

# **ENHANCED FOOD SECURITY, ECONOMIC AND RESOURCE IMPROVEMENT: EASTERN KITUI LOWER MIDLAND ZONES.**

A SASOL Proposal

## Background

The Eastern Kitui Lower Midland Zones are here defined as the area lying East of the North-South dividing line, running from Tseikuru in the North to Kyuso, thence to Mutito and Mutomo, and from Mutomo until the boundary with Tsavo East National Park. The area is dominated by Agro-ecological Zone V. The Eastern Statelands (AEZ VI) are not included. The total area covers roughly 7,600 km<sup>2</sup> or 25% of the District. When not including the uninhabited areas of Tsavo East and the aforementioned Statelands, it becomes 50%.

The Eastern Kitui Midland Zones comprise Tseikuru, Mivukoni, and Ngomeni locations in Kyuso Division. In Eastern Division all locations are included. In Mutomo Division the principal location is Voo, but part of Mutha Location also answers to the definition.

The land is predominantly undulating to rolling, with deep soils of low fertility, that are susceptible to erosion, compaction, and capping. The original open savannah has been taken over by a thick growth of thorny, stunted trees and shrubs (or the so-called Nyika), due to overgrazing and the eradication of wildlife.

Soils of moderate-, or even moderate to high fertility are associated with hills, inselbergs, and the river plains that dissect the area. All of these landforms cover some 7-10% of the Eastern Midland Zones. They are the traditional fall-back areas (key areas) for the pastoralists during the dry seasons, and play an important role in the survival tactics of the local population who are frequently plagued by drought. In addition, hills and inselbergs have become the sites where sedentary agriculture has taken root, as the climate (orographic effect on rainfall) is more favourable and water is permanent (springs).

The climate is hot (Av. 29<sup>o</sup> C) and dry. Average annual rainfall West of the North South dividing line running from Nguni to Nuun and thence to Kanziku in the South is 600-700 mm. East of this line it is 400-600 mm. Endau Hill is the exception with 750 mm. The 75% exceedance figures are, however, respectively 450-500 mm and 350-450 mm. Rainfall for cropping (75% exceedance) is 200-250 mm in the Western part of the area, and 150-200 mm in the Eastern part during the short rains (November - December). For the long rains (March-May) these figures are 100-150 mm (West) and 50-100

mm (East).

The area has been designated a livestock and millet zone. When considering crop-water requirements of crops in a similar range as millet (e.g. Pigeon Pea, Green Gram, Sesame), the chances of crop failure in both seasons (long rains and short rains) range from 10-20% in the Western part to 20-40% in the East.

The Eastern Kitui Midland Zones count a population of approximately 164,000 (22,000 families). About 49,000 live in the aforementioned locations of Kyuso Division. Eastern Division has 77,000 people. A remaining 38,000 inhabit Voo and Mutha.

The economy is principally livestock and trading of livestock as a marketing system for cash crops is grossly deficient, and prices being offered at the farm gate are minimal. Livestock accounts for roughly 70% of farm income which is US\$ 20 per capita. The remaining family income is derived from wage labour, usually outside the district, by at least one family member. Total income thus amounts to some US\$ 60 per capita.

Family life in the area is characterised by separation of its members, since the head of the household is away to earn a wage. As there is no technological compensation for his absence, farm production is limited, also because household chores like collecting water and firewood consume considerable time. Children are away at school, and no longer participate in farm life as they used to. Infant mortality is high, stunted growth of children is common. Literacy is less than 50%. Current population growth stands at 3.46%. Ecological degradation is rapidly increasing, thus denying the population a basis to improve their lot. Production is stagnant. Government and donor funds are traditionally reserved for the more productive Kitui Highlands.

### Feasibility of ASAL Development

During the past decade, the notion that development of ASAL areas (82% of Kenya's land surface and 8 million inhabitants) is not feasible, has gained increasing popularity amongst donors, presumably on the grounds that potential returns do not justify the cost. However, this rather monetarist point of view lacks a realistic assessment of requirements, costs, as well as future scenarios if present trends are allowed to continue.

The above self fulfilling prophecy has generated programmes and projects that emphasize basic human needs, resource conservation and development, and subsistence oriented production systems, whilst ignoring key elements such as organised production and marketing, land adjudication, planning information systems, water supply to small towns and market centres,

health, and appropriate education. The result of 10 years of ASAL programmes has been an average annual crop production increase of 1.5%, declining numbers of livestock, an annual population increase of 3.98%, and a continued trek to the cities and the Kenya Highlands for lack of local job opportunities. It, should however, be recognised that the current approach has no effect against a rising tide, and merely serves to postpone the inevitable, which may possibly signify environmental and societal breakdown.

