

## **DRYLAND ZONE CASE STUDY 5**

### **Participatory Extension Strategies for Promoting Agroforestry in the Drylands of West Pokot District, Kenya<sup>1</sup>**

#### **BACKGROUND**

The Pokot people are a community inhabiting the West Pokot District (latitude 10°7' to 20°49'N and longitude 34°47' to 35°49'E) and northern parts of Baringo District in North-Western Kenya. West Pokot District is largely a dryland area experiencing erratic climatic conditions and difficult terrain. Annual rainfall varies from less than 400 mm in the lower areas (1150-2000 m altitude) to slightly over 1500 mm in the high altitude areas (2439-3370 m altitude). Unreliability and variability are more considerable in the lower altitude drier areas. Soils in the low lying areas are generally poorly drained clays with occasional hard pans. The dominant vegetation is *Acacia-commiphora* woodland.

Traditionally, the Pokot people are nomadic pastoralists whose lifestyle is rapidly changing to sedentary mixed farming, especially in areas where conditions are favourable. Like many other semi-arid parts of the country, the area has been experiencing a population increase both human and livestock. The climatic conditions, terrain and traditional lifestyle practised are not compatible with increasing population in terms of sustainable resource management and use. The area is prone to periodic droughts accompanied by famine and poverty and land degradation is evident over most places further threatening the livelihoods of the people.

The Vi-Agroforestry project was established to address the issue of land degradation through agroforestry interventions. The project was started in 1983 and is on-going.

#### **OBJECTIVES**

The overall objective is to contribute towards better living standards of the small-scale farmers in the project areas (i.e., farmers who own at least 0.4 to 2.5 hectares of land and are fully dependent on their farms on a daily basis).

The specific objectives of the Vi-Agroforestry project were:

- Increased food security,
- Improved nutritional security,

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<sup>1</sup> This case study has been compiled by the Project Manager, Vi-Agroforestry Project, P.O. Box 2006, Kitale, Kenya.

- Increased fuel wood availability, and
- Increased income generation.

## **APPROACH**

Project partners include the Vi-planaterar Träd Foundation, an International NGO with headquarters in Stockholm, Sweden (which funds the Vi-Agroforestry programme), relevant government ministries (for further technical support) and local communities who are the main beneficiaries.

The programme began by carrying out a survey of the Kainuk area, along the Wei-Wei River and in Chepareria Division, which revealed the loss of both soil and vegetation. The seasonal rivers were an unreliable water source and surface sealing, soil erosion, and loss of useful trees and shrubs, annual grasses and less productive species in the area as well as deep gullies were common. The situation constituted a threat to both human and livestock movement.

Conservation and rehabilitation by planting trees on the large bare patches was considered as an immediate way of solving or arresting the problem. The project also involved socio-economic measures on how land can be utilized optimally. During the initial stages of implementation, the Project had some difficulties in gaining acceptance from the community, especially with regard to some of the technologies like enclosures given past experience where the government used such approaches to acquire land. To overcome this challenge, the project identified representative public institutions; schools and churches that had suffered degradation and established enclosures there. The project did all the work, paying all costs. After some time these sites recovered and were used as demonstrations for the local community. On observing the regeneration and rehabilitation of the land within the enclosures, some pastoralists volunteered a portion of their land for rehabilitation activities. On realizing the benefits, their fears were removed and more came to request the project for assistance while others spontaneously established their own pasture enclosures.

The project applied the principal of participatory extension that involves the following stages:

### **Participatory Rural Appraisal (PRA)**

The project assists the community to identify or diagnose their own problems and seek possible solutions to address them. PRAs are based on the real needs and within the capacity and skills of the community and their local institutions, assist the community in the implementation of the plan with either technical advice or other forms of support. PRA was used in a broader scope as the project's entry point to make community members decide and analyse their own problems and identify their own resources for solving them. This promotes farmer participation in the development of agroforestry. The awareness created enables the communities to develop their own community action plans, addressing different sectors of development.

### **Community Action Plan (CAP)**

The community's needs and priorities were prepared in the form of a CAP for implementation. The implementation was at two levels - through groups or individuals. The group approach was more common

i.e., a group of farmers is identified on the basis of established groups. The extension workers enter into discussion with the groups over the agroforestry activities to be undertaken, get targets per agreed activities, discuss inputs and agree on the role the group will play in the provision of required input. They also monitor implementation. The same procedure is applied to individual farmers who for one reason or another cannot join a group.

