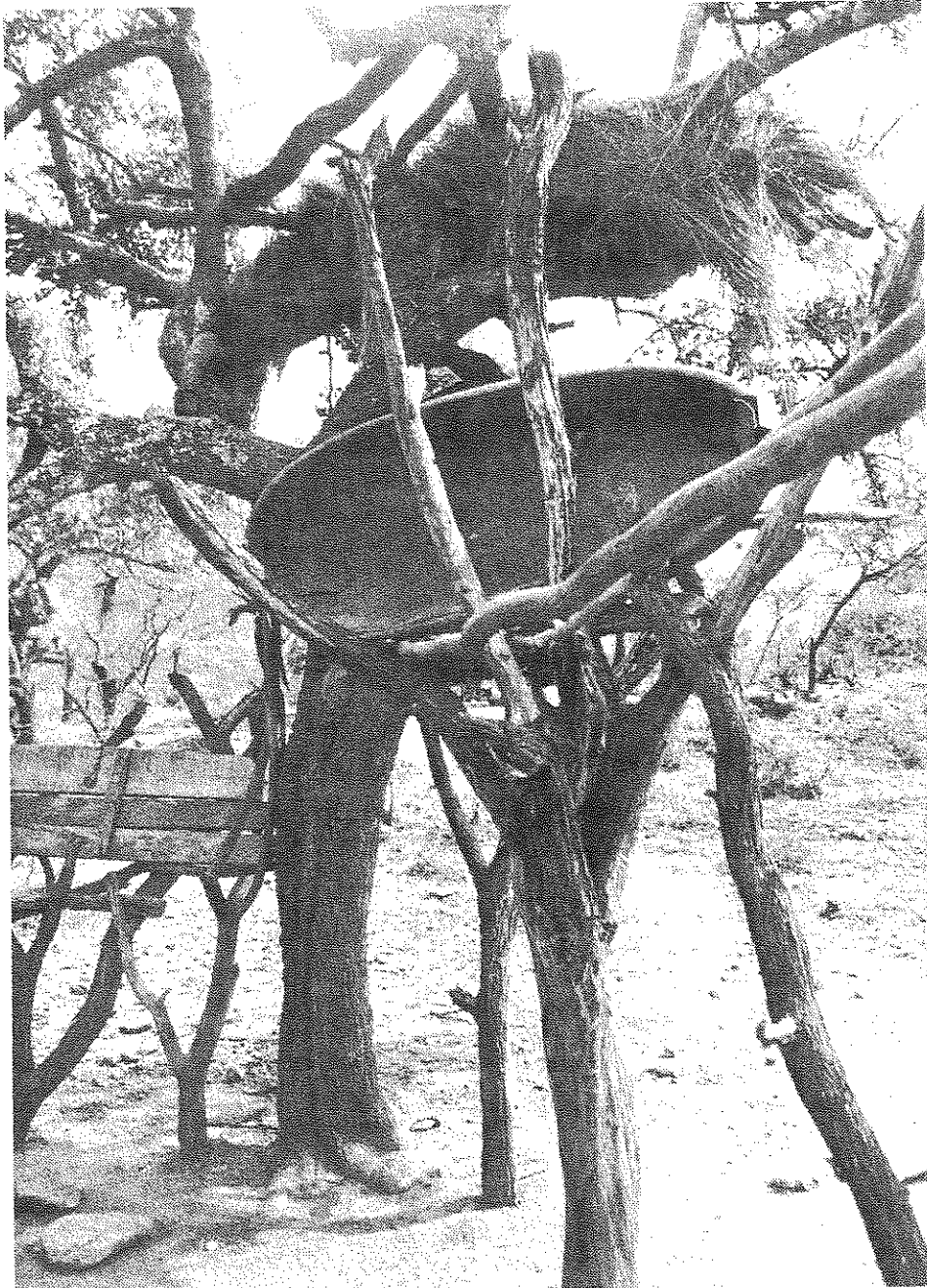
An account of the general pattern of production during a year gives an impression of regularity which is not really how life appears to people in Morobus and Pserum. Erratic and insufficient rainfall often reduces the harvest by half. An outbreak of livestock disease will drastically reduce herds. People adjust to scarcity as a matter of routine, while occasionally experiencing relative abundance. They are more familiar with fluctuations than with regularity.

Implications for the project: The busy season is in April and May. At that time a number of young men as well as some women are away from the area. Up to the time of the new harvest is a period of food scarcity. Some years the situation is serious. People need to earn money to buy grain. It will then be easy to recruit day-labourers for project activities, while it will be difficult to mobilize occasional voluntary labour.



Before the rains start there is a drawn out slack season when it is for instance possible to organize communal fencing, if arrangements favourable to the villagers can be agreed upon.

Cattle nutrition is a serious problem during the dry season. The project can contribute towards improving the situation.



Grass is stored at the entrance of a compound. It will be used to repair a leaking roof, or to feed a sick animal. This practice is a strong argument in favour of planting fodder trees near homes.

## Chapter 7

### THE SOCIAL FABRIC

There is no formal authority in Pokot society, no kings or chiefs, no priests or judges. Chiefs were introduced by the colonial administration and it took decades before they began to wield influence. Authority rests with men assembled for a neighbourhood meeting. Here disputes are resolved, decisions made and news exchanged. This is the focus of organization and of decision-makings in Pokot society.

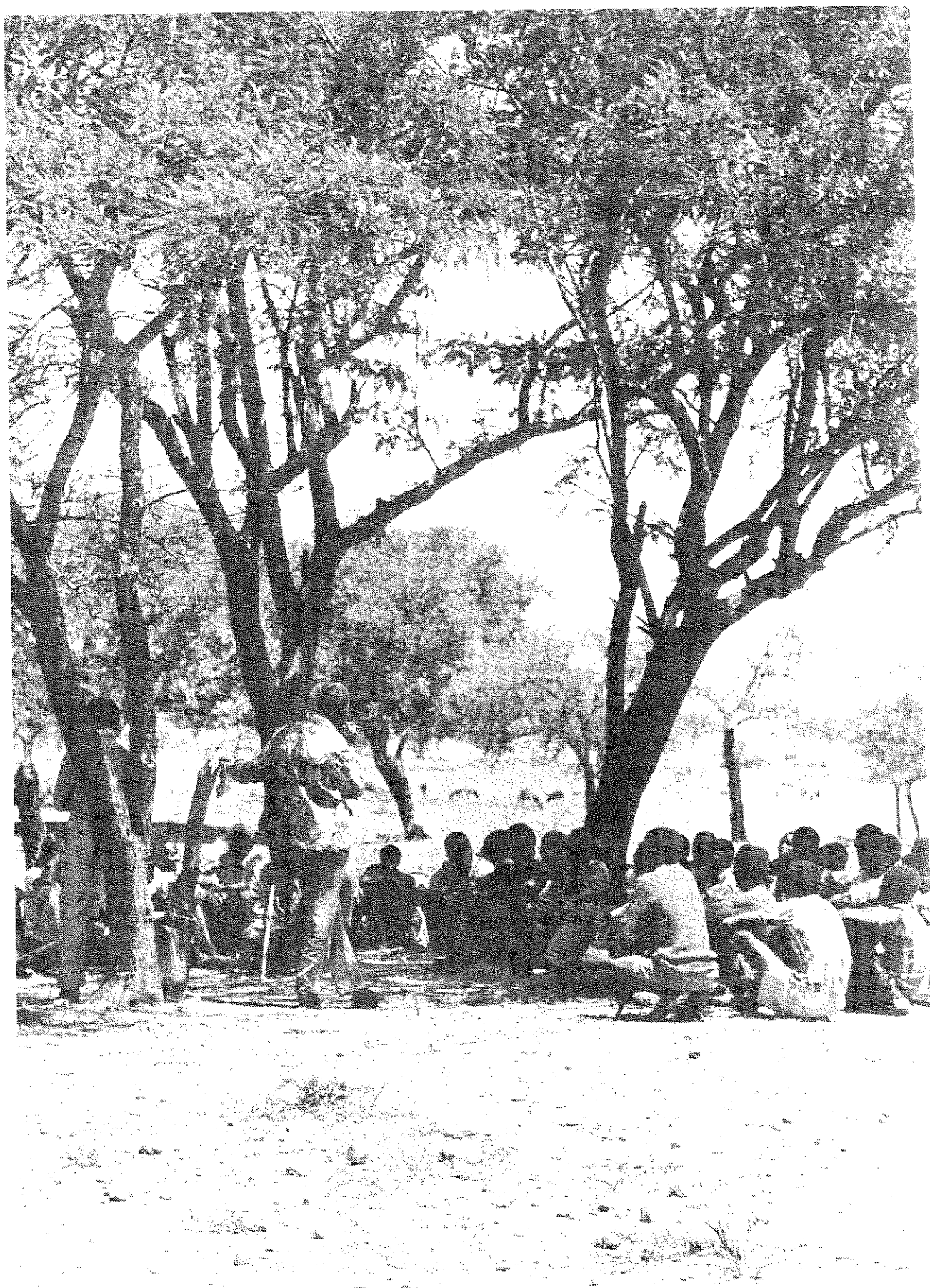
There are traditional leaders such as the diviner. There is also kirwokin, someone who becomes noted because of his skills in solving disputes. Conant refers to these men as "good talkers" (1965:431). This may sound somewhat unimportant, but is in fact an apt designation of how they exercise influence. Both the diviners and the "talkers" have important roles in Pokot society. But they cannot command others. Authority is never passed on from people assembled in a meeting to a higher office, because none such exists.

Men belong to age-sets. (So do women, but in public affairs women have a subordinate role. The account is therefore here focused on men.) These age-sets bind together those who were initiated at the same time, as opposed to others who are either their seniors or juniors. During ceremonies and neighbourhood feasts the various age-sets have their given positions and roles. Elders are respected, and they are the ritual leaders in ceremonies. They also lead the blessings. But again: they cannot command. That would conflict with the fundamental egalitarian and individualistic ethos of Pokot culture (cf. Edgerton 1971:18, 176 f). To tell others how to organize their affairs is not done. "There is no instance of any kind where one person has absolute authority over another in this society, not even a man over his own wife or children" (Schneider 1953:65).

Social life in Pokot is an intricate web of cross-cutting relationships. "Consanguineal, affinal, and territorial groupings are overlain by associations derived from circumcision groups, formalized age-sets, and stock-exchange partnerships" (Edgerton 1971:82).

#### The neighbourhood

The homesteads are scattered over the landscape. There are in Pokot no villages in the real sense of the word. A river, or rather a dry river bed since the streams only carry water for a short time of the year, or a ridge, divides the area into neighbourhoods. These are autonomous political units made up of independent households. They may agree to cooperate for specific purposes, such as preparing a field for planting or building a house. Most of the daily work is carried out together by



neighbours, as is most of the ritual life. The neighbourhood is in many ways more important to a Pokot, than either the clan or the age-set.

The borders of a neighbourhood may be somewhat floating. It will depend on not only the exact direction of a boundary stream but also on personal likings and cooperation. Families may move in and out of neighbourhoods for subsistence reasons or because of personal choice. Women move to their husbands' when they marry.

A neighbourhood usually consists of several clans, but it may also be only one. In any case, this is not particularly important. What matters is that people reside together, and cooperate for a variety of undertakings. This is what binds people of a neighbourhood together. Most issues arising within the neighbourhood are discussed and resolved by the (male) residents.

Morobus sublocation consists of ten and Pserum of sixteen neighbourhoods. Six or seven of these surround each of the schools where the VI Project has its activities. A neighbourhood is referred to as a korok. (The several possible interpretations of the term have been analyzed by Conant (1965). I shall be satisfied to translate the word with 'neighbourhood', although Schneider (1953:83) maintains that this is not possible.)

One korok may give quite a different impression from another depending on how closely they are situated to roads, schools, etc. In some korok many people are away working. There may be active church congregations, convenient water supply and so on in one but not in another. When it, however, comes to contributing labour for harambee purposes, or sharing communal resources they are all regarded as equal. A korok is an entity.

Implications for the project: The korok then is an easily identifiable local area of a size suitable for land rehabilitation activities. Intensive social interaction and work cooperation takes place within the neighbourhood. It is easy to convene meetings within a korok.

Since the neighbourhood is not a corporate group the project cannot expect all households of an area to be automatically implicated by any decision made, which applies to an area larger than the individual household. The project may have its ideas and proposals discussed, modified and eventually agreed upon at a neighbourhood meeting. It is likely that one has then arrived at a decision which is beneficial both to the project and to the people of the neighbourhood. But a family who do not wish to participate cannot be compelled to do so.

#### Kokwo - the meeting

A kokwo usually meets under a large tree. The men form an

irregular circle, sitting on stones, or on ng'achar, the beautifully carved mini-stools men often carry along, and which are also used as head-rests. Elders form an inner ring while young men are seated towards the periphery. Women may attend. They sit separately from the men. Only occasionally do they participate in the deliberations - but a man is aware of his wife's or wives' opinions. If it is an issue of importance to the women, they make sure that their input is felt (cf. Meyerhoff 1982:130). There is no chairman, no agenda, only a field open for people versed in Pokot tradition to exercise their political skill and clever reasoning.

The meetings are quite frequent. They are called for something mundane like goats having destroyed crops but also for serious matters like a case of witchcraft accusation. At kokwo local opinions are formulated. By participating in its deliberations (kokwo is public), the project may identify the needs of an area, the hopes people carry.

A kokwo takes a couple of hours. They are often slow to start. People arrive one by one. They sit down to chat and may for a while take up another topic than the reason for the meeting. The person who has asked people to attend will then open the proceedings. He recapitulates what made him call the meeting. He gives his views of the matter at hand. Often one or two of the elders will give a framework for the ensuing discussions by referring to similar cases they have taken part in or heard of. Then other men stand one by one to give their views.

It is fascinating to follow the deliberations, to observe how someone is preparing to join the debate. He rises to speak, often in a slow, but dynamic or even dignified manner, prepared to take the word just as the previous speaker concludes his contribution. If too quick, he finds himself standing there all dressed up with nowhere to go. But then again, waiting too long may allow someone else to take the initiative.

Contributions are carefully phrased, often loaded with references to Pokot tradition. The discussions may occasionally take a dramatic and intense turn, only to be relieved by a joke that makes even those who are at loggerheads with each other laugh. Men enjoy good discussions. They exercise "responsible thought" as an observer of social life in neighbouring Marakwet writes with an apposite wording (Moore 1986:164).

At one stage of the meeting, groups from the parties primarily involved in the case will move aside to discuss among themselves what they should claim in compensation, or alternatively be prepared to pay. While they do this, those remaining continue the discussions. It is usually among the people who are not directly involved in the case, that a solution will be formulated which, eventually, will be acceptable to all. The deliberation continues until this very point is reached. It is very difficult to force someone to submit to a decision he or she does not accept. A person who appears obviously guilty will come under pressure from his or her own lineage to accept responsibility. But still, if he



or she does not agree, the discussions continue. Decision making in Pokot is by consensus.

The Pokot share a firm conviction that most problems can be solved if people are left to talk it through. Similar cases from the past will be recalled and comparisons made. In people assembled in kokwo rest truth and reason, but it may take time for these to prevail. If one meeting is not successful, another is called a few days later. Eventually the truth will come out.

The other side of this firm belief in public deliberations is that people may be rather unwilling to commit themselves privately in matters that involve others. While I was pondering over the suggestions presented at the end of this report, I sought the advice of a few people well placed to comment on them. Our conversations ended (too early for my liking) with the remark "call the elders and discuss".



Men assemble for a meeting. Young men form an outer arc, the elders gather towards the centre of the circle.

## II

Not all people of a neighbourhood will turn up at a kokwo - but a fair number, and for a discussion on such an important issue as land use, the project can be reasonably confident that the participants constitute a cross-section of the local community.

