

## **Development of and Policy on the Range and Pastoral Industry with Special Reference to Kenya**

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### **INTRODUCTION**

“Rangeland” or simply “range” is, by definition, “inferior” land by reason of physical and socio-economic limitations such as low rainfall, high temperatures, poor soils, and long distances from market outlets and supply centres. It has been variously defined by others (cf. Stoddart and Smith, 1955; Pratt and Gwynne, 1977); but, in general, it is land that carries natural vegetation that provides forage for both domestic and wild herbivores. It may also be a source of other products, including water, minerals, and services such as recreation. The rangelands of Kenya, for example, receive less than 750 mm of rain per year and have average temperatures that occasionally rise to 40°C. These are extensive lands covering about 85% of the total land area of 583,000km<sup>2</sup>. This expansive area is home to 25% of the total human population, estimated at 29 million (GOK, 1999). The density is as low as two persons per km<sup>2</sup> in the very arid parts.

The indigenous people of the rangelands eke their livelihood from the natural rangelands by way of traditional pastoralism and agropastoralism. The range provides livelihood through the support of domestic livestock and occasional crops. In Kenya, the pastoralists, estimated at 3.5 million (Nopa, 1992), include the Maasai, Samburu, Pokot, Turkana, Somali, Borana and Gabbra. Some agropastoral communities include the Kipsigis, Nandi, Tugen and the Bantu speaking Kamba, Embu, Meru and Taita.

The majority of pastoral communities in Kenya inhabit the northern rangeland districts of Turkana, Samburu, Isiolo, Wajir and Mandera, while the southern rangelands of Kajiado and parts of Narok are also typical pastoral districts. The semi-arid districts of Machakos, Kitui, Tharaka-Nithi and Mbere in the Eastern lowlands represent areas characterised as agropastoral districts, while the Tana River and Taita Districts of the coastal hinterlands are characteristic

agropastoral areas. In the Rift Valley we find agropastoral and pastoral communities such as the Nandi, Tugen, Pokot, Elgeyo Marakwet and Kipsigis. In the North Eastern Province are found typical pastoral communities, including the Cushitic Somali, Borana, Gabbra, Oromo and Rendille. The Somali, Borana and Oromo spill over to the neighbouring countries of Somalia and Ethiopia as well.

An unbridled pastoralist is a seasoned manager who employs sound livestock and land management that ensures his survival under the episodic environmental vagaries such as recurrent droughts, famines, disease outbreaks, hazardous pests and other man-made disasters (Herr, 1992; Tadingar, 1994; Wilson, 1995). In Kenya and the adjacent parts of Eastern Africa, recurrent droughts occur in five out of every twenty years (Pratt et al., 1967). Such droughts are associated with famine and feed shortages for domestic animals. It is highly reputable that in such occurrences, the pastoralists, by virtue of their local knowledge and experience, use their large diverse herds of livestock to move not only within the territorial reach but also across political boundaries to meet the livestock and animal requirements, i.e., feed and water (Oba and Lusigi, 1987; Herr, 1992). Though large numbers of animals would die in a serious drought, the herds, which are shared among tribal and non-tribal members by way of intertribal alliances in adjacent good pasturelands, would not take long to recover. The small ruminants (sheep and goats) being highly prolific would be the first to recover to normal levels. In some parts of West Africa, for example, the interrelationship between pure pastoralists and agropastoralists has proved a sustainable land use system and is a source of livelihood. The agropastoralists also lease their farmlands to the nomadic pastoralists so as to utilize crop residues as well as clean up the land under crops (Payne, 1976).

Other than normal disease occurrences, outbreaks of certain diseases decimate livestock in the arid and semi-arid lands (ASALs), thus

putting the pastoralists' survival in jeopardy. Rangeland peoples keep various types of cattle, such as the Boran and the Small East African Zebu, that not only possess remarkable environmental hardiness but also resist certain diseases, including the numerous tick borne diseases. The small ruminants, though susceptible to the endemic trypanosomosis, are relatively more resistant than the large ruminants (cattle) except for the N'dama breed of West Africa (Nyariki et al., 2000).

There has been shrinking land and a concomitant decline in the pastoralists' welfare and long-term survival as a result of the "invasion" of the ASALs by agricultural communities and failure of development projects meant to support the pastoralists. There is, therefore, a need to closely assess development strategies that have been introduced in the past and compare them with community initiatives with respect to the long-term survival of pastoral peoples. This paper develops arguments to support community initiatives and to acknowledge the role of indigenous knowledge on natural resource management and utilization in the backdrop of the failure of well intended, if poorly planned, donor-driven pastoral development activities in the past.