The previous approach has been further fostered by donors invariably operating through central government offices and parastatals. However, marketing of agricultural produce has been recently liberalised. Within the context of District Focus there is also no reason not to work with the district machinery directly, as has been done by NGO's for years.

### Potential of the Eastern Kitui Midland Zones

Previous (very) general estimates of the area's potential have been low. This pessimistic view most likely has been coloured by the notion that development is based on a subsistence economy, or a reluctance to conduct the development process beyond applying but the most rudimentary technologies. For example, a report indicating considerable irrigation potential along the Tana River in the North was never published.

Contrary to the above the ALDEV experience in Kitui from 1946 till 1962 shows that policy and marketing had a profound effect on improving ecologic and economic conditions. Some of the important lessons learned during this period are as follows:

1. Between 1930 and 1950, Kitui was a net importer of food to the tune of 18,500 tonnes a year. By 1953 the district had become a net food exporter (2,862 tonnes and 9,199 livestock units), with production steadily climbing. In 1957, net exports had risen to 5,807 tonnes of food and 21,960 livestock units.
2. Policy and marketing had a much greater effect on production than drought.
3. Food self sufficiency was achieved by the rules common to a cash economy, which Kitui already was, well before ALDEV, rather than to use a subsistence approach (As is currently the case) which does not fit local realities.
4. Resource conservation and development, tied to cash cropping and organised marketing, became a success for the only time in Kitui history. A subsequent abandoning of this approach has lead to a progressive decline of

the ecology.

5. A cash economy, income generation, and resource conservation are closely linked. Subsistence oriented programmes attempting to apply resource conservation without these links, are faced with very slow to negligent implementation rates, and need to rely on coercion and "food for work" projects in times of famine.

Determining the true potential of the Eastern Midland Zones requires careful study, crop trials and pasture trials, as well as some pilot projects. It is, however, thought that increased local production and less reliance on monies remitted from outside the district are distinct possibilities.

### Objectives/Strategy

1. Food security/self sufficiency through organised production and organised marketing of cash crops and livestock. Though individual household production is emphasised, production also may be conducted by groups (communal grazing). Cash crops are Millet, Sunflower, Sesame, Safflower, and Ricinus. Subsistence crops like Pigeon Pea, Green Grams, and others can be cultivated as usual but can also be bought in cash from the proceeds of cash crops.

Marketing of crops will not take place through cooperatives and only minimally through the boards (except Millet). Neither is it foreseen that farmers as an organisation will take charge. This is envisaged to change after a few years, when producers start feeling the need to manage their own affairs. For the time being the task of this aspect will be left to the people running the proposed project.

Livestock marketing, on the other hand, has already been a well established practice for more than a century, with markets in Tseikuru, Ngomeni, Nguni, Endau, Nuu, Mutito, Zombe, Voo, and Mutha. These need to be upgraded to include sizeable holding grounds with ample fodder and water facilities, sales yards, and veterinary services. A system is to be established whereby the producer gets the best price, whilst doing away with the present exploitative practises by an established group of middle men.

2. Income generation through the process as set out in the previous objective, but also through groups e.g. managing Ricinus or Aloe plantations, or joint ranching. As there are large tracts of land that are not in use because of lack of water, low rainfall, soils of low fertility, or other reasons, these lands may be used to cultivate less demanding crops (also sisal). Groups, for example, can be formed from the Utui that are still in existence in the Eastern Lowlands, and who traditionally own areas/zones large enough to start a plantation. Clearing of bush, moreover provides the opportunity for

charcoal burning.

3. Resource improvement/development through water conservation and development, soil conservation, re-afforestation, pasture improvement, and range management. Distinction is made between approaches with regard to the mentioned key areas and the plains. In key areas, priority will be given to increasing biomass production (with emphasis on fodder grasses like Napier and Bana) to match water demand, on soil conservation, and on re-afforestation to protect waterpoints. Re-afforestation of key areas includes fruit trees (Mango, Guava, Tamarind, Avocado, Cashew Nut, Macadamia Nut, Hazel Nut, and Lime), honey, flora, timber, trees like Neem, Gum Arabic, Wattle (tannin), legumes, and fodder trees. Legal ownership of protected areas (springs, gazetted hills) will be given to relevant groups, who also will be the owners of the trees within the protected areas. Slopes around key areas are usually ideal sites to establish shallow wells. Here the same criteria apply.

Priority on the plains (not including rivers which are also key areas) will be given to establishing a network of waterpans or hafirs) prior to increasing biomass production. The purpose of these is to keep livestock away from the key areas for as long as possible after the rains, so as not to overuse them. The location of waterpans is obviously related to the key areas and the movement of livestock pertaining to the area during the year. Once the network is established, the next step includes improvement of pasture and the range.