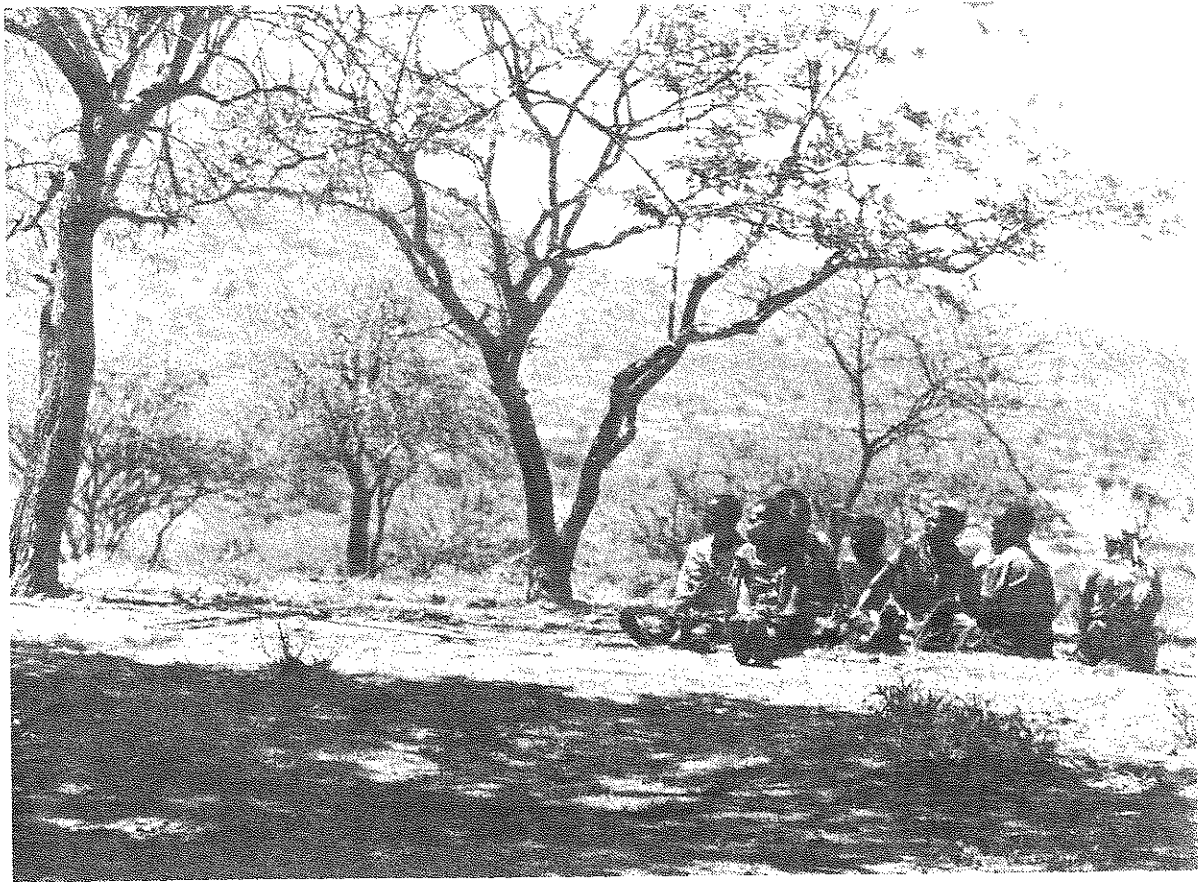
Some men are of course more talented than others in perceiving solutions to problems. They become recognized for this, and their words carry weight. Such a kirwokin will however not necessarily be able to transform his political skill into economic gains. His sons will not be given a similar standing - if they do not happen to share the father's talents. A rich man is normally awarded a particular respect, but to influence decisions in kokwo he must still plead his case as convincingly as any other person. Though there certainly was both economic and social differentiation in traditional Pokot society, there were also barriers against the accumulation of wealth and power.

Nowadays people with formal education are a new influential group. Particularly when it comes to the area's relations with the outside world (administration, aid projects etc.) they take a lead. Knowledge has always been held in high regard by the Pokot. As one matures through the different life stage-ceremonies one gets a wider and a more complex understanding of the fundamentals of Pokot culture. Thus age and knowledge often go hand in hand. But also a comparatively young man may occasionally become noted as an experienced and wise person. Today young men with formal education may cash in on this respect for knowledge. They acquire a role in the kokwo which their uneducated age-mates find difficult to achieve. However, some of these modern-style young men are not particularly interested. Their aspirations are towards offices and conferences rather than the kokwo.

## III

Kokwo is the men's world. Since women generally profess more interest than men in farm work, they must be given an important role in a tree planting campaign. They also spend more time around the home and are better able to help protect young trees planted close to the homestead. But through the kokwo they will only indirectly be able to influence the project's activities. Men and women live rather different lives. It is therefore necessary to plan separately with each group on its own terms.

The kokwo provides the framework. Here suggestions are made public and become part of village life. This is how successful, and legitimate, change occurs. But this is not enough in itself. Careful extension work is also required. (Some such suggestions are presented at the end of this publication.) The project must make sure that women are well informed about its various suggestions, so that they can form their opinion and express it - to their husbands and to the project staff. If the women are allowed to share information they will see to it that their opinions do reach the kokwo and influence the decisions made there.



At kokwo the women sit in a small group apart from the main gathering of men.

If women tend to remain silent in formal meetings, they are however quite outspoken when encountered in the fields. Farm trials and small on-farm nurseries will therefore be good ways to reach women and to get their honest views on the project's activities.

The alternative to kokwo is the baraza. This is the Swahili word used for the meetings called by the administration in which information is passed on to local communities. Certainly the project can and should make use of the baraza. For the initial contact with an area the baraza is the logical forum. It also has the advantage of allowing more freedom of action for the local women groups. And this is something which is important for a tree planting project.

The baraza is gaining in influence. The administration uses it to communicate with the local communities. The kokwo is also changing as formal education becomes a new important factor in local power distribution. The project needs to be sensitive to the relative importance of the kokwo in different local communities. The social environment is as difficult to predict in



all its local variations as is the natural environment. The project must maintain a flexible and responsive relationship to the local communities rather than sticking to rules and expecting that the role of the kokwo can always be predicted in detail. Development work is the art of always being prepared for the unexpected.

This said, the general pattern will still be that, as the project gradually becomes integrated into a local community, the kokwo will become a natural meeting ground. That is how the local connection is emphasized.

#### IV

To discuss project matters in kokwo is to choose a winding path approach towards successful tree planting. The alternative is the highway approach: that is, using development rhetoric, and hiring people to do the work. Trees will be planted, people will get salaries and they will praise the project. To discuss, to find compromises and agree in kokwo resembles what trees do. Their roots search windingly for moisture and soil nutrients. They do not hurry. Meeting a stone, they make a deviation. Eventually the roots reach favourable conditions and the tree is established.

Kokwo offers the possibility of searching for the right growing conditions, taking deviations if one encounters stones along the way.

Implications for the project: The way to solve problems and to plan in Pokot society is to take the matter to kokwo. The project should provide alternatives for the participants to consider. The meeting is a useful switchboard, where ideas can be formulated and some passed on to the circuit for feasible suggestions. This approach implies that the project becomes more decentralized and logically, that activities will vary somewhat in different areas. A consequence of taking matters to the kokwo is that the project must have permanent staff in the area who carry weight with the kokwo.

It will not do to make arrangements only with the local administration. This is as meaningless as to plan without the cooperation of the chief and the assistant chiefs.

Another important advantage arising from planning project activities in kokwo (in contrast to just calling a meeting to announce the project's intentions) is that exact and relevant information on local land use will surface. In a group ranch the internal land rights may not appear very distinct during abstract discussions. Once infringed upon, however, they are very quickly defined. The kokwo can help to anticipate such clashes.

Intensive extension work, directed particularly at women, must be combined with holding formal discussions and deciding matters in kokwo.

## Chapter 8

### LAND USE AND SOIL CONSERVATION

When the VI Tree Planting Project becomes involved in environmental protection in Morobus and Pserum, it is joining forces with others who have the same concern.

First, the people of the area. They selectively protect trees. There are sacred trees which may not be cut. There are trees which are good to place beehives in which are never touched. Good fodder trees are not cut down when clearing land. Traditionally, seasonal grazing restrictions were also organized. But these aimed at preserving grass, not land. The idea was to save grass so that migrations could be minimized during the dry season (cf. Schneider 1953:197). That vulnerable lands were protected was a fortunate coincidence. This distinction is a direct pointer to outside conservationists wishing to influence land use patterns. Conservation without improved productivity will be considered useless. Interventions which are not productivity oriented will fail.

If grazing lands in the old days were not normally protected against erosion, the same is true for the irrigated fields, which are found below the eastern escarpment. Water is lead into fields without any ridges or basins. The inevitable result is that topsoil is washed away.

Land degradation in West Pokot has been of concern for a long time.

#### Erosion and soil conservation

During the late 1920's notations start to appear in the annual administrative reports about land degradation in the area. The tone becomes increasingly alarmed during the 1930's. Slash-and-burn agriculture on steep slopes was banned by the administration, and soon more restrictions against local farming practices followed. An agricultural demonstration plot was established in Chepareria in 1938 and another one two years later in Morobus. New crops like bananas, potatoes, maize, beans and cassava were tried. Local interest was not overwhelming (Schneider 1953:56f; Patterson 1969:23).

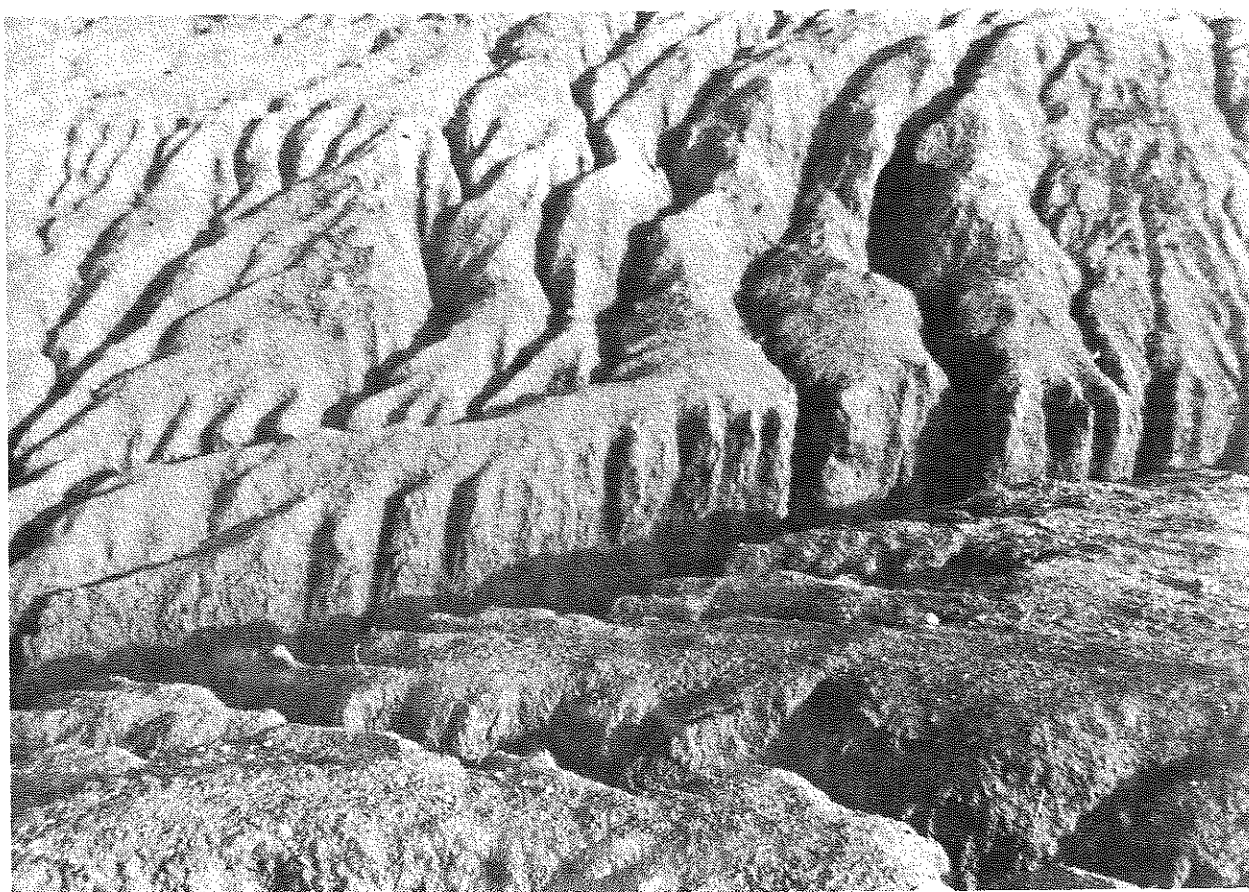
In 1940 rotational grazing started in Morobus. It proved that denuded pastures can be rehabilitated. Seeds lie dormant in the scorched hard ground and germinate when the grazing pressure is reduced. Attempts at destocking met with less success.

Cut-off drains were constructed above some of the gullies at Morobus. Sisal was planted to arrest erosion. Ordinances requiring farmers to terrace their fields were issued. Of course it was difficult to check that this was in fact carried out

(Schneider 1959:154). In 1950 Morobus was singled out as the most developed soil conservation area in West Pokot (Gallé 1986). This is a fact worth considering today.

One of the last achievements before Independence in 1963 was the construction of a major cut-off drain, reinforced by concrete, across a hillside above bad gullies in the Kamtung'wo part of Morobus. I was able to date this effort when I met a young man who lives just beside the structure. He is called Berrich, which is the Pokot distortion of the Swahili word mfereji (ditch, water-channel), because he was born in 1961 when the work was in full swing.

People of the neighbourhood confirmed that the cut-off drain had successfully protected the eroded area below. Today the ditch is completely silted up and can only be traced as a tiny ledge in the hillside. The gullies below are moving into cultivated fields and are even threatening one homestead.



After the long dry period no vegetation remains. The rain beats down on unprotected ground, soil is washed away at a frightening speed, and gullies develop. Photo from Morobus area, May 1987.

It is of course futile to ask why the obviously useful cut-off drain was not maintained. When I still do so, I get the usual answers that people did not know how to desilt it (which is not true); that the work was too demanding (an equally unlikely explanation); that this was something unusual (true, but not a particularly helpful explanation); and that it was nobody's concern. The last explanation offered is I believe correct. In Pokot tradition, the individual's role in any undertaking is emphasized. Atoma chi ripoi chi tukuchi (if someone dies, his livestock (=property) follows him). Other people may inherit wealth but they will not care for it with the same fervour. Things may fall apart when the promoter leaves the arena. The logical conclusion is that the project must strive towards making the kokwo responsible for the activities .

The silted cut-off drain in Kamtung'wo indicates how important it is that even genuinely useful innovations have solid local support. It is not enough that an improvement is technically sound. It is just as important that it fits the local organizational set-up. I apologize for repeating the obvious, but the silted cut-off drain is a splendid example.

That something has been achieved does not mean that it will continue. The Pokot people plant to harvest, not to create a Garden of Eden for their children.

Implications for the project: On arriving in Morobus or Pserum the first impression is that this is an area on the verge of ecological collapse. Outsiders have held this opinion for decades. The Pokot claim that the erosion problem has always been there, though people will readily admit that the population increase and the larger cultivated areas now speed up the process of land degradation.

Conservation techniques are no news to the people of Morobus and Pserum. However, precious little terracing or water harvesting can be seen in the area. Improved productivity of the land is the only motive that will ensure conservation. The silted cut-off drain of Kamtung'wo is a monument reminding visiting conservationists that conservation have its local grounding. It must take root in the kokwo.

### Grazing control

#### I

It is as difficult to strike a balance between the number of livestock in an area and its technical carrying capacity as it is to temporarily close an overgrazed area to allow it to recover.

