MARGINALIZATION OF MAASAI PASTORALISTS IN NORTHERN TANZANIA

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A B S T R A C T

A study to assess the impact of agricultural development and wildlife conservation on Maasai pastoral commons was carried out in 1989 in two villages in Northern Tanzania. Maasai had occupied these area of about 400 Sq Km from ca. 1400 A.D.

Intercensal analysis show a sixfold population increase between 1947 and 1989. Population was 6696 in 1989 with annual growth rate of 6.2%. The growth rate assumed a sharp increase from the mid-1960, 70% of the population was Maasai, in 1989 Maasai were 28.22%, immigrant Waarusha 51.57% and other tribes 20.21%.

In 1989 cropland by tribe was 70.54% immigrant Waarusha, 17.86% Maasai and 11.6% other tribes; demand for extra land by tribe was 68.58% immigrant Waarusha, 16.71% Maasai and 14.71% other tribes. Livestoc by tribe was 42.6% Maasai, 16.6% Waarusha, 12.4% Barabaig and 18.4% other tribes. In 1965, Maasai cattle per capita was 13.9% and 5.9 in 1989.

The area is contiguous to Tarangire Park which was an integral part of the Maasai grazing ecosystem before its establishment in 1972. Wild herbivore biomass density was 4197 Kg/Sq. Km and 3138 Kg/Sq Km in wet and dry seasons respectively. Wildlife utilises the pastoral grazing commons but Pastoralists are forbidden to graze and water in the park.

It was concluded that the immigrants had occupied wet season grazing land for the Maasai; turned it into agricultural land; Wildlife conservation denied the Maasai accessibility into grazing commons; spatial and temporal pastoral resource use rhythms were broken by the development of crop cultivation and wildlife conservation; decline in cattle per capita forced the Maasai into crop cultivation; Maasai were marginalized and the ecosystem is brittle and unsustainable for agriculture.

INTRODUCTION

Pastoralism is animal-based production system but it can be combined with other activities like crop production to form an agro-pastoral production system. It can be combined with Wildlife in a form of multispecies management system.

In pure pastoralism, there is spatial and temporal migration of both livestock and household members. In transhumant pastoralism, only animals and their herders migrate while the rest of the household members remain sedentary.

The livestock herd composition will differ depending on the climate but the typical pastoral animals are cattle, camel, donkey, goat and sheep. These animals provide food and transport to migrant households. They are also dispensed to meet social and statutory demands like clothing, taxes and school fees. The goats and sheep represent the current account and cattle and camel are the capital and fixed accounts. Donkeys and camels constitute the haulage unit of the pastoral household.

The animal migration in pastoralism is an ecological adaptation and presupposes availability of dispersal areas at the material time. The movements make pastoralism a socially, ecologically and economically viable production system where its operational areas are not encroached upon by other activities like crop production and statutory wildlife conservation.

Pastoralism is practised in deserts, semideserts, semiarid and arid areas with a precipetation range of 50-600 mm per year. It is climatically a delicate production system with a fragile ecological adaptation because it depends on the natural environment to raise the animals.

Climate, soil, vegetation and the animals form a cohesively co-evolved integrated system. The system is maintained through accumulated traditional knowledge about the management of the integrated resources.

In Africa, there are over thirty pastoral communities restricted to the dry areas of North, Western and Eastern Africa. The prominent communities are: Barber, Tuareg, Hausa, Fulani, Teda, Daza in Western Africa which includes Chad, Nigeria, Mali, Algeria and Niger. In the Horn of Africa which comprises of Eretia, Ethiopia, Sudan, Djibouti and Somalia there the Toposa, Ababda, Kababish, Bagara, Dinka, Nuer, Shukriya, Oromo, Ursi, Beja and Benin Amin. East Africa formed by Kenya, Uganda, and Tanzania is represented by Borana, Darod, Maasai, Lendile, Naramajong, and Barobaigs (Fig 1).

It is estimated that there are over 30 million people in Africa who depend on livestock for over 50% of their livelihood on livestock (Sanford 1984).

Pastoralists across the Continent of Africa are besieged by several problems which are institutionally based, like forced or cohesive attempts to integrate the pastoral system in the mainstream "modern" world concept. These attempts do not look at the entire set-up of the production but address the facets, mainly people and animal in their isolated conditions. The common problems experienced by the pastoralists are:

> Diminishing grazing commons due to encroachment by crop production and wildlife conservation.

> Over-grazing and ecological imbalance due to increased animal densities as a result of spatial compression, physical increase of livestock and livestock resource competition with wildlife.

> Inadequate pasture and failure to follow spatial and temporal migration rythms.

> Inadequate information on disease control and poor veterinary services.

> Frequent droughts and natural calamities.

The Maasai represent the most distinguished pastoral society in East Africa. They are found in Kenya and Tanzania. In Tanzania, they are a highly prominent pastoral community followed by the Barabaigs. They occupy the semi-arid and arid Maasai steppes ecosystem complex.

In the last three decades, the Maasai grazing commons have been encroached by agricultural people from densely populated areas. Agricultural expansion and creation of wildlife conservation have, like the most parts of pastoral Africa, marginalized the Maasai and weakened their production system.

