

DRYLAND ZONE CASE STUDY 1

Community Resources Management by the Elangata Wuas Ecosystem Management Programme, Kajiado District, Kenya¹.

Note: KES denotes Kenya shillings/KSh

BACKGROUND

This is a case study of the Kenyan Maasai people living in Kajiado District (Latitude 1°10' to 3°10'S and Longitude 36°5' to 37°5'E) whose pastoral lifestyle has been curtailed since the coming of the colonial government to the present day. First, their movement was restricted south of the Uganda railway line in 1912 leading to a heavy loss of prime pasture land including dry season grazing areas, salt licks and watering points. Nomadic pastoralism was perceived then as a retrogressive land use system and a major cause of land degradation. In the early 1960s, the government of Kenya introduced a group ranch strategy as an alternative mode of land use in dryland areas, further restricting movement of the communities. In the programme area, three group ranches comprising 160,000 ha were created: Elangata Wuas, Kilonito and Torosei. Today, the area is home to about 10,000 persons and 27,500 head of cattle representing an overstocking rate of about 90%.

Rainfall is typical of the semi-arid areas and ranges between 450-800 mm with an average of 600 mm. Low lying areas (under which most of the project falls) experiences lower average rainfall. Soils are generally variable with vertisols and luvisols being most common. Vegetation is mainly *Acacia-commiphora* bushland and grasslands. Main tree and shrub species are *Adansonia digitata*, *Acacia* and *Commiphora spp.* Common perennial grasses include *Cenchrus ciliaris*, *Chloris roxburghiana* and *Eragrostis superba*.

The main economic activity of the Maasai communities remains cattle raising but in a semi-nomadic and semi-sedentary system. However, with further sub-division of group ranches and allocation of parcels of land to individual holdings, the traditional livestock grazing patterns have been constrained and more so, in the absence of proven alternative land use technologies. This has led to heavy degradation of the natural resource base, particularly the pastures, soil and water. Besides these bio-physical forms of land degradation, lack of experience and know-how among the communities to engage in benign management practices and technologies, including coping mechanisms under the new land use systems has led to growing poverty, loss of livestock, rising unemployment and declining health. The women, old people and the youth are shouldering the bulk of the burden. The Elangata Wuas Ecosystem Management Programme (EWEMP) was formulated to address some of these problems.

¹ This case study has been compiled by Dr J. A. Odera, Programme Coordinator, Elangata Wuas Management Programme, National Museums of Kenya, P.O Box 45547, Nairobi, Kenya.

OBJECTIVE

EWEMP's broad objective is to develop methodologies for sustainable management of natural resources, rehabilitation of degraded sites, diversification of income generation, and an acceleration of transition into the cash economy for improved community livelihood.

APPROACH

The Elangata Wuas Ecosystem Management Programme (EWEMP) is a partnership between the community in the Central Division of Kajiado District, the Centre for Biodiversity of the National Museums of Kenya (NMK) and the Kenya Wildlife Services (KWS). EWEMP was initiated in 1992 through discussions between the NMK and the KWS with the Elangata Wuas, Kilonito and Torosei communities in Kajiado District. Following a protracted planning and design process, EWEMP initiated pioneering field activities in 1998, and has subsequently strengthened promising ones from 2001. The Ford Foundation funds the programme with co-funding from the International Development Research Centre of Canada (IDRC). The project is on-going.

The programme's approach is based on building a participatory partnership that places people and their needs at the centre of natural resource management (NRM) for sustainable development.

RESULTS

During the last six years the programme has achieved the following results:

Building a Community Based Organization and Governance Structures

The programme has developed a Community-Based Organization (CBO) with a strong local foundation. It provides sensitisation, mobilization, recruitment, empowerment and capacity building to the CBO to enable it undertake all local development programmes and sustainable management of resources to generate income for members. Experiences gained so far show that the grounding of a credible CBO is contingent on establishment of a grass-root structure with legitimacy and recognition from stakeholders, and respect from the community. The members are concerned about transparency, accountability and equitable distribution of benefits. It is only through assuring resource ownership by the community and equitable access to benefits that the participation of the community can be assured.

Woodland Management

This is one of the promising and key micro-enterprises in the programme area. The programme has developed relevant databases on the woody resource that allows low impact off-take practice under a prescribed system of criteria and indicators for sustainable management. The members of the woodland micro-enterprise have developed a mini co-operative whose members practice a 15-year felling cycle for charcoal production. Each member produces 10 bags of charcoal monthly that she/he delivers to a sale

yard from where it is marketed to charcoal dealers at negotiated unit prices. The micro-enterprise is managed by rules and guidelines developed and enforced by its members. Currently members earn about KES 3000 (USD 40) per month from charcoal production.

Consumptive and Non-consumptive Utilization of Wildlife

The community is adamant that wildlife, which shares their land with livestock should justify its existence by providing some benefits to them. Further, the programme recognizes that wildlife management and conservation depends on information on its numbers, distribution dynamics and the state of the range and the co-operation of the land-owners. In this regard, factors influencing species abundance such as increases in human and livestock population and the peoples' attitude have been discussed and noted. The programme has explored opportunities for generating income from wildlife and eco-tourism such as wildlife cropping, ostrich husbandry, beekeeping, filming, bird-shooting, home stays and cultural exchange. To date the community has established a wildlife utilization committee with representation from all stakeholders in the group ranch, and has been trained in animal scouting, population assessment and tour guiding. The committee is, however, still waiting for the government's guidelines on cropping and the inauguration of the micro-enterprise.