Since drought is a recurrent fact throughout most of the district, virtually all livestock owners have been forced to take their animals into areas where they do not normally herd. When others are hit by drought and arrive with emaciated animals

looking for pastures, perhaps asking to be repaid for previous help, then it is difficult to refuse them access. In Pokot society generally, a person who asks for something should be given it if the owner is able to share (cf. Widstrand 1973:51f). This way social ties are established and reinforced. A relative or a cattle-friend, or just someone who asks, may be invited to come. Others will follow, and the good intentions one may have had of keeping the number of livestock down, are thwarted.

Morobus and Pserum border in the south on highland areas where private lands have been demarcated. This means in practice that these areas are largely closed for dry season grazing to the livestock owners of Morobus and Pserum. But since land in their own area is still common land, they find it difficult to refuse others who wish to make use of it. During the rains, livestock invade their pastures while they themselves later in the year have difficulties finding good grazing nearby. They are forced to move their animals to Karapokot and Uganda, where they in their turn, expect to be granted grazing rights.

Initiatives may be taken to reserve some grazing areas for the dry season. Schneider maintains that the Pokot used to close areas with termite-resisting grass during the rainy season to have something to rely on later in the year (1968:155). When he visited the Samor area (in Morobus) in 1951/52 he was told that the people there had closed areas ten years earlier (1953:197) though this was not practiced while he was in the area. Likewise, Huxley (1960:15f), and Barrow (1982:39) for the East Pokot, maintain that deferred grazing was traditionally practiced. This is also what old men in Morobus and Pserum say.

During the colonial period the government organized rotational grazing. According to district annual reports, the idea was fairly well received by the local communities. In Morobus sublocation, grazing areas were demarcated around 1940 and by the 1950's a system of rotational grazing with four blocks had been established. In 1956 this developed into the Batei grazing scheme with water dams, grass reserves and attempted control of livestock numbers (Gallé 1986). Pserum was included in the Kipkomo grazing scheme which by the late 1950's appears to have been fairly well established (Vermaat 1986:24f).

Despite the assurances in the literature that the Pokot did indeed traditionally set aside reserve grazing area, we lack first-hand accounts of exactly how this worked.

## II

In April 1987 the cattle owners of Morobus were very concerned for their livestock. The rains ceased for a couple of weeks. The few cattle that had already returned from the dry season grazing had to be fed on leaves from trees. From the western areas it was reported that cattle were lost to rustlers. The cattle could not be brought home since there was no grass in Morobus. At a meeting called by the assistant chief of the area, people discussed what

could be done. How would it be possible to become less dependant for the future on the dry season grazing in Karapokot?

It was eventually resolved that as from May 1st, the area west of the river Tatwa, running roughly along the road dissecting Morobus sublocation, should be closed to cattle. Small stock would be allowed to remain. About a week after the meeting I inquired about the impending closure from a few villagers whom I knew had not participated in the meeting. They were not aware of the decision. When I left Morobus on May 6th, there were still some cattle in the western parts of the sublocation.

Similar experiences are reported from many other villages. If only a few individuals are slow to remove their animals from a restricted area, others who see this happening will then also wait. There is really no reason why anyone should abstain from using a resource which in any case is being used up. The decision that all had agreed on loses weight. To take up the case later at a neighbourhood meeting may appear unduly zealous, as the grass is already finished anyway.

During the meeting in Morobus when people resolved to close an area to allow it to recover, all present knew of the many practical reasons that prevented the decision from being implemented. But during the detailed discussion of the current situation, when the suffering of the livestock was described, and the characteristics of the drought analyzed, an adaptation to the problem was found. It had been understood in all its many repercussions. This is how knowledge is formulated in Pokot, as a result of observation and comparison with previous experience. The infliction had now been expressed and shared. The only real solution to the problem is rain. The people's desire for rain was manifested. The meeting was from this point of view not useless. One became reassured about how things ought to be. And eventually it rains.

### III

The grazing restrictions that are from time to time suggested in neighbourhood meetings today are less far-reaching than the grazing blocks organized during the colonial period. At that time all animals were removed from a closed block, which would then recover fairly quickly. When it was again opened for grazing there was a substantial resource to be shared. Today it is only the cattle one thinks of moving, and this makes a great difference.

Apart from the fact that the land does not get the same chance to recover, it appears to be easier to allow a few cattle to remain behind too, together with the goats and sheep. Then the process discussed above, with others following the example, is already underway. Keeping your own livestock out when others are trespassing is merely giving away a scarce resource.

Today the whole issue is also complicated by the fact that people disagree on how land is to be utilized. Some would like to

see the end of any communal form of land management. An old man found the following words to characterize the conflicting interests:

"There is no unity now. Therefore it will never be possible to agree on grazing arrangements. People do not understand each other any longer. This is because of education. This has changed everything. Those who have studied cannot let anything remain the way it was. They cannot accept rules. They find the rest of us primitive. They say our cows are of no use. They say: 'We are moving on. We are more knowledgeable than old men. Therefore we cannot obey old people'.

They think they have akili (Swahili for intelligence, cleverness). They are fools, but believe themselves wise. They are the Kaplelach. (The generation which is now roughly between 25 and 35 years of age.)

Educated people try to take over the area. They want to have private lands. They cannot be interested in anything else. But how is it possible to have a hundred head of cattle on 20 acres of bare ground? They will be forced to sell the animals.

The Kaplelach fight for land. They try to remove people standing in their way. They write to the Chief saying, 'come and demarcate our area'. Yet it is for elders to tell where the boundary of someone's land is.

How can you have agreements on grazing rights under these conditions? Would the Kaplelach respect that?"

There are unsolved conflicts as to how land should be used. The alternating grazing blocks system broke down almost ten years ago. Many people expect that private land tenure will be introduced in a few years' time. For all these reasons, it is inevitable that bans and restrictions will have very little effect. The uncertain situation does not encourage people to take collective responsibility for how the area's resources should best be utilized.

#### IV

During the colonial period the grazing restrictions were enforced with whatever resources could be mustered. Certainly headmen and grazing inspectors were bribed not to take action against trespassers (cf. Schneider 1959:154) - but then again other cases were in fact reported and acted upon. Now grazing restrictions are both to be decided and enforced by the local communities themselves. This means that neighbours must accuse each other. "Nobody wishes to punish his neighbour or relative. It may be alright if someone else does it. But for neighbours it is very difficult".

The local administrator, the assistant chief, must also be prepared to personally take action against people in his area. He can no longer pass on the responsibility to a distant and enigmatic authority. But the Pokot have never been particularly

deferent to chiefs (Schneider 1954:146,149), and in Kalenjin tradition it is not normally done to interfere in how other people manage their affairs (cf. Östberg 1987a:46f). This is not the same as saying that theft is accepted, or that action will not be taken against someone allowing his livestock to eat somebody else's crops - not at all. But temporarily closed pasture is a somewhat grey zone, easily violated. It is much less certain that a kokwo will be called in for a case like that.

The recent experiences of grazing control are discouraging.

Implications for the project: Any suggested enclosures must be relatively small areas. They must be based on contracts with the people concerned. There is no way to enforce enclosures even if they are supported by the administration.

Agreements with a small number of farmers, to enclose areas to which they have undisputed usufruct rights stand a better chance of succeeding. (This reasoning guides the suggestions made later).

### Present land use

#### I

Both Morobus and Pserum areas were officially intended to be group ranches. This does not correspond to the way land is presently used.

The group ranches were "declared" in 1973 after many years of trials with grazing schemes in the area. Initially some opposition was registered in Kipkomo group ranch (I.D.S. 1975:10-2). But somehow the ranches got a reasonable start and rotational grazing with a two-block system was practiced, at least during years with fair rains. (In dry years all grazing schemes throughout Pokot appear to have collapsed.) Serious problems of overgrazing and land denudation were however also mentioned in administrative reports. But by and large the records indicate that the system worked fairly well during the 1970's. This is also how people of the area remember the situation. A range advisor was posted to Morobus for three years by the Christian Rural Development Center based in Kapenguria. Money was raised locally to register the group ranch and acquire a title deed to the land, but this never materialized as the people of Morobus and Samor could not agree on the boundary demarcations. The Catholic Church designed a seven million shillings water development plan for the group ranch (Benjaminse 1979), but was never able to finance the project.

After some initial enthusiasm official encouragement gradually waned. The investments that were supposed to back up the group ranches (water development, improved marketing facilities, veterinary support, etc.) were delayed or suspended. The whole idea of communal ownership appeared less and less convincing to



Kenyan policy-makers. When land adjudication started around Chepareria in 1976, people in Morobus and Pserum also showed interest in registering private holdings. The chief of Chepareria location publicly encouraged this development. After that the idea of group ranches in the area was for all practical purposes dead. By about 1980 attempts to use grazing blocks had ceased. Informal division of land is a fact in both Morobus and Pserum. Land disputes are now appearing as people make preparations for the land adjudication everyone expects will come.

## II

A villager can count the land surrounding his home as his own.<sup>1</sup> Here he may enclose and cultivate without consulting anyone. If he moves some distance away from the homestead however, he is expected to discuss the matter with others, particularly if he approaches another homestead. "There may be problems with other people's animals eating your crops if you have a shamba some distance away. One should avoid such quarrels. But you can always ask permission to cultivate a part of a relative's shamba."

Trying to make private use of land some distance from his own home a farmer may find his ambitions thwarted. People who have marked out boundaries of fields they wish to cultivate by planting agave have seen these cut down by others who felt they were claiming too much land. Meeting resistance one may either abstain from the plan or try to make peace with the neighbours by slaughtering for them and brewing beer. This is also what is done when people move into another area in search of pasture, without having made prior arrangements. Should they encounter opposition, the people of the area will be similarly placated (Schneider 1953:196, 326).

All the land outside the immediate vicinity of someone's homestead is free for grazing. The respective advantages and disadvantages of this is at present debated in Morobus and Pserum. Some villagers say this is only to the benefit of those who have big herds, which destroy the habitat for all the rest. They argue that the land ought to be divided so that it would pay for someone to develop his land. Others maintain that this is impossible in a semi-arid environment. The carrying capacity of the land is so low that it cannot be of much use to any one individual. Therefore, they reason, only a carefully monitored system of rotational grazing is profitable here. The debate continues, and will be influenced by the project's activities. The enclosures and the promotion of agroforestry techniques have direct consequences for land use.

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<sup>1</sup>Since land is traditionally inherited through the male line, and since individual title to land has not yet been introduced in Morobus and Pserum, the account is here restricted to dealing only with men.

### III

In the southern part of Baringo district (we now make a brief deviation to the neighbouring Tugen people living in a rather similar ecology), land has been adjudicated into individual ranches. This is a semi-arid area, suitable for animal husbandry. It was badly eroded at the time of land adjudication. Most plots were reseeded and the cattle numbers were reduced. This led to a considerable improvement in the productivity of the land (Gichohi & Kallavi 1981:203; Livingstone 1981:13-30). A market for grass and forage developed. Land owners sell the right to graze their lands.

Further north in Baringo, private land ownership was resisted. Here a government employee from the area, James Rottich, decided to enclose 15 hectares for his own use on land adjoining a government demonstration plot. (This apparently gave people the impression that he had a right to enclose this land). This is in a heavily eroded, stony area with virtually no palatable grasses:

"He seeded the grass by hand and allowed it a full season of growth without being grazed. In the dry season, he burned the grass and waited for the next rains. With the rains came a thick, lush growth of grass that he has carefully protected from other livestock owners. He has skillfully grazed this ever since. Despite the extremely rocky appearance of the ground, the plot is literally covered with a dense swath of palatable grass, in stark contrast to the surrounding area. While the rest of the area has been continuing to lose soil, moreover, this ground cover has arrested erosion in the enclosed area.

Rotich's management system has been one of ensuring that the grass grows, then grazing it hard, and finally removing his animals before its regeneration capacity is impaired." (Hopcraft 1981:234-235).

Somebody else tried to copy Rotich's initiative but did not get his claim to enclose a piece of land accepted by the local community. He still went ahead with his plan but it ended when a group of herders broke down the fence and grazed the plot completely. "The plot is now bare of any grass or edible ground cover, indistinguishable from the rest of the area" (ibid. loc.cit.).

Implications for the project: It is possible to make agreements with individual farmers to enclose relatively small pieces of land, and to plant trees, as long as this plot is in the immediate vicinity of their homesteads. For larger areas, suggestions must be discussed and agreed upon in neighbourhood meetings.

The group ranch is not a judicial body in Morbus or Pserum. The assistant chief should be involved in any suggestions for enclosing land to which a farmer may not have indisputable private user-rights.

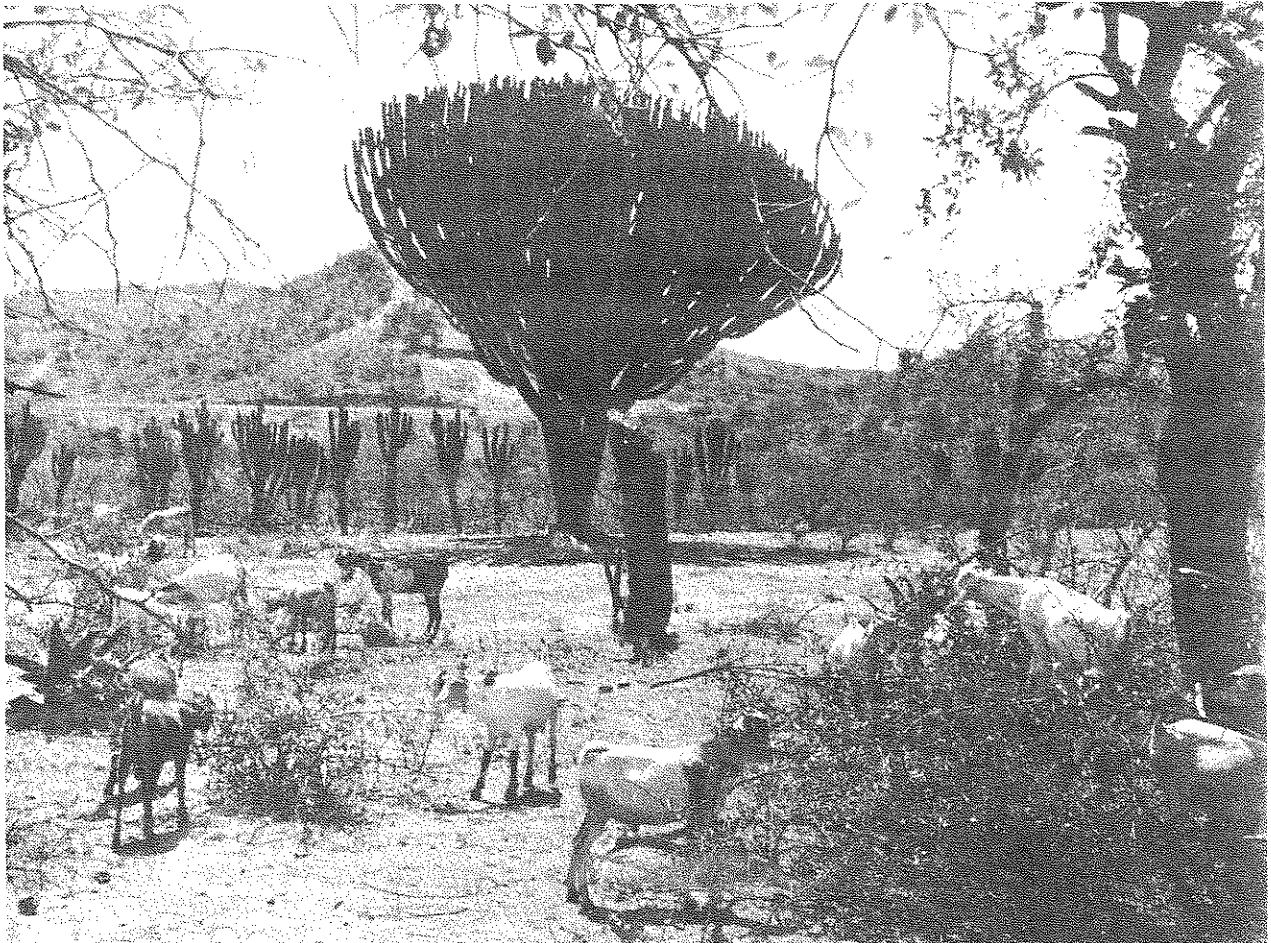
Tree planting almost by necessity means that land use becomes more permanent. In all likelihood, project activities in Morobus and Pserum will contribute towards this. They thus constitute a major external intervention in the area. All experience shows that enclosures increase economic differences in a community. The initiative to subdivide group ranches comes from the more "progressive" members.