This study attempted to examine the extent of marginalization in a hitherto Maasai pastoral area. The agents of marginalization are crop cultivation expansion, immigrant agriculturalists and establishment of wildlife national parks "within the grazing common complex".

THE STUDY AREA

The study area was Minjinga and Vilima Vitatu Villages located in Northern Tanzania and within the Massai steppes ecosystem complex. It lies between latitudes 03° 35' 38" and 03° 48' 02" South; Longitude 35° 48' 21" and 35° 59' 25" East (Fig. 2). It has an area of 400 Km^2. The area is sandwiched between Tarangine National Park and Lake Manyara on the East and West respectively. On the North, it borders with a State Ranch. The South is occupied by another tribe, the Wambugwe. It is a flat basin plain and altitude varies from 960 m to 1020 m above sea level.

The establishment of the National Park and Cattle ranch have squeezed and restricted the seasonal migration of pastoralists. Their southward movement is also confirmed by the Barabaigs who are another pastoral society within the complex.

Prestine natural vegetation has greatly been altered by anthropogenic activities, mainly through conversion of woodland into farms, increased settlement and charcoal burning. The major vegetation types are short grassland, scrubland, wooded grassland, medium tall wooded grassland, riparian woodland and agriculturally induced woodland.

ETHNO-HISTORY OF THE AREA

The area has over twenty distinct ethnic tribes composed of the Bantu, hamitic and Nilotic languages. The prominent tribes are Maasai (28.2%), Waarusha (51.6%) and other tribes (20.2%).

The Maasai who are ethnographically classified as Nilo-Hamites or Cushitic hilotes (Fedder & Salvadori 1977; Saitoti and Beckwith 1980). They are the largest known pastoralists group in East Africa and proudly carry a distinctive cultural identity (Parkipuny 1988). They migrated in the area from Kenya in about 1400 A.D. (Kapela and Moe, 1988).

The Waarusha are an outshoot of the Maasai who probably adopted an agro-pastoral mode of production after a heavy rinderpest panzootic epidemic in 1890 which pauperized and depopulated the Maasai (Arhem, 1984; Bell, 1987). They started moving into the area in 1960s due to pressure land (overpopulation and degradation) in their indigenous area.

METHODS

The study area was divided into two blocks (A & B) following the Great North Road (GNR) which bisects the area from North to South to form the two blocks. Block B is more settled, cultivated and with anthropogenically induced vebetation than Block A. (F93)

Ground Group Surveys of Wildlife settlement, livestock and crop fields were carried out using King's Ground Strip Census transact method (Davis, 1980). Using topographic maps of 1:50,000 scale, predetermined transects were set at equidistant intervals of 2 Km. Block A had 10 transects and the lake shore was the base line. The transects ran west-east at a fixed navigation bearing of 126° using a prismatic compass. Block B had 7 transects running east-west at a fixed navigation bearing of 279° and the park boundary was the baseline. All transects ended on the Great North Road.

A crew of two people walked along the transect and recorded (wildlife numbers, age and species), settlement (houses according to construction materials), livestock (type, numbers and categorical age, and cropfield (area).

Household Survey. Using semi-structured and semi-close ended questionnaires, a survey on 100 households out of 510 was done. Household samples were randomly drawn using a Village household register. Data collect included tribe, residence, duration, place of birth, household size, agricultural activities, livestock and pastures, wildlife values and problems, fuelwood and building materials.

The intercausal population was also done using the logarithmic population estimation formula:

Pt = Poert where:

$P_t = P_o e^{rt}$

Pt = Population at intercausal period
Po = Population at the base year
e = Natural logarithm
r = Annual growth rate
t = Intercensal period (in years)

RESULTS

The comparative intercensal population analysis and household survey of the population of the two villages was 6696 (Fig. 4A). it increased sixfold from 1947 to 1988. The annual mean intercensal growth rate from 1978 to 1988 was 6.2% and was higher than that of 5.6% for 1967-1978 period. The present population will double by the year 1999.

The population distribution is 51.57% Waarusha, 28.22% Maasai, and 20.21% other tribes (Fig. 5 & 6). Before 1960, 70% of the population was Maasai people.

Cultivated Land. Aerial photo comparative analysis between 1948 and 1983 and through ground survey truthing show cultivated land has increased by over 2500% (Fig. 7). The Maasai cultivated 25% of the area and Waarusha cultivated 65% (Fig. 8).

There is a pressing demand for extra land for cultivation. The immigrant Waarusha stand high on the demand list (68.58%) followed by the maasai (16.7%) (Fig. 9).

The area had an estimated population of 15,248 cattle and 8,969 sheep and goat. The Maasai own 44% of the cattle and their cattle per capita was 5.9.

