

Research Application Summary

Population increase and socio-economic changes in a pastoral society: The case of the Turkana, Kakuma division, Kenya

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Abstract

We studied the impact of settlement on socio-economic patterns and environment quality among the Turkana pastoral communities in Kenya. We used open-ended and close-ended questionnaire and focus group discussion. The majority of the people were pastoralists, keeping animals around the camp most times (65%), but also migrating regularly (35%). There was considerable land degradation, due to increase in animal and human populations. Cutting down of trees for charcoal was widespread.

Key words: Kenya, pastoralism, Turkana, wood-fuel

Résumé

Nous avons étudié l'impact des agglomérations sur les modèles socio-économiques et la qualité de l'environnement au sein des communautés pastorales du Turkana au Kenya. Nous avons utilisé les questionnaires ouverts et fermés ainsi que le groupe de discussion. La majorité de gens questionnés étaient des éleveurs, gardant les animaux aux environs du camp pour la plupart de temps (65%), mais aussi se déplaçant régulièrement (35%). Il y a eu une dégradation considérable des terres, dues à l'augmentation des populations animales et humaines. L'abattage des arbres pour le charbon de bois a été généralisée.

Mots clés: Kenya, le pastoralisme, Turkana, le bois de chauffe

Background

The Arid and Semi-arid lands (ASAL's) of Kenya comprises more than 80% of the country's total land surface area and supports over 25% of the total human population and slightly more than half of the livestock population. The majority of people living here are nomadic pastoralists (G.O.K, 1992). Potential evapotranspiration (PE) rates in these lands are in excess of 2500mm/yr, while long-term rainfall averages from less than 150mm to 400mm or more at higher elevations. Spatial variability of rainfall is a key feature of the regional climate and is significant to animals and pastoralists who move about in response to spatial distributions of forage (Swift *et al.*, 1996).

Ecology of the ASAL's cannot be understood in isolation from an understanding of the pastoral society and the management of their resources. Neither humans nor livestock could survive in these areas without the other. In the arid Turkana ecosystem, different vegetation types play an important role in the management of livestock, in the provision of habitats for wildlife and in the supply of energy, food, shelter materials and fiber requirements for the human population. A change in vegetation attributes is bound to affect or alter the traditional pastoral ecosystem. This has now been influenced by rapid population growth, changing property rights, insecurity, climatic changes and environmental degradation. The objectives of the study were to assess the impact of settlement on socio-economic patterns and environmental quality, using vegetation resources.

Literature Summary

Pastoralists have developed strategies like keeping more than one type of livestock; dividing livestock holdings into spatially separate units; establishment and maintenance of a special system of resource sharing, lending and giving of gifts to relatives and kinsmen and maintenance of large herds to maximize the use of land. The setting of refugee camps in the ASAL's has had a negative impact on the ecological integrity of these areas. Lazarus (1993) analysed the chain process of refugee influx: refugees cut down trees and bushes for wood to cook food and building materials for their houses. It was observed that for cooking, every ton of wheat or beans, three tons of firewood was needed.

Study Description

This study was carried out in Kakuma division of Turkana district, Northern Kenya. Kakuma division is located between latitude 3° 43'N and longitude 34° 52'S (Adegi-Awuondo, 1990). The relief of the area can be categorized into uplands, piedmont plains, sedimentary plains and riverine flood plains. Rainfall patterns and distribution have been unreliable and erratic over the years, with an annual average of 430mm. The daily temperatures range from 24°C to 38°C and the area experiences strong winds (Herlocker *et al.*, 1994; G.O.K, 1997).

A Completely Randomized Block Design (CRBD) was used in the study. Four main transects, each 6 km long and perpendicular to each other were demarcated. From each main transect 6 points 1 km from apart were established. These were the sampling points for the households. At least 2 houses near each point were surveyed. There was a total of 24 sampling points. Socio-economic primary data were collected in and around the refugee camp and away from the camp. Data were collected using open-

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ended and close-ended questionnaires and informal discussions. A total of 40 households were sampled from the Turkana and 42 households among the refugees.

Results showed that a majority (97.5%) of the Turkana respondents kept livestock. The livestock kept included cattle, camels, goats and sheep. Livestock was put to various uses including direct source of food, barter for food or male for female animals and gourds for keeping milk, cultural activities like weddings, loaning to friends, fines in traditional court cases and gifts and sale for cash. The main consumer of the slaughtered meat was the Kakuma refugee camp.

Sixty five percent (65%) of the respondents kept their livestock around the camp throughout the year, and 35% half of the year. The keeping of a large number of livestock around the settlement camp for sale has led to range deterioration because the number of animals surpasses the availability of forage. The surveys revealed that 50% of the respondents (households) were borne in the area while the remaining 50% came from the surrounding regions. Migration to these areas were as a result of droughts, raids and insecurity, hunger, availability of forage and water for the animals. An estimated 87.2% of the households had a family size of less than 7. The economic activities according to importance were selling wood-fuel, selling water, seasonal farming of sorghum, cutting and selling building poles and fencing material and collecting and selling stones for construction. Selling wood-fuel was the main economic activity because of the demand. All respondents used firewood as a source of energy.

Table 1. Livestock slaughters in Kakuma.

Year	Goats	Cattle	Sheep	Camels
1990	3,022	833	3,691	156
1992	3,970	35	122	64
1994	6,086	33	137	25
1995	5,166	49	492	19
1996	7,332	80	393	20
1997	14,553	329	539	14
1998	21,096	439	1,268	177

The survey indicated that 97.5% of the respondents acknowledged that there was environmental degradation. They attributed this to increase in population, change in lifestyles, drought and lack of resource control. The introduction of the refugee camp in Kakuma has created employment opportunities,

training, schooling opportunities and medical services which otherwise could not have been readily available. Moreover, there are more marketing opportunities for livestock and wood fuel resources for the Turkana community. Negative impacts include the cutting of large mature trees to obtain raw material for charcoal burning. The camp offers a market for charcoal and fuel-wood.

Recommendation

Many factors have acted to put in motion or trigger social and economic changes within this pastoral system. These changes have forced the local population to change their way of natural resource exploitation, which has had a negative impact on this fragile environment. The changes seem irreversible within a short time frame hence the long-term goal should be to come up with new survival strategies or techniques for the local pastoralists.

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