## Chapter 9

### TREES IN POKOT CULTURE

The Pokot do not plant trees. Trees appear. It is not Man's business to see to it that trees grow. In the Pokot mode of production trees are mostly a hindrance. The Pokot prefer open pastures. They feel that in cultivated fields, trees compete with the crops for water, nutrients and sun.

Middle-aged people are of the opinion that there are fewer trees in the area today than when they were young. Trees providing good building posts have now become hard to come by. But this does not persuade people to plant trees. Trees do not belong to the category of things that people care for. They have many other things to worry about.



Goats browsing on loppings from Balanites aegyptiaca. In the background Euphorbia sp.

When inquiring about trees I invariably got answers reflecting their uses. Most trees have their uses but the tuyunwo (Balanites aegyptiaca) is wonderfully useful. It was always singled out as a particularly good tree. At the time of the year when conditions are bad, when it is hot, dusty, and nothing is left in the stores - then the tuyunwo produces its sweet fruits, even in very dry years, and people can prepare a vegetable relish from its leaves. Livestock feed on its fruits and leaves until the new grass appears.

It is a hardy tree that tolerates moderate lopping well. It propagates easily, but the goats finish off the wildlings if these are not protected. In Morobus and Pserum they are not, and young trees are rarely to be seen. This is an indication of the increased pressure on land, and a warning for the future.

There appears to be no clear difference between how men and women perceive the potential value of tree planting. They both emphasize that fodder producing species would be very useful, and that there is a greater need for building material (and thatching grass) than for firewood. Men sometimes also mentioned species that can make good fences, which I cannot remember any woman suggesting. No one knew about nitrogen fixing species (at least not as disclosed by my possibly too fumbling questions on soil fertility) although the farmers always allow for instance Acacia alba and A. tortilis to remain in cultivated fields. There could, however, be several other reasons for this, apart from fixing nitrogen to the soil. Shade trees are of course appreciated in this hot area, but trees as wind breaks were not mentioned. The winds can be very disturbing and wind breaks would be very useful.

### The sacred trees

At Bandera, just before one leaves the highland parts of West Pokot district to begin the descent to the lowlands, stands an impressive simotwo tree (Ficus natalensis). A couple of years ago, when the new tarmac road was under construction, the engineers wanted to cut down the tree to make room for their road. The reaction was instant and resolute. "This tree is sacred, this is an old meeting place. It cannot be touched". Now the road takes a different turn, and the simotwo remains a focal point of the area.

The simotwo tree represents abundance. It reaches higher than other trees, and it branches out over a wide area. When elders bless a young couple during a wedding ceremony they say iliku sikon kilenye simotwo, "be rich like the simotwo tree". They also say isach kilenye simotwo, "grow like the simotwo". Yes, "flourish like the simotwo", itopo le simotwo. Have children, be prosperous, flourish.

The way the simotwo tree propagates fires people's imagination. Birds eat the fruits and may deposit seed by droppings in surprising places, like in the fork of a branch of a

tree. The seed then germinates and relies on the host tree for nutrients. When its own roots reach the ground it starts growing and eventually kills the host tree.

The simotwo tree is not common in Morobus and Pserum. It belongs to the highland parts of the district. But it has its lowland counterpart in the mokongwo trees (Ficus sycamorus). This is a beautiful, big tree. Its fruits are edible, livestock feed from its leaves, it provides medicine, and is an excellent tree for placing beehives in. It is also used for woodworking.

Mokongwo grows by the rivers, and there is a cool, pleasant atmosphere around the tree. People assemble here to pray for rains, and to sacrifice. It is associated with Ilat, the god of thunder, who resides in rivers. When Ilat raises his arm so that the armpit is exposed, there is a clap of thunder and rain falls.

God is present in the simotwo and mokongwo trees, and should not be disturbed. Therefore they are never cut. Should anyone do so, a black goat must be sacrificed and the elders bless, lest misfortune strike.



Ficus sycamorus grows by the rivers, and there is a cool, pleasant atmosphere around this tree. It is the sacred tree of the Pokot lowlands.

These two trees contain white latex. "They cry when you cut a branch. Milk flows. It may stop, and you walk away. But for another person it cannot stop. It drops, it drops. You must slaughter a young black goat. The one which has not yet been near the nanny goat. You slaughter so that the milk may stop dropping."

An old man indirectly commented on environmental change as he was telling me about the mokongwo tree:

"If you cut a branch the country will break. When you put a beehive in these trees you must do it carefully so that you do not break a branch. But anyway, it is not so strict nowadays.

In the old days it was better because there was not so much wind. Nowadays the wind may break branches in the mokongwo tree. There is a lot of wind. Anything can happen. The wind carries houses, and anything. This is because there is no bush and no grass.

In the old days, people were burning before the rains came so that grass should grow. Where is the bush to burn now? Really there is nothing. An there is no grazing."

### Trees in proverbs

The characteristics of trees other than the impressive simotwo and mokongwo trees also influence people's thinking. The sitoghon tree gives out a whistling, fine tone when the wind moves in the small "pockets" from which the tree's thorns grow. People from an area where the sitoghon grows refer to this when praising themselves: werpo morion ket nyo kimorion sitoghon, "men of the whistling tree, the whistling sitoghon."

Chikatat le rena means "slippery as the rena tree". It is difficult to climb the rena tree with its slippery bark. If someone is evasive the comparison with the rena tree comes naturally. It has the same connotations as the English saying "slippery as an eel."

An interesting saying is ketung kreswo angurwo, which freely translated means "when the kreswo falls it will crush angurwo". Kreswo is the big euphorbia tree. Angurwo (Plectractus sp.) is a plant with soft wood, which grows up quickly during the rainy season. The meaning of the saying is that the fall of one person (for instance a disclosed thief) may also affect others.

### House building

It is difficult to find good posts and timber for house-building. A few people of Morobus and Pserum have even bought trees from the Kamatira forest. That involves transport costs of some five hundred shillings. If one wants to build a house with ironsheet-roofing the timber must be bought from outside the area. For a house of the traditional type it is possible to find the posts

locally, but with effort. A fastidious house-builder will have to collect the posts from the upper reaches of Mount Morobus.

Thatching grass is equally difficult to find. Again people may have to depend on Mount Morobus. But the grass there is not as suitable for thatching as the lowland varieties, such as chelowowes which are now in short supply. Bringing home some 30 loads of grass from Mount Morobus is a considerable undertaking, particularly for the people of Pserum. "You ask women to go. Then you slaughter an ox for them."

Another way to solve the problem is to leave a portion of the shamba uncultivated to allow grass to grow there. It is harvested in August or September.

Implications for the project: Trees providing good and termite resistant wood should be grown in the plantations. Likewise, it would be good to make sure, through reseedling, that suitable thatching grass will appear in the plantations.

### Fuelwood

Firewood is collected as need arises. Young girls of about ten years of age will be sent to collect what is needed for the day. If they are at school the mother will do the work.

The burning quality of different woods varies considerably. Some species also give a disturbing smoke. But one is usually not very selective when gathering firewood. Almost any dry wood is picked up. Green wood is seldom cut. If a woman wants to cut a big tree she will usually do it herself, and not ask her husband's assistance.

During the rainy season more attention is paid to having hard woods stored at home as firewood. These are piled up near the house on a simple stand, likwoch, or beside the fireplace inside the house.

Around Chepareria centre an embryonic market for selling firewood can be discerned. A load will bring in about six shillings. Charcoal does not at present appear to be a possible way to earn an income, although Morobus is situated on the main road to Kapenguria and Makutano. Charcoal is sold along the road, close to Kamatira forest, but at 35 shillings a bag it is difficult to find buyers. (In Kitale town the price is 50 shillings a bag or even 60 shillings.)

In Morobus and Pserum, firewood is not a serious problem yet, but some valued fuelwood species are said to be scarce, and few young trees are to be seen. Mothers of very small children may find it difficult to spend an hour away from the home looking for firewood. It is a problem for older, infirm women too.





Firewood piled up on a lukwoch - a stand beside a house.

House building and firewood are two obvious uses of wood. But it has many other uses. It is needed for the manufacture of tools, of bows and arrows and spear shafts, for household utensils and for furniture. Cattle are watered from wooden troughs. People are cured with the help of medicines made from the bark, roots and leaves of trees.

### Honey

Honey is important in Pokot society. Pket, mead, is a necessary propelling force in many ceremonies. The word pket literally means "of the tree". It appears as a gift to a tree planting project that that which is sweeter than anything else, and which elders use for blessing, is credited as being "of the tree".

Trees are metaphors for how generations connect to each other. The lineage branches out<sup>1</sup> and knowledge is passed on from the

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<sup>1</sup>This is, I must add, a Pokot concept and not an influence of Christ's words: "I am the vine, you are the branches."

present generation to the one that follows. This takes place ritually at ceremonies like initiation and marriage, where the elders' blessings are accompanied by mead. The association between trees and the lineage is made explicit in blessings like isach morn le simotwo or which means, "have branches and roots like the simotwo tree". The elders pray for the young generation to branch out, to have children.

Honey is a condensation of different elements from nature. Through the pket of the elders' blessings it sustains people. Forces of Nature are transferred to Culture.

A fair number of beehives are found in trees around Morobus and Pserum, but not exceedingly many. Young men do not appear to be too keen on bee-keeping. Honey is not as common in Chepareria market, as it is for instance in the marketplaces of the Kerio valley. The improved bee-hive, Kenya Top Bar, is not available in the area. There are no collecting centres for honey. But: the area is potentially good for bee-keeping. There is a local tradition of honey production. Honey can be sold, but it is also a reserve food for periods of scarcity, and it is given to convalescents. It is the oil of social life and of ritual.

For these reasons the project should plant tree species providing good bee forage. The project should stimulate honey production. In all possible ways!

### Tree planting

There have been no previous attempts at organized tree planting in Morobus and Pserum, except some shade-trees planted in the school compounds. A few farmers have tried shade trees and fruit trees close to their houses. Most of these were eaten up by the goats. While walking around in Morobus and Pserum I did not come across more than a handful of homes with surviving planted trees.

One tree plantation that all villagers are familiar with is the Kamatira forest on top of the escarpment, along the main road to the district centre Kapenguria. The natural forest here had been cleared long ago by people looking for virgin land to cultivate. In the middle of the 1950's, the government decided to remove the settlers and to replant the area. The trees were planted "block by block, on the precipitous, goat-ravaged mountain slopes down which storm-water now cascades unimpeded, tearing great gashes deep in the bones of the hills" (Huxley 1960:17). The saplings survived, and a big pine forest now protects this water catchment area for the benefit of thousands of people on the plains below.

The planting was done using the labour of imprisoned members of the maumau-movement who at the time were kept in West Pokot away from the political happenings in Central Province. (To these captured forest fighters it must have appeared a strange decree of fate to be sentenced to tree planting.) A few hundred imprisoned adherents of the revivalist church Dini ya Msambwa

were also kept busy with re-afforestation (Patterson 1969:40; Reynolds 1982:50). They had been convicted on charges of creating unrest in the district.

The Kamatira forest is protected and is in fact today overgrown. But other areas of the highlands are now being cleared by settlers at a frightening speed, thereby threatening life in the lowlands.

Implications for the project: People will probably associate afforestation with compulsion and with large-scale plantations, where the administration has exclusive rights to the land and the forest. That the project aims at a quite different type of forestry will have to be made clear to people in public meetings.

## Chapter 10

# THE DEVELOPMENT EXPERIENCE

### The promoters of development

#### I

The national development set-up has made strong inroads in Morobus and Pserum. The assistant chief is a key figure at most meetings where plans are made.

No clear-cut lines can be drawn between what is the assistant chief's obligations and what are the responsibilities of KANU, the political party, or what is purely the business of the elders of the area.

Likewise, young people are loosely organized in youth clubs which link up alternatively with the churches or with KANU. The women's groups are associated with the churches, but also with the Community Development Assistant.

There are range assistants posted to both Morobus and Pserum. They are based in Chepareria. They rarely visit the group ranches. During my weeks in the area they never appeared, and no one expected them to. One of them surrendered in the face of what he regarded as an impossible undertaking. "Monday is the only day of the week when it is possible to address a meeting of the people. On Tuesdays there is the market in Chepkopeh, so there is no point calling a meeting. Then there is a market in Ortum on Wednesdays, on Thursday here in Chepareria, and on Fridays in Sebit. I advise the people to destock and to use rotational grazing. This is the right technical solution for the area. But they do not follow my advice. I can do nothing. Maybe people will change. But it will take time."

#### II

There are at least five women's groups in Pserum sublocation. The group located closest to the project area in Pserum/Apeyuit is well established. The women have a shamba fenced with barbed wire and chicken net close to the Iuyn river at the site where a Catholic church is now being erected. The group is associated with the church, but non-Catholics may also join. Bananas, lemons, mangoes, maize, beans and sweet potatoes grow in the shamba.

When the shamba was cleared three years ago the women planted sorghum and finger millet. The first harvest was poor, basically because the members did not turn up for the work meetings. They then decided to divide the fields in four parts. Now the members from four different neighbourhoods are responsible for one section each. The fruit trees have been divided among the members.

If they have thus moved away from communal organization of the work, they do however still use one common store for the harvest, and they market it as a group.

"We have been visited by government people from many places. From Chepareria, Kitale, even from Nairobi. They ask: What is your problem? We answer: Water. Then someone else comes to visit. Same question. We say: Water. They told us we must have a bank account to get help. Now, last month we opened a bank account."

There are several women's groups in Morobus sublocation too. Again, the initiative came from the Catholic church: "The catechist said that women should organize themselves. This was very much to be desired. Women could be helped if they had problems. But to be helped you must be a group. An individual can never be assisted."

The women pay an entrance fee to join the group, and then a regular fee. All groups have tried cultivating crops to raise money for their groups. Some years have been successful.

In 1986 the Rena and the Seretwo groups received 7,000 and 10,000 shillings respectively through the Community Development Assistant to start goat projects. This enabled them to buy some 30 goats each and to build sheds for the animals. So far the goats have not produced any profits for the women. The kids have not survived and some of the goats have died. The women have to contribute money to keep it going. They cannot afford to hire someone to look after the animals, and the attempt to organize a schedule whereby they take turns in looking after the goats, interferes with other commitments they have at home. Normally goats are people's assurance against crop failure - here they have instead become a liability. The women hope for a change for the better.

To earn money is the main hope the women direct to their groups. So far they have not been successful. Apart from contributing to keep the goat projects going and paying membership fees, the members may also be asked to help finance travels for their representatives who visit women's conferences and courses. When harambee (collections) are announced the group is expected to contribute. The chair-person of one of the group laments: "The main problem is all the invitations we get to participate in fund-raisings. Some of the members leave the group just because of the fund-raisings. They do not want to pay. We are very much disturbed by these collections. People run away. They see they are not profiting."

Apart from trying to earn money, which the women feel they badly need to support their families, they also meet to discuss various matters, and to plan for church activities. They may listen to visiting specialists talking about child care, nutrition, etc. They meet, they share news, they advise and support each other. They are a minority in village society - modern, Christian women trying out new patterns of family life,

and of participation in public affairs. They are strengthened by the presence in the group of other women with whom they share similar experiences. They may have travelled together to Christian conferences or women's seminars. Now they plan together for the groups' future. Maybe they should buy a maize-grinding mill or start a poultry project, or rent a plot in Chepareria centre and open a shop. This planning, this looking to the future takes them out of the daily routines of most Pokot women.