### **HISTORICAL OUTLINE OF RANGELAND DEVELOPMENT**

Range development activities were initiated in Kenya as far back as 1945. The need for the development of such programmes was underscored in the first 10-year development plan of 1945–1954 under the purview of the African Land Development Board (ALDB). The plan placed emphasis on the development of the rangelands for increased agricultural output. The need for increased agricultural contribution from the rangelands was in response to increasing populations and extreme land pressure in the African "reserves." (Maranga, 1999).

Initial range development efforts focused on destocking. This approach was, however, abandoned in favour of land rehabilitation and settlement in unoccupied areas. The Swynnerton Plan of 1954 was a reflection of the changing scenarios in land use policy and development in Kenya. It was in recognition of the extent of degradation of the range areas, mainly the African reserves, including Baringo and

Machakos Districts. The plan embraced the main facets of land tenure reforms and recognised the need to consider development aspects of pastoral lands separately from those of the high potential areas (Campbell, 1981). The high potential agricultural and ranching land was already reserved for white settler farmers. This settlement pattern was not unique to Kenya. It also happened in the currently developed countries, as Australia, even though in the latter, the process of occupation of what was then described as a "continent newly come to white men's hands" started much earlier – in the 1850s. The developments of the pastoral industry in Australia took almost a similar trend (Barnard, 1967).

The Government of Kenya has adopted a number of strategies over the years to improve the welfare of the pastoralists. Special emphasis has been placed on range livestock development such as range water for livestock, grazing management, livestock marketing, disease control, construction of livestock handling facilities, use of improved livestock breeds and ranching activities (Maranga, 1999), including co-operative and group ranching developments of the late 1960s to mid 1980s.

The development of grazing blocks, measuring about 0.5 million hectares each and covering extensive grazing areas in the northern districts of Kenya, were planned under the Kenya Livestock Development Project (KLDP) in 1970–1981. Water distribution in the form of subsurface dams, pans, and boreholes was developed. Firebreaks and other infrastructure were also constructed. The heavy capital investments did not survive the test of time, however. It was soon discovered that these developments had led to overgrazing, especially due to the introduction of numerous watering points, which disrupted the normal nomadic pastoral practice. Thus, the cardinal principles of livestock management under free ranging system that include mobility and distribution were not possible to apply under the new developments. To date, the negative impacts of these developments are still evident.

In an effort to bring services close to the people, health, education, and water facilities were set up in many places, leading to permanent settlements around such amenities. As a result of this sedentarisation, localized land degradation around public utilities and amenities was commonplace. The quintessence of the failure

of these initiatives was that they were donor-driven, were not instituted under a sound understanding of the pastoral socio-cultural aspects and the ecosystem, and were not suitable to sustainable resource management. If such externally planned projects did not result in a rapid increase of livestock numbers and consequent over-utilization of natural resources, they ended up in the over-concentration of livestock and the people within a limited land resource base, negating the extensive land use strategies of the local people (Oba and Lusigi, 1987).

The group ranching systems introduced in pastoral districts to enhance livestock production have equally not been successful (Sadera, 1986). As a result, a number of tribal communities such as the Maasai of Kajiado and Narok Districts in Kenya have not been able to benefit much from group ranching (Lane, 1996). Evidence gathered from commercial ranches in high potential rangelands in Kenya, such as Laikipia District, regarding their performance has not been encouraging, either (Nyariki, 1990). The new strategy of land privatisation or individualization and the concurrent increase in livestock numbers in a fixed land base has not shown much success compared to communal land use. Instead the converse has been the case in which privatisation and sub-division of land in the ASALs has led to small uneconomic units (Nyariki, 2000).

The state of knowledge in terms of range site and carrying capacity can be utilized to maintain a certain grazing management. If land becomes too small to institute a rest-rotation or other suitable grazing system, land use for livestock production in a rangeland setting becomes untenable. This latter development has led to other land use systems such as crop production and other intensive land use strategies, including irrigated agriculture. Recent studies by Kariuki et al. (1996) and Noor (1999) have, however, shown that irrigated agriculture is not viable in the ASALs as inferred from the perceptions of the indigenous residents of Isiolo and Mandera Districts, Kenya.

Currently, the development of pastoral production in Kenya and the eastern African region faces many challenges. One of the major challenges is the rapid growth of pastoral populations, exacerbated by the loss of prime

grazing land to other land uses – cultivation, wildlife parks and reserves, etc. Among other factors, overpopulation and encroachment of non-pastoralists on rangelands have caused overgrazing, which has, in turn, range degradation. Through the lowering of productivity and ecological resilience, the rangelands are longer able to offer adequate support for the pastoralists. As a consequence, the number of impoverished pastoralists has increased. They have thus been forced to move out and seek other forms of livelihood, such as farming, wage employment and welfare-dependency (e.g., relying on relief food).