4. Environmental education through the schools approach. Approximately 52% of the population is of school going age. As a target group they are more sensitive to newly introduced technologies such as organic farming, zero grazing, manipulation of the hydrologic cycle at the catchment level, etc. than their elders who are largely illiterate. Once they leave school, this new generation of potential farmers will be more receptive to extension messages and new developments (including the market) than present farmers.

New techniques are taught at primary school (Grades 6-8) using manuals like "Sustainable Agricultural Production in ASAL", (SAP in ASAL), and "Trees in ASAL". Children are also taught on the school grounds (school catchments) how to put into practise what they have learned. Produce (including meat) of the school catchments is meant to feed the pupils in part. Schools where this approach will be introduced initially, count 5 to 7, distributed over as many locations.

5. Participation of Government at the divisional levels will be sought wherever applicable, feasible, or appropriate, with an aim of complementing each others activities rather than to overlap or duplicate. Assistance

(through signed agreements) will be sought for specific activities. This concerns mainly extension, monitoring, technical assistance, but also sharing of resources (e.g. nurseries) if practical. At the district level coordination will be carried out by the DDO's office.

6. Community participation through identification and formulation of their own programme (this proposal), its subsequent submission to potential donors, and finally formulation of a definite proposal prior to approval by Sub-DDC's and the DDC. Participation is further a key element in all the stages of programme implementation, with a view on the community taking over at the earliest stage possible at the sub-locational level.

Due to their experience with participation and knowledge of the area, the Diocese of Kitui (at divisional level) - who is a principal partner in the envisaged programme - will be conducting all the social aspects (including training) of the programme. It must be noted, however, that the envisaged programme in no way represents any religious or political view.

7. Although it is not common to include the establishment of a planning base as an objective, this is nevertheless a distinct condition for development. The lack of this in the district has consistently hampered a structural approach to activities, and has disproportionately benefited the rich, as evidenced in the Kitui Highlands.

A reasonable amount of information about the area is available, but this is too general to serve as a planning base for the detailed decision making that is required under the circumstances. The said planning base serves to define intervention priorities, as well as environmental/ecological and financial limits. As decision making by the community in the planning process is of overriding importance, the planning base must be "participation friendly", obviously participative land evaluation is to be the first and most important activity undertaken.

#### Initial programme area

The Eastern Kitui Lower Midland Zones cover an area that from an organisational, logistical, and cost point of view is too large to tackle in the initial stage. For this reason an area has been selected, enclosed by Mutito-Mui-Nuu Hills-Engamba-Endau Hill-Makongo Hills-Zombe - and back to Mutito. If (pending evaluation) activities in this area prove successful, the programme will subsequently cover the whole of the Lower Midland Zones.

#### Pre-requisite information

Evidently a planning base is a pre-requisite for structural development. To establish this will take approximately a year. Adaptive trials of oil crops in

particular will take four cycles (4 years) to obtain statistically significant results. Of even greater importance is pasture research, as Kenya lags behind the rest of the world in finding solutions for increased pasture productivity and production. Assistance will be needed from the CSIRO Division of Tropical Pastures in Australia (through the Kenyan Agricultural Research Institute). This activity will also take 4 years. Furthermore some market and marketing research is required, although this will take less than 3 months.

The previous notwithstanding the programme can take off almost immediately after formulating a Plan of Operations and approval by the DDC on some of its components. These are marketing of millet, resource improvement activities of the key areas, upgrading of livestock markets (including holding grounds and design of a viable marketing system), and land adjudication. Also the annual cost of the programme is globally known. When not including the cost of the aforementioned pre-requisite information, this will come to US\$ 350,000. During the first year an additional US\$ 120,000 will be needed to establish infrastructure and the purchase of transport, office equipment, etc.

#### Organisation and management

The programme basically consists of 4 components. These are

1. Studies and research
2. Environmental education
3. Resource improvement
4. Production (Crops and livestock)

The first three concern outright grants, whilst the production component qualifies for credit (soft loan), provided flexibility is shown on the issue of title deeds on land and the question of ownership regarding livestock holding grounds. It is, however, conceivable that approval of the programme accelerates land adjudication and the organisation of livestock markets.

Whereas environmental education could possibly be handled by and NGO, the programme overall appears to be mostly suited for management at a government to government level. On the Kenyan side this could involve a coordinating body like the Ministry of Reclamation and Development of Arid and Semi-Arid Lands and Wastelands, or The President's Office (and by extension the DDO's Office) carrying out coordination directly at the district level (which is preferable).

Consideration must also be given to an NGO carrying out the programme under the jurisdiction of the DC's Office. The NGO in question is called "ASAL Solutions", with on the board of directors 2 members of the Diocese of Kitui,

2 consultants, and a government employee. Patrons are the Minister of MRDASW and the Ministry of Agriculture. The option for an NGO managing daily affairs has some advantages, as a broader spectrum of local people are directly involved. Under this construction members of the community can also be invited to take place on the board of directors, whilst government remains equally represented.