### III

The national development set-up not only offers grants for various projects, it also makes demands on people. At a meeting in April the assistant chief used the opportunity to remind the participants about the harambee contributions that were due. It was 100 shillings to Morobus Primary School, 20 shillings to the school in neighbouring Chepkornishwa, and another 100 shillings for Ortum Secondary school, thirteen kilometers further north. On top of this, almost 300 shillings per household for various development projects in other parts of the district (Kapenguria, Kapsait, etc.) was asked for. Then there is the annual contribution to the party, KANU. This is 20 shillings, and everyone is expected to join. Previously only those with personal political ambitions, or a particular interest in politics were KANU members.

To pay out 500 shillings is a real sacrifice for most families.<sup>1</sup> There is not much choice however. The Assistant Chief is expected to produce sums in proportion to the number of people in his area. If some are particularly slow to contribute, the KANU youth wingers of the area may be mobilized to seize goats.

### The achievements

It is of course important that the project knows of the attempts at planned change that have already been tried in the area, and how they fared. In the chapter on land use and economy, the colonial experiences of soil conservation and rotational grazing were discussed. A few more recent experiences will be described here.

### I

The Roman Catholic Church is influential both in Morobus and Pserum. It is involved in most development activities. A mobile child-care clinic from Ortum Mission Hospital visits the area every fortnight. The church sponsors schools and women's groups.

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<sup>1</sup>The minimum wage in the agricultural sector is 305 shillings per month (247 shillings for those under 18) plus housing allowance. The day-workers in the VI tree plantations earn 23 shillings a day.



Gullies close to Chelakatet dam in Morobus

In Pserum the Anglicans have a congregation too, but the Catholics clearly have the upper hand.

In Pserum the school is a focus of modernization. It regularly scores well in the national examinations and appears to be well run. The approximately 50 pupils of the three upper classes live at the school during the week. The Catholic mission contributes three bags of maize a month to feed the boarders. The parents have bought lamps for the evening classes and they provide kerosene. The girls share a minimal dormitory in a store-building whereas the boys sleep in the classrooms. The facilities are bare in the extreme but still provide the children with an opportunity to concentrate on school work and to study during the evenings which would not be possible at home.

Three dams have been constructed in Morobus. One, in Chelakatet korok, is in use. Another one has a rather small catchment area and only carries water for a small part of the year. The third dam has silted up.

The area above the Chelakatet dam was originally fenced off by sisal. This showed where livestock was not supposed to enter. The dam area itself was fenced with barbed wire to keep out the livestock. Water was led by pipes to a trough below the dam, where the animals were watered. All this is now in ruins. The catchment area is totally unprotected and big gullies lead sediment into the dam. Livestock are watered at the dam where people collect household water. The barbed wire and the pipes disappeared long ago.

In 1981 the Catholic mission in Ortum secured 'Food for Work' money to de-silt the dam. Small check-dams were constructed in the gullies. Nothing of this remains today.

The Catholic Relief Service is considering de-silting the dam again. This could be combined with tree planting and land rehabilitation in the catchment area. Chelakatet korok would then be an obvious candidate for trying out the forms of cooperation suggested further on in this report.

The VI Tree Planting Project itself has also had an opportunity to accumulate some experience. It has 28 people employed in Pserum. When the first rains came in early April 1987 there were few terraces ready to catch it, and few holes ready for planting tree seedlings. Without a regular contact with the project management - which is not feasible from Kitale, and where in any case the staff at the time had other urgent commitments - the team working on the site had not considered it important to have everything set for a successful early planting. The same thing happened in Morobus. Fifty people were employed to fence and dig so that planting could be done the same month. This was a rush job, but progress slowed down considerably after a week when contact with the project staff became less regular.



Digging terraces in hard, stony soils in this pressing climate is demanding. Nobody likes it. It is for these reasons precisely that the project must have competent staff present on the sites - explaining, encouraging, and making sure that the structures are dug correctly, that the heavy work is meaningful in all its details.

## II

Together with a conscientious and development-oriented farmer, I collect about 250 seedlings at one of the project's nurseries. Each farmer is allocated at most 100 seedlings per visit, but we allow ourselves this irregularity. The rains have temporarily stopped, so we place the seedlings in a reasonably protected place close to his house. There they can easily be watered and a simple thorn fence arranged to keep the goats out. Some of the seedlings are to be shared with his neighbours and he will instruct them that the plastic tubes must be removed before planting, etc. Yes, fine! We are both enthusiastic and talk about the many advantages these carefully selected seedlings will bring.

A week later I pass his homestead and find the seedlings drying up. Goats have spoilt some of them. When I mention that they need watering a child is sent to fetch water. A few weeks later, just before the rains returned, most of the seedlings had died.

Is this just a single case having no particular relevance in a discussion of the development experience of Morobus and Pserum? I believe there is something to be learned. My acquaintance is a knowledgeable and talented person, a leading personality in the area. He has continuously improved his farm which produces reasonable harvests. Water is available at a quarter of an hour's distance. Still, all the good intentions came to almost nothing (some surviving trees were planted). Why is this? I believe that tree planting and land rehabilitation easily sinks below the horizon. It was not vitally important to my acquaintance that the seedlings survived, although he professed great enthusiasm over them. People will agree that tree planting is a good thing, but this does not mean that they will actually plant trees.

That some tree seedlings are not watered in time can of course happen anywhere. But it will be fairly common in Morobus and Pserum. There will be seedlings lost at the time of planting out - and even more at the stage of field establishment. The project must follow up the survival of almost each and every seedling if tree planting is to succeed systematically here. The project must have a local extension service.

There are a thousand practical reasons why tree planting is difficult in this area. Lack of water, the aggressiveness of the goats during the dry season, the termites, and so on. There are also historical reasons. As in other Kalenjin areas, there is no tradition of land rehabilitation in Pokot (cf. Östberg 1987a:49).

The Pokot "are unmoved by arguments that they should protect the land for posterity" (Schneider 1959:156). Since the Pokot traditionally had access to different ecological zones this attitude appears reasonable. When the resources of one area were finished there was very likely another place to move to which had not been hit by drought or livestock disease. When they later returned to the first area, it had recovered. Flexibility and movement was a better adaptation than investment in conservation and permanent cultivation.

### III

In brutal summary the development experience of Morobus and Pserum is as follows:

- Nothing remains of the colonial soil conservation projects.
- After Independence no soil conservation has been attempted. Erosion threatens both fields and homes.
- The grazing schemes have collapsed.
- The dams are silted up, their catchment areas unprotected.
- The water pumps are not in operation, with the exception of those pumps where the project has assisted with maintenance.
- The cattle dips are deserted.
- The Morobus school is in poor repair. (The Pserum school is well managed.
- The women's groups "income generating" projects run at a loss.
- The government agricultural and livestock extension services are, practically speaking, absent.
- The small canteens started in connection with the tree plantations are very useful. A kiosk in Morobus by the main road has a reasonable stock and is open long hours.

What, then, is to be concluded from this dismal record? It would be a fallacy to conclude that the villagers here are absolutely hostile towards change, or that they are ignorant of the land degradation now taking place. To say this would merely be projecting project failures onto people who did not have much of a say when all these interventions were planned. There is no point in blaming the spectators for a poor show. It is true that no development project can count on automatic success here. This is all to the good. People allow themselves time to evaluate the possible merits of new management proposals. They do not oppose them, but they adopt them slowly.

Projects come and go while people remain and continue to make their living in a harsh and unpredictable environment. They have learnt to adapt to drought and pests and - occasionally - hostile neighbours, as well as to visiting experts.

The VI Tree Planting Project is not offering solutions for the future that are intrinsically superior to the dams, grazing blocks or cut-off drains that have been designed by earlier well-wishers. But it may learn the lessons from these previous efforts. We now know that externally designed projects by people with only a temporary commitment to the area, are likely to

disintegrate once their champions return to their own pastures. Lasting improvements require a different grounding. They must be planned locally.

In the following chapter some suggestions are made as to how the local communities and the project can become more involved in each other's affairs.

We have now spent some time recording the sad fate of previous development efforts. But this is not intended to discourage anyone from contributing towards improved living in Chepareria division but to provide a background and an explanation for the ensuing suggestions. In fact, a few more pages must still be devoted to elaborating on the rationale behind the recommendations.

## Chapter 11

### CREATING AN IMPACT

#### Preamble

#### I

There is no obvious local demand for the seedlings produced in the nurseries of Chepareria and Marich. Had it not been for the fact that the project itself needed the seedlings for the plantations in Morobus and Pserum, most of these would have remained in the nurseries.

The project still has to create its impact on land rehabilitation in Morobus and Pserum. It is, however, of considerable interest as a prospective employer. This was a recurrent theme in the meetings between the project and the villagers that I had an opportunity to participate in. People thank the project for having brought "food" to the area. Typically the discussions took place on two levels simultaneously. Some participants in the meeting talked about the value of land rehabilitation, whereas others praised the project for helping people to earn money.

What people hope from the project is that it will offer them the chance of becoming less dependant on the unpredictable rains. Cash in the pocket means that they can buy the food the fields do not always produce. Money now is more tangible than promises of improved harvests in the future.

The project staff, on the other hand, do not want to be regarded as benevolent yes-men dishing out money in all directions.<sup>1</sup> They would feel much happier if people cooperated with them because of their expertise on tree planting. This is not the case for the moment, but it could be in the not too distant future. They can use people's need for employment to further the project's interest in land rehabilitation. Since this is also in the objective interest of the villagers, there exists in fact a genuine basis for cooperation.

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<sup>1</sup>One day I arrive in one of the project's vehicles at the District Development Office in Kapenguria. As we descend from the car I overhear a conversation between people standing outside the office. Someone asks who the visitors are, and they read the name of the project on the door of the vehicle. "Oh, those people. They are very good. They have a lot of money." - This is not as cynical as it sounds. In Pokot tradition only the rich who allow some of their resources to benefit the community at large are respected (cf. Schneider 1953:67). The fact that the project employs a number of people earns it credit.



The VI Tree Planting Project has demonstrated that forests can be established in the Pokot lowlands. The next task will be to spread tree planting outside the project's fences to fields and homesteads in the surrounding areas. Photo from Kainuk forest by Sten Lundgren.

Provided that the labour is paid for, it will be easy to start new plantations and nurseries. But without intensive involvement and resolute extension work by devoted local project staff, no trees will be planted and no soil conserved outside the project's fences.

In 1985 Erland von Hofsten, an experienced forester and a member of the standing committee on community forestry of SIDA and the Swedish Agricultural University, visited the project. He advised against further expansion in the West Pokot lowlands. He found it unlikely that people would involve themselves in tree planting. They do not lack wood for fuel. They do not have private title to land. The natural growth of trees is slow in this particular environment. There is no tradition of tree planting (von Hofsten 1985:12). He said that the project funds would be better used in the highland parts of the district and in Trans Nzoia. The project followed his advice and now 80 per cent of the budget is spent there. The project got off to a good start. Yet the needs of lowland Pokot remain the same, as does

the commitment of the project staff to do something about land degradation. Despite difficulties they intend to persevere in this threatened area in lowland West Pokot.

Despite the previous poor record for land rehabilitation in the area it is possible to do useful work. There is a local concern about environmental degradation. There is a definite need for any initiative that contributes to a sustainable production system. It is known that vegetation establishes itself even on very denuded lands, if only grazing is controlled. The project has comparatively ample resources with which to initiate activities.

## II

When this study was planned the project manager formulated the basic question that the project wished to put to the people of Morobus and Pserum thus: "If we provide resources for land rehabilitation and tree planting, will you maintain them and make something good for the future out of them? How should we adjust our activities so that they are as useful as possible in saving the soil you must subsist from?"

Previous experiences in the area tell us that the extra value produced (in improved pastures, enclosed water catchment areas, etc.) is used, and that is the end of that. But the project could negotiate for new land-use patterns, with the help of the resources now being created in the school plantations.

Some of the project's promoters nourish the hope that through the encouragement of the extra resources created, and the fact that an example is set, people will start to rehabilitate more land. "The trees are growing big. As they stand there in the Pserum plantation they carry a message. They educate people." Yes, they educate, and they impress visitors. But this will not lead to trees planted or soil saved. I was present when a lorryload of people from Morobus came to visit the Pserum plantation. We looked at meter-high saplings growing where last year there had been a waste land. (It is remarkable how rapidly vegetation invades an enclosed area.)

But in Morobus and Pserum, land has been rehabilitated before and then reverted to gullies when supervision was withdrawn. This is the lesson. If the project left Morobus and Pserum today, I do not believe the farmers would organize themselves to protect the plantations. This is not to pass judgement on the success or failure of the project but to try to put one's finger on the present situation.

## III

People in Morobus and Pserum say that it would be good if "someone" did something about the gullies, for instance the government, or the Catholic mission, or some other resourceful

organization. They are happy to pass on the responsibility to someone they feel is better equipped than they themselves.

Similar sentiments have in fact been reported for a long time by people involved in improvement programmes in West Pokot. In the 1950's, District Commissioner A.D. Shireff noted that "The attitude of the average Suk (i.e. Pokot) parent is that once he has been compelled against his will to send his child to school, it is up to the government to feed and clothe the child" (Patterson 1969:29). Today the same argument is heard about the school plantations. The local community happily hands over the responsibility to the project. It is then also logical that the project foots the bill. The villagers are creating a bargaining situation. Actually, this is not a bad starting point for realistic planning. The project has so far not had an opportunity to explore just how far this could lead.

The Morobus plantation was started in haste just before the rains in 1987. A planning meeting was held with the headmaster of the school, five members of the school committee and the senior project staff. None had any specific demands regarding what trees should be planted around their own school. The vice chairman of the school committee summarized their stand:

"We are here and we wait. You may say what trees can be planted. We have agreed that you plant trees around the school. That is good. People must have an example to learn from. If other areas can be planted as well is something to discuss another time. If it turns out well and people like it."

This was a subtle statement. He had sensed that the project was interested in enlarging the area to be planted. The project needed land. The committee could not offer that, but it could bargain with the possibility. Maybe the committee would later on be able to convince people to make land available for tree planting - if people were now employed and thereby learnt about the benefits of tree planting.

At the same time he surrendered to the project all responsibility for the outcome. The project was to take the risks. It should hire people to prove that trees will survive. He designated the project staff the experts, "you may say what trees can be planted". While being totally in favour of the idea of tree planting and land rehabilitation, he made no concrete commitments. (This he would in fact not have been in a position to do - as explained in the section on korok and kokwo.)

The school committee did not need a project. They could do without as they had done before. But if it came with gifts, they were prepared to accept it. Now they can wait and see how the plantation develops. They earn a salary in the meantime, and the whole thing may develop into something useful for the future.

Both the project and the committee achieved what they wanted at the meeting. They made a good start.

It is thus not primarily the idea of land rehabilitation that governs the project activities in Morobus and Pserum at present, but rather the employment offered.

Both Morobus and Pserum plantations were started just as the rains were due. Other project activities made it difficult to make preparations early, and have terraces and micro-catchments ready before the rains were due. Now time was short. The only practical solution was to hire day-labourers. I believe this was also a good start for the project. It established itself through a tangible offer.

Now that the two plantations have been established and anyone can see that the trees survive, and that grass is growing, the project is on firmer ground. It can start negotiating for that enigmatic, elusive dream of development project: popular participation.

What then can be done?

#### (1) The Morobus and Pserum plantations

During the first three years the plantations can allow anyone interested to cut small quantities of grass for fodder or, if the grass is allowed to grow high, for thatching. The foreman decides in consultation with the project how much grass can be cut.

It is estimated that during the fourth year, fodder can be cut from the trees. This will be offered for collection to farmers who have permanently fenced their own fields against livestock, and thereby have less grazing for their animals (see below). In this way farmers may be able to provide for a milk cow during the dry season, or for sick animals. Farmers are served according to the sequence in which they have enclosed and rehabilitated their own fields. They will be offered fodder in relation to the amount of land conserved; not in relation to the number of animals owned.<sup>2</sup>

During the fifth and subsequent years, it will technically be possible to allow cattle to graze the school plantations. This right will be granted according to the same principle as for lopping. The grazing will have to be carefully monitored and supervised. In another attempt to combine livestock and tree growing the cattle suddenly started to debark five year old trees after leaving them alone for almost a year (Pottier 1984:24).