Population growth in the high potential areas has led to an exodus of cultivators into the adjacent drylands previously used for grazing. This has led to the shrinking per capita land area for grazing, in turn restricting the movement of pastoralists. The overall effect of this process has been pastoralists adopting different lifestyles and survival strategies such as cultivation, eating habits and other socio-cultural and socio-economic behaviours. The latter include rural urban migration and dependency on famine relief food.

Another challenge is that the pastoral economy is not fully integrated into the national economy, which makes it difficult for pastoralists to improve their living standards. For example, livestock markets are not well developed: livestock prices fluctuate according to weather changes, and are at the lowest when pastoral cash needs are highest; livestock products are often sold unprocessed and therefore fetch low prices; the few institutions that used to handle the purchase and sale of livestock, e.g., the Kenya Meat Commission (KMC), have collapsed; and government gives low priority to the livestock sector and by extension the pastoral economy.

A more recent challenge has been that of insecurity. Pastoralist physical security has been deteriorating over the years through banditry and wars, encouraged by the proliferation of modern weapons. Banditry and warring have led to the destruction of lives and development infrastructure. This has caused grazing lands to be further reduced by making unsafe areas inaccessible and forcing pastoralists into small range areas and in refugee camps, and in turn destroying the rangelands through overuse of these lands.

## **WHAT ARE THE AVAILABLE OPTIONS FOR PASTORAL DEVELOPMENT?**

### **Key Development Approaches**

Following from the above discussion, there is a need to re-orient development to be in line with the shifting paradigm of participatory development. For example, a measure to increase livestock numbers should be accompanied by developing adequate marketing outlets. It is now well documented that capital-intensive development projects that do not involve the local people at the crucial stages of planning, design and implementation have limited or no success (cf. Child et al., 1984; Oba and Lusigi, 1987). The need for participatory rural development that involves participatory rural appraisal to assess the local needs is, therefore, increasingly being recognized.

Extension methodologies that include community involvement envisaged through the "bottom-up" rather than "top-down" paradigm are now beginning to yield fruits. As Chambers (1983), Child et al. (1984) and Muriuki (1986) note, there is good reason to emphasise small but structured projects of limited capital so as to enable quick and objective evaluation. This approach has been applied by the low-capital, action-oriented Sida-funded projects in Eastern Africa (IGAD region) with a reasonable degree of success. One of the principles of these projects is imparting a sense of project ownership at the community level. Because of the small nature of the projects, there is close interaction and easy communication. As a result, it has been found that capacity building and strengthening of community institutions is an important route towards sustainable rural development.

Some of the small community groups, such as community based organizations (CBOs), which are local institutions charged with the responsibility of developing, planning and implementing projects, have shown increasing success in local development initiatives. This bottom-up approach employs the local (not necessarily indigenous) technical knowledge (LTK) of the people, who understand best their environment. LTK is knowledge developed or generated locally as opposed to ITK, which is principally traditional. This, coupled with the input of technical packages developed through

participatory-action-research, tends to build confidence at the community level through participatory learning which is a two-way process where development agents learn from the farmers and the poor to understand their knowledge systems and vice versa. In fact, in what he refers to as reversals in learning, Chambers (1993) suggests that there is much more for agents of development to learn from the farmers. It has thus been established that LTK is useful and should be incorporated in technological packages, which pastoralists would embrace, if successful implementation of development projects has to be achieved. As pointed out by Herlocker (1999), to make the best use of the existing LTK and to ensure that development efforts are understood, accepted and are, therefore, likely to succeed, development should aim at increasing the participation of pastoralists in the identification, planning and implementation of development activities within their own communities.

After all is said and done, the population of pastoralists must be reduced so as to be in line with the level of productivity of the remaining rangelands. This can be achieved by reducing the population growth rate and by offering alternative livelihoods besides pastoralism. It is also important to try and improve the food security of the pastoralists who would remain on the rangelands. This can be made possible by, say, optimising productivity through improved livestock husbandry by, for example, improving veterinary services; reclamation of land lost to human encroachment traditionally used for dry season grazing; and improving pastoral terms of trade through, say, improving marketing systems; finding ways for pastoralists to invest and obtain loans and to involve them in adding value to their products through processing.

### **Some Policy Directions**

There are several policy issues considered key to enhancing the development of pastoralists. These are outlined in the following sub-heads.

#### **Community Needs Assessment**

There is the need for proper assessment of community needs in line with changing paradigms, e.g., participatory project development methods. The involvement of the local people in project formulation cannot be overemphasised. Similarly, changing commu-

nity needs should be accommodated through participatory evaluation and impact assessment.

