

Section II: Lessons from Case Studies; Factors for Success or Failure

At the time of preparing this background paper, not many case studies had been received and those available were already published in authoritative sources. The search for representative case studies from the dry sahel is now on. Meanwhile, three cases from Kenya have been compiled to share some of the on-going experiences and draw lessons on rehabilitation of degraded lands in the drylands of sub-saharan Africa.

Case Study 1: Community Resources Management by the Elangata Wuas Ecosystem Management Programme, Kajiado District, Kenya.

Background

This is a case of the Kenyan Maasai people 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 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 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 heads of cattle representing an overstocking rate of about 90%.

The main economic activity of the maasai communities remain cattle raising but in a semi-nomadic and semi-sedentary system. However, with further sub-division of group ranches and allocation of parcels 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 resources 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. 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 2000. The programme is funded by the Ford Foundation with co-funding from the International Development Research Centre of Canada (IDRC).

Mission, Objective and Approach

EWEMP's mission is to empower communities to mobilize their own capacities, be social actors rather than passive subjects, manage their resources, make decisions and control activities that affect their lives and environment. Its 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.

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 and Lessons for Success or Failure

During the last four years the programme has achieved the following:

i. Building 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 of 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.

ii. 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-years rotation 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 Kshs. 3000/= per month from charcoal production.

iii. Consumptive and Non-consumptive Utilization of Wildlife

- Wildlife utilization

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 their 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 people's attitude have been discussed and noted. The programme has explored opportunities for generating of 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 on animal scouting, population assessment

and tour guiding. The committee is, however, still waiting for the government's guidelines on cropping and 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 KShs.1 million from its eco-tourism micro-enterprise during 2000.

- Pastoralist Ostrich Husbandry

Experiences from ostrich husbandry show that the community is able to produce birds cheaply for meat and breeding at a cost of KShs. 4,000 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 KShs. 10000 and 20000 each. By contrast, a mature bird fetches KShs.75000 in the export market. Prevailing poor market structure and unfavourable 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 KShs.200000 from the sale of 23 months old ostriches.

- Beekeeping

This activity has attracted 20 farmers all of whom have acquired 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 1kg of honey fetching KShs. 250.00.

iv. Sustainable Use of the Sand Resources

Sand harvesting along 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 impacting 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,
- Determine 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 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 KShs. 20 million of which KShs.19 million should go to the community.

v. 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 has 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*, *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.

- Began 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 fuel-wood production enables a gradual opening up of the wooded areas and in time allows regeneration of prime browse perennial grasses.

vi. 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 artifacts and handicrafts. The women are currently earning an average of Kshs.800 monthly on an investment of about one hour per day working on a four to five days per week. Lately they have also been involved in vegetable production using drip irrigation.

Conclusion

The programme has accumulated useful working information in promising components of biophysical, socio-economic and cultural aspects of resources management. The team of researchers and their visiting partners have worked supportively, cross-sectorally among themselves, and with members of the community. The programme has established a cohesive local level resource governance structure that has taken ownership of the programme.

It is noticeable that the community has started to appreciate EWEMP's innovative approach that focuses on community empowerment and capacity building for self development. By contrast, other community-based projects give direct support to individuals or institutions, such as school fees for needy families, granting roofing and water storage materials, but finally leave them unchanged.

Although the micro-enterprises are not fully functional, the initial level of flow of benefits, particularly from the biomass energy, eco-tourism and sand harvesting activities, has caught the attention and interest of members. Consequently, the list of members has doubled up and the community has become actively involved in fighting game poaching, active participation in the micro-enterprises, and other activities of the programme. The enhanced level of interest in the programme was accurately portrayed by the recent experiences in the elections of the PPC and PMC that were vibrant with serious lobbying, canvassing and campaigns. Unlike the previous elections, this time round, people turned up in large numbers under various groupings: clans, age sets etc. as a strategy for outsmarting one another in electing candidates into the programme's committees.

It is evident that the processes of empowerment and capacity building initiated in the programme area will nurture the CBO into a dependable vehicle for managing change and development in the area. Results of the research effort in dryland resources management are also encouraging, although many of these have not covered both the good and bad rain years. Generally, members are convinced that with effective marketing of their products they would build new income sources, establish sustainable locally-based economic activities and finally shift from traditional reliance on pastoralism. It is at this stage, that the message on destocking (over-stocking currently stands at 90% and remains a major course of land degradation) and adoption of non-degrading land use systems, will be meaningful.

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