Each year the available out-take is calculated, as well as the number of farmers entitled to share the fodder. A schedule will be worked out by the area coordinator (see below) in cooperation

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<sup>2</sup>The idea of trading fodder against realized land rehabilitation work was first suggested by Tor Nyberg. Norman Kimanzu gave the first directions for the suggestions about agroforestry in private fields developed below.



with the school committee and the foreman. The foreman and the headmaster supervise that the plantation is utilized as agreed. As more farmers conserve their lands, and thereby are entitled to fodder from the school shamba, the pioneers will have grown up fodder trees in their own fields and if all goes well need not depend on the school plantation.

The project will determine when and how trees can be felled. Timber and poles will be the property of the school. The school may use fuelwood from the plantation for its own needs. Households in the area having particular difficulties to collect firewood (old people living alone, single parents with young children etc.) may likewise collect firewood for their own use. Beehives may be placed in peripheral parts of the plantations. Suitable trees like Acacia mellifera and Prosopis juliflora, should be planted in these parts of the plantation. The school committee decides this, as it does on who is allowed to collect firewood.

Continuous thinning of the plantation is required if the desirable grass cover is to develop (cf. Conant 1982:119).

## (2) Establishing new school plantations

The idea of starting tree plantations of about 50 acres at local school sites works well, and should be continued. Some modifications are suggested:

- The circumference of an area a school wishes to enclose for tree plantation is to be divided up between the different neighbourhoods sending children to the school. Each korok is to fence a stretch which roughly corresponds to how many people live in each neighbourhood. (Communal fencing will thus be a condition for getting project support.)
- When the project has approved the quality of the entire fence, casual workers from each of the neighbourhoods should be employed to dig terraces and micro-catchments. The project wishes at least one fourth of the workforce to be women. It provides tools for the work.
- The project pegs contour lines and determines minimal length of ditch to be dug per day. (Any digging on top of this is paid extra.) Different rates apply depending on how difficult the ground is to break. A piece-rate payment instead of the present pay-per-day will enable the project to calculate the number of man-days needed to conserve an area so that the site can be ready to be planted when the rains arrive.
- The trees are planted by the pupils of the school.
- No watering is done. Micro-catchments are used and drought resistant tree species are planted and a less than 100 percent survival rate is accepted. Dried-up seedlings are replaced at the next rains. This strategy is carefully explained and agreed upon with the villagers so that disappointment and misunderstandings are avoided.

- Watering or not is a controversial issue! So far the project's plantations have been watered. Trials have been made in a few sections to do without watering. Survival rates are promising. When a drought strikes it will, however, be very difficult to just watch seedlings die, while the project can afford to pay for watering them. What is the right thing to do in each situation? This cannot be decided beforehand. But it will be important that any decision is made together with the local community, and that the policy should still be to try to establish trees without watering. This is necessary if local farmers are to involve themselves in tree planting since for many of them it would be very difficult to keep watering seedlings. Some years the project will find itself caught in a fox trap: if it waters seedlings about to dry up, it conveys the message that tree planting is only for resourceful people - but if it allows the seedlings to die, it may be criticized as being inefficient and wasteful of resources.
- The project is responsible for maintaining both the fence and the conservation structures. A living fence is planted and a plantation warden is employed to see to it that the fence remains in good repair, that no trespassing occurs, etc.

### (3) Rehabilitating denuded areas

If people living in badly denuded areas wish to rehabilitate their area, the same model as above is tried. An agreement of cooperation between the villagers and the project is to be signed. Fencing will be the responsibility of the families. Once this is properly carried out, a suitable number of persons from the same group(s) of people will be employed to dig conservation structures and to plant the seedlings. The project provides the tools for this work.

The project undertakes to establish a reasonably reliable living fence (= one which is easily reinforced by thorns) behind the thorn fence arranged by the neighbourhood(s). People of the area guard against trespassing.

The local community will use the fodder and timber from the rehabilitated area. It will be important to study who actually benefits!

A previously badly denuded area can easily again be destroyed if overgrazed. Therefore grazing should be discouraged. Fodder will instead be carried to the livestock. The project advises on how continuous thinning of the trees can best be carried out, to get an optimal development of the ground cover.

A survey should be carried out in the highland parts of Chepareria division to identify areas where deforestation has had serious consequences for the lowlands below. Such areas could also be offered project support to protect catchment areas (cf. von Hofsten 1985:15). The soil conservation programme of the Ministry of Agriculture could be invited to participate in such efforts.

Since these suggestions deal with badly eroded areas, fairly intensive care has been suggested. But for improving general range lands much simpler methods must be looked for.

#### (4) Contracts

##### I

The plantations initiated by the project represent a considerable value - and this is a potential cause of friction. Therefore, clear rules about how the benefits are to be shared must be laid down already before an activity is launched. This may sound obvious. In fact, there are often practical reasons why a project does not find the time to arrange these details. For none of the VI Tree Planting Project plantations have the beneficiaries been designated. And as an experienced manager of forestry programmes has recently observed, "to postpone this issue by deferring the task of defining and agreeing upon a method of benefit-sharing until harvest, is likely simply to aggravate suspicions about the final outcome, and lessen the likelihood of effective participation" (Arnold 1987:126). For this reason these points should be discussed and agreed upon with the local communities.

1. The cooperation is intended to last for about ten years. During that time the school, or the neighbourhood, should not put the land, or part thereof, to any use which might thwart the development of the plantation. After ten years it is expected that the plantation is well established. A reasonably efficient living fence has grown up and can easily be kept in good repair by the local community.

2. The project and the school committee or the neighbourhood are to agree yearly on what resources can be extracted from the plantation, and who shall make use of them. If the project finds that it is not possible to decide on a utilization of the plantation in general agreement with the aims of the project, or with the current carrying capacity of the plantation, it has the right to withdraw its support.

3. Decisions in negotiations between a school committee or a neighbourhood and the project are to be by consensus. Minutes are prepared by the project staff and signed by the chairman of the committee, the caretaker of the plantation, and the project. The assistant chief of the area is invited to participate in the negotiations and to sign the minutes as correct.

4. If the project finds that the initial agreement is impossible to implement either because of lack of overseas contributions or because of prevailing local conditions (sabotage, inadequate work organization, etc.), it may terminate the support.

5. The intention is that project support will be withdrawn after ten years. The timber will then be the property of the school. Felling of trees should be done in consultation with the assistant chief of the area since Kenyan law imposes restrictions on tree felling. A meeting is called with the people of the area

when a plan is made for how the other assets of the plantation can be used in the future to promote further land rehabilitation efforts in the area. A management plan is agreed upon. The resources of the plantation belong to the local community, with the exception of timber.

6. The original agreement between the school and the project should be signed by the chairman of the school committee, the headmaster, the assistant chief of the area, and the project. If other people/institutions have interests in the school area they should likewise sign the agreement. This could for instance be a water project, a church, a dispensary or a cattle dip. No work is started before the agreement has been signed.

If the agreement is made with a neighbourhood all details are worked out in a local kokwo. The project then prepares minutes which are signed by all the households that wish to participate in the enclosure. If it is not possible to reach an agreement with enough households to make a reasonable delimitation of the enclosure the project may call off the planned activities.

## II

Certainly alternative suggestions will be forthcoming on how the benefits of the tree plantations should be distributed. The schools may want to monopolize these. I hold however, that it is fair that instead the community at large benefits since the plantations have been paid for by the project and not by the school. The project can therefore claim that the resources created should promote further land rehabilitation and tree planting, rather than the development of the schools. This point needs to be made clear before embarking on new school plantations. For the same reason the project should turn down suggestions that the schools may keep cattle in the plantations and sell the milk, or that they should be allowed to sell the grazing rights. Supporting schools is not the primary aim of the plantations.

It may well also be suggested that the grazing rights should be divided equally among all villagers. The project's interest is, in my opinion, to use the fodder to promote land rehabilitation.

Another likely suggestion is that farmers should be allowed to produce crops among the newly planted tree seedlings - and this may be a good idea if clear agreements are made on who is to benefit. Alternatively, the enclosed area could be cultivated by the school until the trees grow too big. If the school plantations are divided into parcels where trees requiring different lengths of time to mature are separated from each other, trees could be harvested and replanted continuously. In this case, the school would always have the option of growing crops in one part of the plantation. If the entire plantation is not planted in the first year a similar system could be developed gradually.

Whether the project's reaction to various proposals will be yes or no, one thing remains fundamental: the conclusion should be reached in kokwo. The contracts must be drafted in interaction with the local communities. The exact formulations are not so important. It is the local political involvement that matters. Fowler talks of the essential role of "nudging" in rural development. This should take up a good part of the project staff's time and creativity. Through "nudging", a project may create and maintain a suitable political environment for progress (Fowler 1984:24). Change means polarization, conflict resolution, and "nudging".

### (5) Agroforestry

In an area where a school plantation exists or where a denuded area has been rehabilitated, one neighbourhood at a time can be approached with the following suggestion:

The annual crops on individual farms are interplanted with soil improving and fodder producing trees. Species providing fruits and berries are particularly important since these are prominent in the Pokot diet. Livestock cannot be allowed to graze the fields for several years, until the trees are properly established. In return the farmers are allowed some (but not indiscriminate) grazing rights in the school plantations in proportion to the area conserved. Combining the shallow-rooted annuals with tree crops is likely to increase food security in a semi-arid area (cf. Leakey 1986:37). The potential benefits of agroforestry are considerable: The production of organic matter is enhanced, soil fertility maintained, erosion reduced, water conserved, and a favourable micro-climate for crops established. The trees provide food, fodder, fuelwood and building materials.

Raintree has published a most instructive overview of how agroforestry techniques can be introduced in different ecological settings (1986). In the Pokot case there is reason to believe that some farmers may respond well both to enriched fallows and to alley-cropping (ibid. p. 5f).

How farmers save some trees when clearing land for cultivation was described in chapter 6. The next step would be that trees are purposely planted in an improved agroforestry system. The project should support the farmers with advice, with free seedlings, and if conservation structures are needed, the project will provide these, if possible in cooperation with the Ministry of Agriculture's soil conservation programme. The project maintains these structures for a set period of time, just as it does with the school plantations.

The cooperating farmers undertake to keep animals away from the fields for the first years, and to construct the structures needed for soil conservation and moisture retention. The project uses fairly simple bunds in its own plantations. The stated reason for this is that the farmers should be able to copy the

technique without too much effort. Now comes the time to try to spread the technique also outside the plantations. After a couple of years the decrease in soil fertility should have been halted, and considerably more fodder be available.

The project should help farmers to establish living fences by providing seedlings of for instance, Acacia mellifera or Zizphus mauritiana. A fence with Balanites aegyptiaca can be established by direct sowing - at least according to the handbooks.

After five or six years, a permanent agroforestry system is established. The extension staff must keep in continuous touch with the farmers trying out modified cultivation routines. They should advise on optimal shading, and on the best combinations of trees and crops. Though evidence is indeed accumulating that the added nutrients and organic matter from the trees results in improved soil fertility (Winterbottom & Hazlewood 1987:103), this will not be true for all soils and in all cases. The plant material offered to the farmers may not be of the quality assumed in the handbooks. An indiscriminate use of leucaena may for instance outcompete other crops for ground water during dry years (Weinstock 1986:391). The project needs to continuously check that the benefits that are promised to farmers actually are forthcoming. It is advisable only to gradually complement the traditional cultivation practices with some well known additional tree species: ecological balance can easily be upset in marginal lands. The genetic diversity of the traditional bush fallow system should be retained.

The effects of introducing more permanent farming must be continuously monitored. How will the soil pH-level be affected? Will weeds become more common? And pest infestation? Etc. (By raising these questions I am moving far outside the social science sphere. I am, however, only pointing to the topics not analyzing them.)

Are some farmers using agroforestry techniques as a disguise for grabbing land? How will traditional rights to tree products be affected by enclosures? Their impact on local land tenure must likewise be studied.

Will women's access to land be influenced by a more permanent type of agriculture? They have usufruct rights to the fields formally controlled by their husbands. Will this be affected by new agroforestry practices? Will women have rights to mature trees? "When participation becomes a cost with no benefit, there is a fatal flaw in the project design" an observer of tree planting projects in Kenya rightly reminds us (Hoagland 1986a:12). This question is raised here in connection with agroforestry but applies with equal force to the suggestions below concerning homestead plantations.

Additional neighbourhoods are to be approached year by year. The productivity of the fields will hopefully improve. This can however not be taken for granted. The project has no experience of agroforestry in this particular environment to fall back on.

But, with good results, individual farmers may take up the idea even before their respective neighbourhoods are approached. If this happens, land rehabilitation will gradually gather momentum.

#### (6) Homestead plantations

Few trees grow close to the homesteads. Little shade is available either for men or animals. There is a shortage of both timber and thatching grass in the area. Strong winds develop along the barren hillsides and across the open plains. Sand is carried by the winds. "During the dry season you always have sand in the eyes."

Because of all this, farmers are invited to plant small (up to half an acre) woodlots close to their homes. These will initially be fenced by thorns but after a few years surrounded by a dense hedge/living fence which will provide a continuous supply of firewood. The woodlot will provide building material, fodder, firewood, bee forage and thatching grass. It will serve as a windbreak. The woodlots are ideal places to plant valuable indigenous trees with a somewhat slower growth than some of the exotics commonly used in tree planting projects.

These homestead plantations will ease life somewhat for the families, and do not require tremendous effort to establish. Micro-catchments should be prepared for the initial planting. These are easy to make and very efficient.

The project advises on land preparation and on tree planting. It also provides free tree seedlings. Farmers interested in establishing homestead plantations will be encouraged to act as "land rehabilitation activists" in the area. The project should keep in active touch with them, invite them to workshops, study tours, and training programmes organized by the project. Care should be taken to ensure that women can participate in all these activities.

Workers on the school plantations should be encouraged to start their own small plantations. They are familiar with all the details of tree planting, and it will be easy to follow up their experiences. Since this group is so unusually easy to reach, the success should be predictable. If it does not work, the reasons why should be investigated as a help for future planning.

This group is atypical in at least one respect; they have a regular income of about 500 shillings a month and can afford to employ people to help with their private tree planting. It is likely too that other farmers starting their own homestead plantations and who will try agroforestry techniques will be somewhat better off. They will belong to a group of modernizing farmers with frequent contacts with the administration. They usually live close to the centres. Farmers living off the roads, and who are less involved in churches and school committees etc. may also be interested in tree planting. But it will take a particular effort to reach them. Extension work must be started

to reach all farmers. It is important that the project does not lose sight of those who are on the geographic or social periphery of a community.

#### (7) Women's group nurseries

The project should offer women groups in Chepareria division an opportunity to collect and sell seeds from local trees and grasses to the project, and to other organizations. The project should help to establish such contacts. In this way the project gets seeds of species which otherwise are not easy to find. Knowledge about these trees and interest in them will be encouraged in the area. The women's groups will earn an income.

The project should also encourage women's groups to start small nurseries where they can raise tree seedlings to sell to the project, and perhaps also to others. Such nurseries can be established where there is a reliable source of water. It would be convenient to locate a nursery inside a fenced school plantation.

The project should employ a Pokot speaking nursery warden with previous experience from a tree nursery. It builds a house/store for the warden, and provides tools, watering cans and polythene tubes. It maintains the water supply.

The women's groups provide all labour (except for that of the warden) and the care needed to raise seedlings. The group promises to raise 7,500 seedlings a year in return for the support provided by the project. If this target is not reached project support will be terminated. The project agrees to buy up to 20,000 shillings worth of seedlings a year of species jointly agreed upon. For species which are easy to raise the price will be one shilling a seedling. For more difficult species requiring care, or where germination rates are not well known, a higher price will be set. The groups may of course raise more seedlings than this if they can find a market for them, or if they wish to use the seedlings themselves. Likewise, if there is sufficient water, the groups can grow vegetables and fruits in connection with the nursery.