### **Education and Training**

Education and training at the community level are geared towards capacity building. Input into the two calls for training of personnel that can undertake diverse tasks. As we have come to learn, local communities should be prepared for the inherent recurrent adverse situations they face in range environments. Training should cover all aspects of natural resource management and conservation. Whereas training to boost pastoral development in Kenya has been in veterinary and animal husbandry, human nutrition, health, and socio-cultural aspects have largely been overlooked.

### **Post-modernism**

The present currents regarding attempts at understanding pastoral communities and their development focus on specific areas of active participation by pastoral peoples, which stress demonstration research. This is the so-called post-modern paradigm, which entails subjective interpretation and values local knowledge, rather than scientific methods of inquiry and empirical testing (Nyariki, 2000). The post-modern approach perceives the underlying problems of pastoral development as complex and diverse, not simple and uniform. The objective is pastoral development, not economic growth. The research approach to understanding the pastoral economy is listening, participatory, holistic, induction, complex reality, and disaggregation.

### **Pastoral Development, not Livestock Development**

Butcher (1994) has highlighted the key factors that have led to cost-ineffective extension projects and methodologies. Some of these have arisen out of the confusion between livestock development and pastoral development. Although the two may overlap in a range or pastoral setting, they have different connotations. Pastoral development is largely a social activity aiming at the improvement of the standard of living of pastoralists through the provision of healthcare, education, veterinary care, water and

other services together with building institutions for managing range systems (cf. also Gefu, 1991; Nyariki, 2000). In the past, emphasis has been erroneously given to technical attributes of livestock development. This misconception has deep-seated effects on pastoral development, as methodologies employed seem to focus on commercial aspects of livestock development. It is therefore necessary that pastoral development be understood in its correct context.

### **Participatory-action-research**

Designing pastoral projects through participatory methods, by ensuring the involvement of local communities and allowing the incorporation of LTK and local institutions, is likely to yield maximum benefits. There is, therefore, a need to now focus on development strategies that enhance community initiatives and long-term survival as opposed to the short-lived donor-driven development activities in the past. The need to acknowledge and enhance the LTK on natural resource management and utilization is of paramount importance in sustainable development of the rangeland peoples and their environment.

### **Multi-disciplinary and Multi-purpose Approaches**

Sandford (1983), for example, points out that multi-disciplinary trained teams will deliver extension services more effectively in a multi-purpose approach rather than strict disciplinary transfer of technology. For instance, the role of social scientists in understanding the social needs of the pastoralists is well appreciated. Locally and grassroots based extension systems should be put in place, as in the case of the paravet model, which has proved more successful than the conventional veterinary services, since it is versatile and undeterred by the harsh range environment (Akabwai, 1993).

### **SUMMARY AND CONCLUSION**

Policy guidelines act as vital tools on which the success of community projects is pegged. Proper guidelines on the integration of the use and conservation of rangeland resources, such as grazing lands, vegetation, soils, animals, and water, are necessary for the success of rural-based

projects. Policies related to land ownership are also important. Land tenure change, for example, from communal use to individualization in Kenya has led to restriction of nomadic pastoralism. Curtailment of mobility, which has been vital for the survival of the pastoralists and their herds, has been associated with the deterioration of the well-being of the pastoralists, as a consequence.

It has now been realised that the process of sedentarisation was taken beyond the initially intended stage (Pasha, 1986).

Strengthening local institutions such as kinship, clan and community based organizations for implementation of community projects, thereby encouraging a sense of belonging, is necessary for the success of pastoral projects. Valuing LTK is also important. This tends to minimize the involvement of "outsiders" who may not fully understand and embrace the needs and aspirations of the pastoralists.

In the implementation and assessment of projects, it is important to design broad-based objective assessment criteria which do not only include quantifiable aspects of development, such as numbers of trainees, cattle dips, financial profits, etc., but also involve qualitative factors, such as social benefits that make life less difficult and minimize suffering. Scientists and development agents would do well, therefore, to develop activities and mechanisms that would lead to realistic and objective assessment of the impact of locally implemented projects.

**KEY WORDS** Land. Socio-economic Limitations. Soils. Market

**ABSTRACT** In the present paper an attempt has been made to study proper guidelines on the integration of the use and conservation of rangeland resources, such as grazing lands, vegetation, soils, animals, and water, are necessary for the success of rural-based projects. Policies related to land ownership are also important. Land tenure change, for example, from communal use to individualization in Kenya has led to restriction of nomadic pastoralism. Curtailment of mobility, which has been vital for the survival of the pastoralists and their herds, has been associated with the deterioration of the well-being of the pastoralists, as a consequence.

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