Eco-tourism

The programme has established a base camp with satellite camping sites and a network of recreational activities as a nucleus for its eco-tourism micro-enterprise. Since the launching of the eco-tourism micro-enterprise over one year ago, over 500 visitors have visited the area as individuals and organized groups from institutions, as nature lovers, researchers, or on learning/training missions, using the programme's facilities. The community earned over KES1 million (USD 13,333) from its eco-tourism micro-enterprise during 2000.

Ostrich Husbandry by Pastoralists

Experiences from ostrich husbandry show that the community is able to produce birds cheaply for meat and breeding at a cost of KES 4,000 (USD 53.3) per bird, over a period of 25 to 30 months. The birds are herded with sheep and goats at no extra cost and fetch between KES 10,000 (USD 133.3) and 20,000 (USD 266.7) each. By contrast, a mature bird fetches KES 75,000 (USD 1,000) in the export market. Prevailing poor market structure and lack of a clear government policy on ostrich production remain serious constraints to the development of this micro-enterprise. In the year 2000, the 12 participating community members earned KES 20,000 (USD 2,666.7) from the sale of 23 month old ostriches.

Beekeeping

This activity has attracted 20 farmers all of whom have adopted Kenya top bar hives. The programme runs a nucleus production unit at the base camp and provides participating families with backup training and hive management, harvesting and honey processing. Each farmer harvests 10-15kg of honey, two to three times a year, with 1 kg of honey fetching KES 250.00 (USD 3.3).

Sustainable Use of the Sand Resources

Sand harvesting along the River Toroka has become an important source of income. The area is readily accessible to lorries particularly during the wet season when roads to other sand producing areas are impassable. This has led to heavy and non-sustainable off-take of building sand. On realizing that heavy sand harvesting affects ground water levels and hence negatively impacts on the wells downstream, the community decided to carry out a study to:

- Determine the volume of sand resources in a specified area along the river; the characteristics of the sand beds, the seasonal variation in the water table and the effect of sand harvesting on the water levels on the wells along the river bed;
- Evaluate the general condition of groundwater along the Toroka River so as to identify sites for drilling boreholes to supplement existing water supplies; carry out a monitoring of sand harvesting intensity and natural sand recharge rates, and fluctuations in the levels of aquifers in the area, and hence generate basic data for building a Geographical Information System (GIS) for further rigorous analysis, modelling and generating land-use information.

Available information shows that about 400,000 tons of sand can be harvested per year from the river segment under the study sustainably. This is valued at KES 20 million (USD 267,000) of which KES19 million (USD 253,000) should go to the community.

Pasture Rehabilitation

The results of assessment of the state of pasture had revealed that overgrazing pressure in the area over the last two decades or so have contributed to marked degradation of the vegetation and the ecosystem in general. Successive trampling and selective grazing has subsequently led to dominance of unpalatable species of forbs and grasses, and invasion of weeds and woody plants. This has concomitantly led to a reduction in the population of palatable woody plants, perennial forbs and grasses and an expansion of annual species.

To reverse this trend the programme embarked on assessing the effectiveness of promising low cost technologies for mitigating the state of land degradation. The results of investigations carried out so far show that exclusion of grazing pressure, supported by erection of physical structures through construction of cascades of pits, a matrix of pegs drilled on the ground on the eroded surfaces across the contours, a series of stones and brush wood arranged across run-off channels, and broadcasting seeds of prime browse grasses such as *Digitaria macroblaphara*, *Pennisetum stramineum*, *Sporobolus pellicidus*, and *Dactyloctenium aegyptium* seeds before the rain, have given promising intervention points. The physical structures trap excessive water run-off thereby enhancing infiltration and promoting healing of degraded sites. But it is critical to exclude the affected areas from grazing during treatment.

A second major initiative began with exploring cost-effective techniques for rehabilitation and sustaining the pasture potentials in wooded areas. The opening up of the wood-encroached sites was taken together with low impact harvesting for biomass production. Managed removal of materials for fuelwood production makes possible a gradual opening up of the wooded areas and in time allows regeneration of prime browse perennial grasses.

Women in Development

A total of 10 women groups, registered with the Ministry of Culture and Social Services are operating in the area. The women groups have excelled in managing income-generating activities. The programme supports and empowers them through training on product development and quality control in making artefacts and handicrafts. The women are currently earning an average of KES 800 monthly on an investment of about one hour per day working four to five days per week. Lately they have also been involved in vegetable production using drip irrigation.

REASONS FOR SUCCESS AND LESSONS LEARNT

The main reasons leading to the success of the project include:

- Project planning is based entirely on local resource base and needs;
- Project activities are tailored to fit, as much as possible, the traditional and cultural values of the Maasai community;
- Project implementation has adopted the traditional structure of the Maasai Community governance, respecting also the gender roles;
- Consistent capacity building in CBO involved in the project;
- Need driven supportive research has redirected the development strategies and technical requirements for success;
- Financial inputs to the Project have been minimised to increase the capacity of Maasai communities to contribute to their commitments;
- The Project has adopted a strategy of cost sharing, both financial and in-kind, where financial inputs by local communities will increase with time through the generated revenue and thus ensure sustainability of the activities in future.

RECOMMENDATIONS

Policy

This programme demonstrates a fully integrated natural resource management initiative in the drylands and useful learning points, especially with regard to wildlife. It is recommended that the government put in place enabling policy in support of community participation in wildlife management.

Management

The CBO and governance structure being established is a useful organ for empowering the community in sustainable management of the natural resources. Its organization and strengthening need to be finalized during the current phase of the project.

Research

Further studies are still needed in sustainable woodland management, building on criteria and indicators already developed and community management of wildlife resources including marketing and benefit sharing.