The school offers free use of the land for the nursery and for the warden's house/store for as long as the groups are active. If the land or the house is to be used for other purposes, this must be mutually agreed between the women group, the school committee and the project.

Small nurseries run by women's groups offer many advantages. Locally valuable trees are propagated. The idea of how to plant trees is practically understood and promoted. A nursery run by local women's groups provides an ideal forum for discussing agroforestry techniques, etc. It will be the obvious place where controlled tests can be carried out on the propagation of indigenous trees. It is a comparatively cheap way to raise a large number of seedlings. If the project wishes to encourage the



establishment of living fences in the area, a large number of tree seedlings will be needed.

If this suggestion is to be attractive to the women's groups they must be able to earn a decent income from it. The price of the seedlings and/or the number of seedlings that the project guarantees to buy, will have to be set accordingly. The women's reason to start a nursery, and to keep coming to tend the seedlings will be to earn money. This will very likely develop into a further interest in tree planting, but the women cannot afford to spend time on this until its longterm benefits for the area become obvious. The burden of proof lies on the project, not on the farmers. They do not need trees so much as food and money to buy clothes, medicine, salt, and sugar.

The women's groups may arrange their nursery work either as a group effort or on a more individual basis. If they do it individually, it is reasonable that their income per day should be higher than that for plantation workers. The women take a risk. Some of the seedlings will die. Women will also have to wait quite some time before they are paid, and the total income they earn will be small compared to those who have a job on one of the plantations. Women also often have the main responsibility for providing for their families.

If the target is set at 5,000 seedlings at 1 shilling each and ten women are to work in the nursery, it means they will earn 500 shillings each. Two people a day need to work in the nursery. This means that each woman will have to work five to six days a month. If there is work to do for about eight months a year this would mean that 500 shillings corresponds to a salary of about 10 shillings per day. This is less than half of what the plantation workers earn per day. If the total income is 15,000 shillings instead this will give each woman about 35 shillings a day which is more reasonable.

If on the other hand the women decide that their nursery should be run by the whole group, it will be rather the total sum that matters. Then five or seven thousand shillings may seem worthwhile. But with the group option, losses will probably be greater.

#### (8) Appointing an area coordinator

The project needs a firm physical presence in Chepareria division. The situation here is so clearly different from the high potential parts of West Pokot district and from Trans Nzoia that it requires its own organization.

The project moves into a phase where more active participation of the local communities is required. This entails considerably more extension work, participation in local decision-making processes, and a constant involvement in local affairs. Likewise, the intended expansion of tree planting onto privately managed land calls for active and continuous participation.

The project should hire an area coordinator to lead its activities in lowland West Pokot. The candidate must have a thorough knowledge of the conditions prevailing here and have exceptional qualities for, and an interest in, cooperating with the local communities, and for making things work. He or she must be prepared to reside in the area, and to travel all over the division.

Planning rural development is an unpredictable excitement. Much of what happens cannot be planned for. The proposals in this report are of course not a once and for all effort. Planning must be continuous, responding to what happens both generally in the area and as a consequence of the project's activities. Step by step the understanding improves, and the plans are revised accordingly. (An implication is that the work plans must allow for such reorientations as needs arise.) In this process the area coordinator is the key figure. At present no one knows how successful a tree planting project will be in Chepareria division, and what categories of people will become involved in land rehabilitation. Maybe tree planting will become a means of land grabbing by the somewhat better off? The area coordinator must, among many other virtues, also have the maturity to respond to the unintended consequences of his or her own work.

He or she must be sensitive to the requirements of different types of households. It will be important to identify different categories of people to cooperate with for different project activities.

The area coordinator will be kept busy with a wide range of activities. He or she is to lead the extension work; participate in local meetings; link the project's work to other on-going activities in the area; address meetings in churches, schools, and at public venues. The area coordinator must be a person who gets a personal joy and satisfaction out of all land saved, every tree planted, and who feels attached to this particular area and the people living here. The project is looking for a professionally competent enthusiast.

#### (9) Feasting

Feasting is common in Pokot society. It is part of the consumption pattern. "A man has done his duty to his neighbours by giving a feast at least once a year" (Schneider 1957:292). Life-cycle events provide occasions for ceremonies. When a dispute is resolved this is marked by eating and drinking together. A diviner may dream that a certain animal is to be sacrificed (and eaten). But also the fact that people just feel that it would be a good occasion to slaughter may be the reason for a small celebration. This is called karket, which means that an ox is killed by a member of a neighbourhood for the purpose of sharing meat (Schneider 1953:300). The regular feasting to some extent ensures a redistribution of resources from the better off to the poor of the area.

It would serve the aims of the project, as well as its standing in the local community, if notable achievements were marked by a minor celebration. When an area has been fenced this certainly ought to be celebrated with the slaughtering of an ox and the ceremonial planting of the first tree.

That the project in this way redistributes a little of its resources will be in line with Pokot culture and earn goodwill. Eating together is important in Pokot - as in all cultures. Here the project staff gets an excellent opportunity to share food with the people of areas they are anxious to support.

### Gradual and controlled expansion

#### I

The suggestions for how the VI Tree Planting Project should organize its future activities in Chepareria division emphasize quality in what is being done. There is no point in establishing additional tree plantations if these are not supported by intensive extension work. On their own, the plantations will not encourage farmers to embark on land rehabilitation. If the role of the plantations are not now clearly defined, they may even have a detrimental effect. They will soon constitute a considerable capital. There is always a risk that this will be monopolized by local entrepreneurs. If this happens, then the project has supported quite a different group than was its intention.

The approach suggested here means that the project cannot expand quickly to many new sites.<sup>3</sup> The dream that the project's instigators had of a dramatic environmental break-through by planting trees in large areas will have to be forsaken. On the contrary, it is important that the expansion is gradual and controlled. If the agreements to start land rehabilitation are made with fairly small groups of people, the risk that some households will break away from the agreements will be reduced. In Chepareria division, as anywhere else in the world, some people will be drunkards or selfish and careless. The smaller the group, the stronger the social pressure against trespassing. And if goats enter an enclosed area, months of work can be spoilt in a short time. As the idea becomes established, and as practical results show up, larger areas will be covered.

The analysis of Pokot social organization (chapter 7) led to the conclusion that, apart from cooperating with individual farmers, the right level of cooperation for the project is the neighbourhood (and in the case of the school plantations, primarily with direct neighbours). This suggested "small and

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<sup>3</sup>The Tanzanian Director of Forestry argues in favour of a concentration of efforts in an interesting overview of tree planting work in Tanzania (Mnzawa 1985:39).

slow" strategy agrees well with experiences from other parts of the world. The FAO overview Tree Planting by Rural People says "perhaps the most concrete management concept to emerge from community forestry experience to date is that successful management groups need not be geographically defined by village or panchayat, but rather by user groups with a shared interest in managing a particular resource" (1958:64).

If the enclosed areas are kept fairly small there will also be fewer conflicting land rights. A farmer has fairly good control over the fields close to his homestead. Further away, enclosures will interfere with other people's various rights.

To the local community the project appears competent, resourceful and efficient. This easily makes people "forget" what they know about the way water moves over a specific piece of land, what trees should not be lopped when fencing because they produce something which is needed later in the year. People easily "forget" all this and follow the prescriptions of the project's experts. If the project does not move too fast, has good local extension staff, and takes the time to consult these, then at least some of the local experience will infiltrate the project's tampering with land management and ecology. If the project allows itself to expand slowly it can also be flexible and change emphasis as necessary.

The time spent on integrating experiences as they emerge is well used. The following excerpts from a report on tree planting in semi-arid Machakos district show how the project changes emphasis as field experiences are continuously recorded and made use of:

"The changes suggested by farmers reduced labor for land preparation and provided a simple low-input alternative for rehabilitation of individual plants in small plots of grazed woodland....requests for a switch to nurseries for individual groups (located near water, at a member's home)....Trees planted at soil conservation sites were protected, if at all, by property owners, not by the groups as such....The results from the first cycle of group tree planting, influenced the choice of species and planting sites for the seedlings produced in the group nurseries during the next season....Out of this consultation and testing came a suggested change of emphasis from alley cropping for mulch to alley cropping for fodder and fruit, with a wider spacing between hedgerows." (Rocheleau, 1985).

## II

The people of Chepareria division have outgrown their resource base under the present form of land management.

One cannot think of any single solution that will provide a living for people here. Cotton, or sunflowers or gold panning in the rivers will not provide a stable living if the on-going land

degradation is not arrested. This is where the VI Tree Planting Project wishes to contribute. It may help to increase fodder production in the area. This implies enclosures, which in turn make it possible to prepare conservation structures. The area starts to heal as more and more land is conserved. Young trees are protected, catchment areas are rehabilitated so that water returns to dried up rivers. By and by, a new management system is established. Tree planting then becomes a means towards land rehabilitation.

This is one possible turn of events. But then again, the Pokot are used to dry years. They know how to persevere. The Pokot do not think judgement day is close. The gullies and the decreasing soil fertility are noted, but they do not create a feeling of despair. Things can be changed, but they can also remain the way they are. Only when the rains have definitely failed do the families of Morobus, who have rights to irrigated fields in Sebit, go there to cultivate. They could grow vegetables every dry season, if they made use of the irrigated fields there. Yes, but one may also eat eggs with the ugali, or meat, or vegetables bought from the market in Chepareria. Things may be improved. But they may also remain the way they are.

Whether or not things can remain the way they are, is an issue where the project staff from Kitale and a number of people in Morobus and Pserum hold different opinions. Still they may be able to find forms of cooperation.

## **APPENDICES**

## Appendix 1

### USEFUL TREES IN THE MOROBUS AND PSERUM AREA, CHEPARERIA DIVISION, WEST POKOT

The following list is of trees mentioned in the course of conversations and interviews. No professional herbalists were consulted. The list is divided into sections depending on how often a specific species was mentioned. Within each group the trees are ordered alphabetically. The whole exercise is entirely subjective, and is only intended as a provisional guide for the project staff, who will correct and improve on it as knowledge accumulates.

Some of the botanical identifications were done by Mzee Elijah of the Chepareria nursery, others by Norman Kimanzu. I have also consulted the list published by Tanaka (1983b) from East Pokot, as well as a few handbooks.

The first column gives the Pokot name, second column the botanical identification (when known), third column the common English name. The fourth column records the local uses as told to me or as I happened to observe them. This by no means exhausts the uses a tree may have in the area. I have simply noted what I was told and saw, usually without systematically following up the matter. The last column adds some other important known uses. Medical uses, for instance, are very common. Of the 307 plants collected by Tanaka, 38 per cent were used as medicines (1983a:56). His notes on usage are fragmentary, and the real figure is probably much higher.

There are bound to be mistakes in this provisional list. It was not compiled by a botanist. There was no time for cross-checking. The same local name is sometimes given to more than one species, and some trees are known by more than one name. So there are numerous possibilities for misunderstandings and mistakes.

(1) TEN PARTICULARLY USEFUL TREES

Name in Pokot:	Botanical name:	Common name:	Local uses:	Other known uses:
KOLOSWO	<i>Terminalia Brownii</i>		Fodder, building, fuelwood, shade	Mulching, dye, medicine
MOKONGWO	<i>Ficus Sycamorus</i>		Fodder, woodwork, edible fruit, shade, honey, ceremonial	Medicine
OROLWO (AROLWO)	<i>Lannea Schweinfurthii</i>		Fodder, woodwork, building (stores), edible fruit, shade	Medicine
PANAN	<i>Albizia amara</i>		Building, fuelwood, shade, broom	Medicine
PIRIOKWO	<i>Pappea Capensis (?)</i>		Fodder, building, fuelwood edible fruit	Medicine
PTAR	<i>Acacia Brevispica</i>		Fodder, building (stores)	Live fence, charcoal for use in milk gourds
SONGOWO	<i>Zanthoxylum Chalybeum</i>		Fodder, building, fuelwood, fencing, shade, medicine, toothbrush	
TINGOSWO			Fodder, building, fuelwood, edible fruit, fence, medicine	
TIROKWO	<i>Ziziphus Mucronata (?)</i>		Fodder, building, fuelwood, edible fruit, fencing, medicine	
TUYUNWO	<i>Balanites Aegyptiaca</i>	Desert Date	Vegetable, fodder, building, fuelwood, edible fruit, fence	Medicine, can prevent bilharzia and Guinea worm, can kill fish, firewood, seed rich in protein, soap



(2) TEN ADDITIONAL MOST USEFUL TREES

Name in Pokot:	Botanical name:	Common name:	Local uses:	Other known uses:
ADURUKOIT	Acacia Albida	Apple ring acacia Winterthorn	Fodder, building, fuelwood, shade	Nitrogen-fixing, timber, pods edible, medicine
ARON (ORON)	Tamarindus Indica	Tamarind, Indian date	Building, edible fruit (drink, flavour uji), shade, honey	Woodwork, mulching, fuelwood charcoal
CHELOWO			Fodder, building, fuelwood, shade, medicine	
CHUWUW	Acacia Hockii		Vegetable, fodder, building, fuelwood	Ritual (stop rains)
KOROSION	Dobera Glabra		Vegetable, fuelwood, fodder, edible fruit	
MURKUTWO			Building, edible fruit, shade	
PANYIRT	Acacia reficiens (?)		Fodder, fuelwood, fencing	
SITET	Grewia bicolor		Fodder, building, woodwork, fuelwood, edible fruit	Medicine
SOROMONYON	Mysteroxylon Aethiopicum		Fodder, building, firewood, edible fruit, shade, cleaning of milk gourds	
TINGWO	Acacia sp.		Fodder, building, firewood, fencing, shade, ropes	

(3) ANOTHER TEN USEFUL TREES

Name in Pokot:	Botanical name:	Common name:	Local uses:	Other known uses:
CHESAMS	Acacia Gerradi (?)		Fodder, building, fuelwood, shade	
KINYOTWO	Ximenia Americana		Building, edible fruit, oil for softening skins etc.	Medicine, woodwork, fencing
KOLYON	Acokanthera longiflora		Edible fruit, shade, arrow poison	
KOMOLWO	Vangueria Madagascariensis (?)		Building (wickers), edible fruit, shade	Timber
KOPKO	Acacia nilotica		Fodder, building, fuelwood, fencing, medicine	
KROMWO	Ozoroa Insignis reticulata (?)		Building, gum, preparation of milk gourds	Medicine
LOKOTETWO	Carissa Edulis Rhus		Edible fruit	Fodder, medicine
MANAMPELION			Fodder, building, fuelwood, shade, toothbrush	
SES	Acacia Tortilis		Fodder, building, fuelwood, fencing, shade	Nitrogen fixing, charcoal, ropes, ritual (evil eye),
SIMOTWO	Ficus Natalensis	Bark Cloth Fig	Shade, Ceremonial. (Unusual but significant)	Live fence, mulch, bark cloth

(4) ANOTHER TEN USEFUL TREES

Name in Pokot:	Botanical name:	Common name:	Local uses:	Other known uses:
KOMOL	Combretum Molle		Building, woodwork, "chewing gum"	
KRESWO	Euphorbia sp.		Building, woodwork, fencing, medicine, poison	
LOLOTWO			Edible fruit	
MNTARI			Building (wickers), fuelwood	
NGOWIN			Fodder, building (roofs), wood- work, edible fruit	
RENA	Acacia Seyal	Whistling thorn	Fodder, fuelwood, fencing, shade	Building, bee forage soil improvement, gum, medicine, tannin
REPERWO	Terminalia sp. (?)		Building, woodwork, medicine	
ROTIN	Kigelia pinnata	Sausage tree	Fodder, shade, fruits used for preparing honey-beer	Building, fuelwork
SEKORYION			Fodder, edible fruit, shade	
TIYIN	Dichrostachys cinerea		Fodder, building, fencing, medicine	Nitrogen fixing, wood-work