WILDLIFE

The area is an important wildlife corridor to and from Tarangine and Lake Maryara National Parks. The area has recorded 25 large mammals of which 17 are herbivores. The wildebeest (connochaetes tourinos albojubatus thomas) and zebra (equus burchelli boehme Matschie) have the highes biomass contribution in the wild herbivore, 74.5% and 12.2% respectively. The combined wild and domestic herbivore biomass density is 0717 K5/Km^2. Cattle contribute 85.37%

of the total biomass. Wild herbivore biomass was 4197 Kg/Km² and 3138 Kg/Km² in the wet and dry season respectively. Wildebeast contributes 69.5% and 80% and zebra 18.3% and 5.0% in the respective two seasons. Mean wet and dry season densities of wildebeast and zebra were 16.02/Km" and 13.89/Km², 3.29/Km² and 1.20% respectively.

DISCUSSION

The human population density in the area is 27.9/Km². This denisty is very high compared with the pastoral population densities of the Nonorigin conservation Area Morasa 2.1/Km², Narok Maasai 6.0/Km², Kajiado Maasai 3.3/Km², and Samburu 2.7/Km² (Arhem, 1985). Who occupy the same semiarid eco-climatic zone IV with an average ranfull of 600 mm per year. The area is highly populated. Myers quoted by Kapes and Moe (1988) asserts that a density of 2.3-3.1/Km² in semiarid and arid is indicative of overpopulation. Since the phenomental increase is recent environmental degration remains as yet low. The overpopulation environmental degradations cause-effect manifests in out of phase pattern.

The population has increase sixfold in 41 years and compares higher than the overall national denisty of 21.0% (Koponen, 1986). This phenomenal increase started in the mid 1960s and corresponds to a parallel increase during the same period. Most of the immigrants were the Waarusha.

The present population will double by the year 1999. Without significant changes in the production technology in farming and livestock management the land will not adequately support double the present population by the year 2000.

Cultivation which now features as a dominant land use is recent, about 25 years as revealed by 1958 aerial photographs. It is expanding as indicated by demands (Fig.). The Waarusha have a 68.58% demand for extra land and the Maasai 11%. These demands suggests that the Waarusha want to strengthen their agro-economic production to include cash cropping. The Maasai need more land to cultivate grains for subsistence. This suggests that the production system can not support the Maasai households as pastoralists.

PASTORALISM

In a viable pastoral production system, livestock is ideally supposed to provide for the people's livelihood without indulging themselves in agriculture. A cattle per capita of 13 is considered the minimum for people who depend wholly upon cattle (Helland, 1980). The Maasai cattle per capita in the area was 5.9 as opposed to 13.9 in 1985 (Helland, 1980). It is because of the low cattle per capita that the Maasai are engaging in farming to supplement the livestock productions. There is also a persisting demand to raise the cattle per capit by deliberate efforts to increase the cattle population.

The present land use set-up does not favour pastoralism because crop production has occupied most of the wet season grazing commons hence, restricting the extent of seasonal movement. The area available for grazing is 213 Km^2 out of the 400 Km^2 with a stock biomass density of 7670 Kg/Km^2 and a stocking rate of 1.2 per hectare. It is higher than the recommended rate of 4 per hectare with a human population density of $8/Km^2$.

Although it is difficult to define a pastoral carrying capacity an attempt to give one should consider livestock and area, livestock and people, people and area. In this equation, livestock is an independent variable but dependent ~~on~~ upon climate factors. However, tracking environmental variation is more effective in determining overall production than determining physical carrying capacities (Sandford, 1984).

Wildlife uses the area on a migratory basis during the wet and dry seasons. The Wildlife uses the area for about 3-4 months each year. The wildebeest and zebra move in big herds and because of settlements and guarded farms, wildlife dispersal and passage corridors are restricted in the pastoral grazing areas. The implications of this confined migration ~~and~~ are transmission of diseases to livestock and resource competition with wildlife. They compete for water, pasture and space.

The competition is ~~ex~~ exacerbated by the parks ~~cows~~ farms which do not allow grazing and water in protected areas but wildlife is allowed to use pastoralist resources like pasture, water and space.

CONCLUSION

The Waarusha immigrants and gazzetement of Tarangire National Park ~~and~~ are central agents in the Maasai Marginalization scenario. The immigrants have occupied by settlement and cultivation the strategic wet season~~ing~~ grazing for the Maasai pastoralists. ~~They have turned the pasture lands into agricultural~~. They have confined the wildlife migration to the pasture land, thus increasing resource competion, disease transmission and predation ~~between~~ of, livestock ~~and~~ by wildlife. carnivores.

The area is contiguos to the 3000 Km^2 Tarangine National Park which hitherto formed the integral part of the Maasai grazing ecosystem. The creation of the park had denied the Maasai pastoralists an important grazing and water area. The park is only reliable source of water for animals during the dry season. It's only wildlife which has access to this resource.

Both establishment of the park and the expansion of cultivation and settlement have disrupted the spatial and temporal resource use rythms, and coupled with the decline in the cattle per capita the Maasai have been marginalized and forced to adopt an alien production which they are not quite familiar and operate it in an ecosystem system which is brittle and unsustainable for agriculture.

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In order to address marginalization of pastoralists there is a need for securing property rights among pastoralists in the traditional form of communal property rights. This will require a clear national land use policy and land tenure which recognizes pastoralism as a production system.

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