To ensure that a given area was properly covered, the project adopted an Area of Concentration Approach (AoCA). In this approach the project extension agent was stationed in an area of concentration where he/she progressively and intensively worked with 200-350 farmers for a period of 3-5 years depending on the community response. At this point the community would have been empowered to sustain various agroforestry activities on their own. The extension officer then moved to a new area, and constant follow-ups were frequently made in the old areas to establish their progress.

Apart from establishment of enclosures and construction of water catchment structures for land rehabilitation, the project identified and tested other technologies for good land use management practices. These included:

- Soil fertility improvement based on the principle of organic farming (tree/crop residues, farm yard manure or promotion of short term fallows).
- Local seed collection and tree management.
- Woodland management,
- Apiculture (bee keeping) promoted alongside tree planting and woodland management.

Field demonstrations, short courses and related activities were offered to improve the farmers' capacities in sustainable management. Training activities included field days, farmers study tours, especially to the project's Agroforestry Centre as a model and to other successful farmers and relevant institutions. Basic nursery and agriculture courses as well as advanced agroforestry training activities were also offered. The aim of the wide range of training activities offered was to enhance human resource development and ensure the project's efficiency. Farmers were trained on agroforestry practices, direct sowing techniques, organic farming, farm planning, home tree nursery establishment and seed collection.

## **RESULTS**

By 2001, the project had worked with 25,000 farmers (comprising around 6,500 households) who had acquired knowledge and skills in agroforestry. A total of 168 home nurseries produced 7,643 seedlings in W. Pokot while 5 group nurseries in Kongelai produced about 6,300 seedlings. A total of 127 farmers in Chepareria were involved in the collection and use of seeds. There were 45 soil and water conservation demonstration plots and 4,025 ditches in Kongelai and 1,000 metres of retention ditches constructed in Chepareria.

Both indigenous and exotic tree species were used in the rehabilitated areas. Among the exotic species doing well in the area are: *Senna siamea*, *Azadirachta indica* (neem), *Leucaena leucocephala* and *Parkinsonia aculeata*. However, indigenous species predominate, the major ones being: *Acacia nilotica*, *A. tortilis*, *Faidherbia albida*, *Balanites aegyptiaca*, *Terminalia brownii* and *Zizyphus macronata*.

The enclosure system has had great impact on:

- Land tenure and value. Land tenure is slowly changing from communal to individual ownership and hence raising the value of the land. Some farmers are now selling grass to their neighbours for thatching which has led to better housing and rental of pasture (improved animal health) to earn income.
- Reduced migration in search of grazing and hence families are now staying together for a longer time; there has been improved enrolment in schools, improved pasture and animal health.
- Increased food production as more land is now under crops. Maize, beans, sorghum, millet and other new crops like cassava, pigeon peas, green gram, kales and an assortment of fruits e.g. paw paw, bananas, guavas and mangoes are cultivated.
- Changes in roles within families e.g. women assist in herding due to availability of fodder near homes, the presence of men in the homes provides extra labour, leading to diversification and expansion of the cropped area. Due to increased milk production and commercialisation, men are now involved in milking which was exclusively a woman's job. House construction, previously a woman's responsibility is now almost entirely taken over by men.
- Tree planting and management has greatly improved since the seedlings are now more protected in the enclosures, especially during the cropping period.

## **REASONS FOR SUCCESS AND LESSONS LEARNT**

The following are considered as reasons for the recorded success in the project:

- Participatory problem analysis through the PRA methodology;
- Integrated problem solving focusing on farmers and pastoralists' priorities;
- Recognition of gender roles and agreeing on adoption of beneficial values to overcome changing social needs and challenges;
- Capacity improvement of local farmers and pastoralists in team building and simple resource management technologies and methodologies.

## **RECOMMENDATIONS**

### **Policy**

The project's approach of improving land value and hence influencing tenure at local level is a useful learning point which policy makers should build upon.

## **Management**

The extension approach being used (AoCA) should be scaled up to other similar areas in the district.

## **Research**

There exist other valuable dryland rehabilitation techniques, which could be tested in the area to complement the ones being used.

The rate of rehabilitation using the enclosure system needs to be determined.