(5) SOME OTHER USEFUL TREES

Name in Pokot:	Botanical name:	Common name:	Local uses:	Other known uses:
AKALELION (?)	<i>Zizyphus Mauritania</i>		Fodder, building, edible fruit	Live fence, Tannin
ASIAKONION	<i>Salvadora persica</i>	Toothbrush tree	Fodder, edible fruit, toothbrush	Salt, medicine
CHEMANGA	<i>Acacia senegal</i>	Gum arabic	Fodder, fuelwood, fencing, wood work	Gum arabic, edible seeds, sand stabilizer
CHEPTIYA	<i>Elusine divinorum</i>		Edible fruit, shade, ceremonial	
KATAGH			Wood-work, fence, medicine, gum	
KONYOTWO			Fodder, edible fruit	
LIKWON	<i>Boscia Augustifolia</i> (?)		Fodder, shade, medicine	
LOLOTWO	<i>Lannea fulva</i>		Edible fruit, shade	
LOMUNYON			Seeds used as vegetable	
MONWO MANN	<i>Ricinus communis</i>	Castor	Oil for softening skins, etc.	
MOLKOTWO	<i>Centium setiflorum</i>		Fodder, Building (wickers), edible fruit	Medicine
PUTARO	<i>Canthium sp.</i>		Building, edible fruit, shade medicine	
RELOKWO			Fodder, woodwork	
SEKORYION			Fodder, edible fruit, shade	
SENETWO	<i>Cassia didymobotrya</i>		Ceremonial, medicine (antimalaria)	

Name in Pokot:	Botanical name:	Common name:	Local uses:	Other known uses:
SIRIOWO	<i>Rhus natalensis</i>		Fodder, edible fruit (also drink), shade	
SITHOGON	<i>Acacia drepanolobium</i>	Black galled acacia	Fodder, fuelwood, edible fruit	
TAPURPIRWO			Edible fruit	
TAPOYO	<i>Basananthe Hanningtoniana</i>		Fodder, shade, rope	Edible root, medicine
TOLKOS	<i>Aloe sp.</i>	Agave	Demarcate boundaries, prevent erosion, medicine	
TOPORERWO			Fodder, building	
YEMIT	<i>Olea africana</i>	Wild olive	Building, fuelwood, edible fruit	

## Appendix 2

### SUGGESTIONS FOR FURTHER STUDIES

#### 1. Baseline survey in Trans Nzoia district

##### I

To make it possible to study the impact the project will have had in some four to five years' time, a baseline survey should be carried out now before the project starts to have a definite impact in the area.

Random samples should be drawn from areas where the project is active as well as in a control area. This can be done with the help of registers kept in the settlement offices. Care should be taken to select areas with different ethnic distribution, varying farm sizes, length of residence, etc. The interviews can be carried out by the project's extension workers, who in this way will gain experience useful for their future work. Photographs should be taken from carefully recorded spots. These photographs will be useful for future evaluation.

The general situation in the different settlement areas should be described. The specific information that needs to be recorded includes:

- Which trees are presently grown on the farms? How were they planted? Why? From where did the seedlings come?
- How do different categories of households at present cater for their need for firewood? For other wood products?
- Is soil conservation work being carried out? How?
- Do any households prepare their own private nurseries? What tree species are raised in this way? What impact does the project's nurseries have on on-farm nurseries?
- How big is the demand for fodder grasses?
- How detailed is the knowledge that the settlers have of the local ecology? Are there differences between the generations as regards ecological competence? Between men and women?
- What do different farmers know of tree planting and of the role of trees in agriculture?
- How are the incomes earned from the project used? What categories of people so far benefit from the project activities?
- How large is the area where a nursery has an impact? How many seedlings can each family meaningfully use? For how many years?
- Are farmers interested in trees suitable for wood lots, for agroforestry development, or for other purposes? What?
- Do men and women have different ideas about tree management? Who has authority over what?

- How does tree farming compare economically with maize production in the area? What policy implications arise for the project from such a comparison?

Etc.

It is not intended that all these questions be included in a questionnaire. That would make the survey unmanageable. Some topics are to be addressed by other means. The further design of the study should be done in cooperation with the project staff.

## II

Apart from providing valuable background information, a baseline survey may also address issues being debated within the project. One such topic is which tree species are to be raised in the nurseries. Specifically the initial concentration on Sespania sesban and S. bispinosa has been discussed with some fervour. Information on local attitudes towards Sespania could be documented during the baseline survey. (The regular meetings with the nursery committees will likewise enlighten the discussion, as will the distribution figures from the nurseries.)

Sespania is a fast growing fodder and firewood species, which also has soil improving properties. It grows naturally in parts of Trans Nzoia, where the tree is integrated into the farming system. The Bukusu call the tree chisubasubi (with the addendum "by the water", che mumechi, for S. bispinosa). It is sometimes sown together with maize and provides light shade over the growing crop. It is gradually harvested as firewood. It can also be usefully sown in a fallow to enrich the soil. These practices are well known from the neighbouring Kakamega district (Bradley, Chavangi & van Gelder 1985:233). It can certainly be promoted further in parts of Trans Nzoia. But then again, male farmers at least, also have other expectations from the project's nurseries. They hope to get seedlings of valuable timber trees. There is a ready local market for timber. A too heavy concentration on Sespania may be against the (male?) farmers' wishes?

- In the project area, how widely is Sespania sp. intercropped with maize and beans? What management varieties exist? Can the project have a role in this particular farming system?
- Do farmers feel a need for having Sespania seedlings raised in a nursery, or do they prefer direct sowing of Sespania?

It may of course well be that Sespania sp. is not the only species that could be propagated by other means than through project nurseries. On-farm nurseries are reported to be very common in neighbouring Kakamega district - and if this is, or could be made the case in Trans Nzoia too, then the project could have a useful role in providing (germinated?) seeds and planting instructions.

Another issue that a baseline survey could provide directions for is extension work. The project intends to cooperate with

women's groups to spread the tree planting message in the settlement areas. How this should be done is still to be worked out. Women's groups are often dominated by middle-class women. Are women's groups the best way to reach the poor women the project particularly aims to support? And what do the women's groups think about the cooperation? Until concrete suggestions for mutually beneficial work are presented, the project's benevolent but vague attitude may only be bewildering.

Many aid agencies regard women's groups as an efficient way to reach local communities. The project needs to formulate what its own particular base for cooperation shall be. Becoming involved in the local communities presupposes that the project has a clear grasp of what is going on in the area. To the project, tree planting is an aim in itself. To others it may be a means towards quite different goals.

- How is information channelled in the area? How useful are nursery committees as compared with informal groups, or women's groups, or general extension work? What other options exist?
- What other organizations are involved in tree planting and related activities in the project areas?
- What are the similarities and the differences between the project's guide lines and people's expectations?

Etc.

### III

The various topics suggested for the baseline survey arise from only a brief acquaintance with Trans Nzoia and the project's activities there. They need to be developed further in cooperation with the project. If a baseline survey is carried out in Trans Nzoia, experiences from other investigations already undertaken within the 'Forests, Trees and People' programme should be included. Questionnaires and research procedures that may be applied also in other FTP-projects, and generally in community forestry activities, could be tried out during a Trans Nzoia exercise.

## 2. Monitoring the activities in Chepareria divisions, West Pokot

If the project now increases its efforts in semi-arid West Pokot (as suggested in this report), it is advisable to set up a simple monitoring system whereby the number of surviving tree seedlings are recorded. But even more important is that an attempt is also made to estimate the amount of food and fodder harvested - since it is by this figure that farmers will evaluate the project. Notes should regularly be kept on all project activities (local meetings, staff development, local seminars, cooperation with other agencies, etc.). This is needed for the continuous evaluation of project performance, and will be invaluable for a



future evaluation study. It is likewise important that photographs are taken every year at specified spots.

The strategy suggested for the work in Chepareria division rests on local decision-making. It is most important to monitor this process and to record what groups become involved in the project's activities and benefit from the external resources provided. In particular the project has an obligation to record changed control over land and fodder resources. It is therefore strongly recommended that the FTP-programme provides for a follow-up study to record what is happening and also to suggest alterations of the various proposals after one or two years' experience of project work in the area. This tuning of activities should take place during the autumn/winter of 1988.

Since the approach suggested for the work in Chepareria division has not been tried before in that area, and since generally the examples of successful attempts at arresting soil erosion in semi-arid environments are few, it would be most valuable if the project's work in lowland Pokot is backed up by a continuous input of research and documentation. The VI project can in fact here offer innovative attempts in community forestry which are of general interest.

A number of specific topics that require continuous attention were mentioned in chapter 11, and need not be repeated here.

### 3. Evaluation study in Chepareria division, West Pokot

Because tree planting and land rehabilitation is not as common in semi-arid environments as it is in high-potential areas; and the VI Tree Planting Project is trying out a specific strategy on how to encourage people who have never considered planting trees to start doing so; and that the approach chosen is interesting, and its possibilities as well as its limitations are well worth documenting; for these reasons it is suggested that an evaluation study be carried out in 1990-1991, four to five years after the project activities started. An again five years after that.

The present study has documented previous attempts at soil conservation and land rehabilitation in Morobus and Pserum. They did not produce lasting results, although they met with some initial success. A follow-up study can therefore regard the present level of tree planting and soil conservation as approaching a zero level. Any tree planting registered in 1990-1991 will be an improvement. Some planted trees are presently found close to schools and on a few private compounds. In 1987 the Ministry of Agriculture was involved in soil conservation work in a catchment area southeast of Chepareria centre, and some tree planting was planned for the area around Nusukuta holding ground. That is all.

The 1990 study should be more comprehensive than the present. It will require the cooperation of a rural sociologist/social anthropologist; a bio-geo scientist (i.e. someone competent in

both ecology and earth sciences); and a range management specialist. Enumerators will have to be hired and trained - if project staff cannot be enrolled for this work.

Apart from describing the development of the project, the study should also address the following issues:

### Ecology

The Morobus and Pserum environment has in this publication been described as resilient and threatened. This may be a subjective impression by a non-ecologist, but it is also backed up by studies documenting that it is difficult to secure even a meagre subsistence in this area during dry years (van Haastrecht & Schomaker 1985; Vermaat 1986). At the same time it should be remembered that "overgrazing" has been reported from these denuded areas for decades, while people have continued to make their living.

It would be most useful to get a professional ecological assessment of the area. Such a study should document the environmental changes that may be attributed to the project's activities. It could at the same time provide a possibility to redirect some project activities if they appear to have detrimental longterm effects. The ecosystem is being subjected to interference, and there is often a price to be paid for such manipulations.

### Land management

- Have other land rehabilitation activities been initiated after the project commenced, such as private enclosures, protection of wildlings, conservation structures in cultivated fields, etc?
- What has been the general influence of the project's activities on the farming and the livestock sector, respectively? Is it possible to discern changes in the local farming system?
- Can any tendencies towards improved or imparied subsistence be noticed? If so, what are the possible causes?
- Has trespassing of enclosed areas occurred? How did the local communities react?
- How was the local land use affected, if at all? Were any domino effects registered in other areas?
- Were any people (women?) because of tree planting denied access to resources they had previously controlled?

### Socio-economic issues

- What categories of people have, and have not, benefitted from the project's activities? What percentage of the population became involved? To answer these questions, a stratification of the local communities will have to be made.

- Which groups of people use the school plantations? Whose animals were selected for grazing in the plantations? How were the (formal and informal) decisions concerning this taken?
- Which categories of farmers started with agroforestry and homestead plantations as a result of the project?
- What social processes, if any, did the presence of the tree planting project trigger off? Since it is suggested that a considerable part of the planning procedures will take place in local meetings, a continuous recording of how different segments of the local communities make different use of the project could be made.
- Did tree planting have different implications and consequences for men and women?
- What impacts on the household level can be registered for different categories of people?
- How was the income from employment in the project used (cows, food, clothes, medicines, harambee contributions, capital goods, school fees, hired farm labour, improved housing, etc.)? A particularly pertinent question will be to what extent money earned in the project was invested in livestock. Is purchasing animals a new pattern replacing a previous pattern of circulation of livestock?
- Who controls the money earned from project activities?
- Did the fact that mostly men were employed by the project affect the division of labour and responsibilities within the households?

Etc.

### Longterm effects

The suggestions for continued activities presented in this report presupposes that the project will be present in the area for at least ten years. Another assumption is that to qualify for project support a community must do certain things on its own. People must themselves fence an area that is to be rehabilitated with the help of project funds, etc. Although there are thus fixed minimum requirements of community participation, still the project contributes a large part of the resources to be used for land rehabilitation in the area. The outcome of previous attempts at environmental protection here justifies that. But this very experience means that to measure the impact of the project after five years will not be enough. A second follow-up study should be carried out in 1995 or even later.

## Appendix 3

### WORD LIST

Agroforestry	A deliberate, managed use of trees within an agricultural or pastoral land use system. Agroforestry is characterized by both ecological and economic interactions between different components.
Arid/semi-arid	Climates with low rainfall.
Assistant chief	Government appointed administrator of a sublocation, the smallest administrative unit in Kenya.
Browsing animals	Animals (goats, camels) which prefer eating the leaves of trees and bushes. Cattle and sheep prefer grass.
Bukusu	A Bantu speaking people in Trans Nzoia. They are one of the Luhya groups.
CDA	Community Development Assistant, civil servant in the lower ranks.
Chief	Government appointed administrator of a location, the second smallest administrative unit.
Clan	A unilineal descent group, not necessarily localized.
Coppice	Periodic cutting of some species of trees. The stump is left and new growth comes from this.
Cut-off drain	An open trench with an embankment on the lower side. Leads water away from cultivated areas. Also used in gully control. Discharges water into a waterway or onto grassland.
District	The constituent administrative parts of a province. Since the introduction of "district focus" planning in Kenya in the mid-80's, this administrative level is of particular importance in development planning.

Division	Administratively, a district is divided into two or more divisions, which in turn are divided into locations.
Foliage	The entire leaf mass of a tree or trees.
Group ranch	A group of people is awarded title to a registered land. Can be used as collateral for loans just as with individual title deeds. The group ranch is intended to make traditional livestock-keeping commercial.
Hectare	A measure of land 100 metres by 100 metres. One hectare is equivalent to 2.47 acres.
Intercropping	Growing two or more crops at the same time on the same piece of land.
Kalenjin	A cluster of peoples living in Rift Valley province. Linguistically they belong to the highland Nilotes. The best known Kalenjin peoples are the Kipsigis, Nandi, Pokot and Tugen.
KANU	Kenya African National Union. The ruling, and only, political party in Kenya.
Karapokot	The area to the north and west of Suam river. In early publications called Karasuk.
Latex	A thick, whitish liquid produced by certain plants.
Lineage	A unilineal, usually localized, descent group.
Lopping	Cutting off side branches of trees, not the main stem, as fodder for animals.
Matatu (Swahili)	A pickup lorry or microbus carrying passengers for a modest fee between rural areas (or suburbs) and urban centres.
Maumau	A peasant revolt against the British rule in Kenya. It started in Central Province in the early 1950's.

Mzee (Swahili)	An elder; respectful way of addressing someone older or senior to oneself.
NGO	Non-governmental organizations.
Propagate	To increase the number of a plant, by seeds, or root-suckers, or by cuttings.
Rotational grazing	A given land is divided into blocks which are grazed in sequence.
Shamba (Swahili)	Cultivated field; also used to denote an estate, or generally the country as opposed to the town.
Shilling	Kenyan currency, equal to about 0.40 Sw. Crowns.
Sisal	The prepared fibre of several species of <u>Agave</u> used in rope-making. Also the aloe or other plant from which the fibre is obtained.
Terrace	Used in soil conservation work to control the flow of water on a slope by breaking a long slope into a series of shorter ones, thus reducing rill erosion.
Tugen	One of the Kalenjin groups. They live in Baringo district.
Ugali (Swahili)	Stiff porridge
Wazee (Swahili)	Plural of mzee
Wildling	A young seedling which develops in the wild without the help of humans.

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