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1950-1990”

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Pastoral land tenure in Kenya: Maasai, Samburu, Boran, and Rendille experiences, 1950-1990

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Introduction

Kenya's pastoralists today face more uncertainties and risks to their livestock economies than at any time since the famines and epidemics of the late 19th century. Numbering less than one million of Kenya's twenty five million people, pastoral groups, including Maasai (pop. 350,000), Turkana (250,000), Pokot (40,000), Somali (250,000), Rendille (25,000), Boran (30,000), and Gabra (25,000), inhabit 70% of Kenya's land, primarily its savanna and desert regions (Figure 1). Although the individual situations of Kenyan pastoralists vary widely, based on their particular pastoral adaptations, physical environments and social histories, Kenyan pastoralists do share key problems and experience similar processes that affect their economic security and ability to maintain their mobile livestock economies. These are 1) population growth and pressure on grazing resources, 2) transformations of property rights from communal to private tenure, and 3) political instability and economic insecurity that is leading many groups to abandon former grazing lands and concentrate around permanent settlements and towns.

I discuss population pressure first because of the long-standing debate on the effects of population growth on African development, an argument that has not been adequately discussed with

reference to pastoral populations. On one side of the population debate are the international development funders, most notably the World Bank, as well as various population-focused foundations including Rockefeller and the Population Council, which hold that high population growth is Africa's number one problem. The argument, simply put, is that the more people there are, the more social services are required, demanding more social spending (health care, welfare, education, etc.), which absorbs monies that could otherwise be used to build better infrastructures (roads, urban areas, industries), or, more to the point, to pay off debts to the international lending community (i.e. the World Bank). Development agencies concerned with Africa's arid regions and their pastoral and agro-pastoral populations follow, to a large degree Garrett Hardin's 1968 "tragedy of the commons" thesis, which holds pastoralists responsible for environmental degradation in Africa's drylands. Hardin argued that pastoralists typically overgraze common pastures because individual herd owners try to optimize resources by putting additional stock on communal rangeland, achieving personal economic return at the cost of the community (Oba 1990:38). The solution, for the Western donors, is to encourage private land management, i.e. fenced ranches, where

the pastoralist, like the Western homeowner, would essentially "keep up the property."

Hardin's view, as well as the Malthusian spectre of too many people and animals on the land, was challenged primarily by social anthropologists working with pastoral groups (Horowitz 1979; Horowitz and Little 1987; McCabe 1987), who showed that private ownership of pastoral lands was often untenable due to their arid and variable resources, and that pastoralists consciously maintained extensive social ties (of marriage, descent, and friendship) precisely to utilize distant pastures if necessary. Historians joined the debate by studying longer-term social interactions in Africa's arid regions (Franke and Chasin 1980; Scott 1989; Sobania 1988; Waller 1988, 1993; Watts 1983), arguing that land-crowding among pastoralists is primarily the product of economic and political processes of disempowerment and relocation, exemplified by Tuareg and Fulani pastoralists being pushed off dry season grazing lands in the Sahel by poor Hausa farmers, themselves driven off better watered lands by commercial groundnut producers in West Africa (Franke and Chasin 1980). Hardin's opponents cite the rationality and adaptiveness of pastoral production and become arch-defenders of pastoralists against development policies, a position that I have previously advocated (Fratkin 1991).

It is becoming increasingly difficult to ignore the consequences of population pressure, however, both within and without the pastoralist communities. I am moving towards a position that pastoralists are neither "ecological villains" nor "economic victims," to use O'Leary's (1984) phrase, but are simply a particular population caught up in Africa's larger problem of human/land interaction. Population growth, eroding land

tenure rights, agricultural expansion, economic transformation, and political insecurity, are all interrelated problems directly affecting pastoralists today. I wish to discuss these in more detail using examples from pastoral cases in Kenya of Maasai, Samburu, Boran, and Rendille.

Population growth

Kenya, at 3.8% annual increase, has among the highest population growth rates in the world; at this rate Kenya's 25 million people will double in 18 years compared to 21 million people in Taiwan whose population at 1.2% annual growth will double in 57 years. High population growth in Kenya has been held responsible for declining GNP (from 8% annual increase in 1960s to 4% in the 1980s and to negative growth in 1990s), where real wages have fallen 70% while expanding public services in education, health, transport and communications consume an increasing proportion of government expenditures (World Bank 1992).

High population growth in Kenya, as throughout Africa, is attributed to declines in child and adult mortality coupled with sustained high fertility levels. Mortality in children under five declined 50% between 1960 and 1990; in 1979 child mortality was 140/1000; in 1989 it was 110/1000. The improvement in child survival is attributed to improved health interventions, particularly to immunizations against measles, polio, and DPT and to improved access to medical facilities. Although Kenya has a very high fertility rate (TFR) of 6.7 children per woman in 1990, this is actually a decrease from TFRs of 8.0 reported in the 1960s and 1970s. There are now indications that Kenya is entering a major demographic transition where initial mortality drops are followed by

later reductions in fertility, as child survival improves and costs of child rearing increase, situations typical of developing countries (Caldwell and Caldwell 1987). Although slow in coming, a decline in fertility rates is now occurring in Kenya, attributed to greater contraceptive use associated with higher levels of female education and adult literacy (Brass and Jolly 1993: 135). Nevertheless, fertility rates are still quite high, and although the AIDs epidemic will contribute to the demographic transition as adult mortality, especially of fecund women, climbs (to a grotesque 20 million people in the next twenty years), it will not greatly offset high fertility, so African populations will continue to grow at high rates for the next several decades (Brass and Jolly 1993).

Population growth has led to pressure both on rural and urban resources in Kenya. Despite large urban concentrations as in Nairobi (population 1.35 million in 1989), only 18% of Kenyans live in cities. The rural population is predominately agricultural, but due to scarce high potential land, 80% of the population utilizes only 17% of Kenya's land. Pastoralists, whose population densities are much less than those of agriculturalists, nevertheless face increasing pressures on their lands as their own populations grow and agriculturalists from more crowded areas migrate onto pastoral lands, a trend that is occurring with alarming speed.

Table 1, *Population Growth in Kenya 1979-1989*, shows population changes in each of Kenya's districts between 1979 and 1989, with information gleaned from a variety of demographic sources, namely the 1979 Kenya Census, the Kenya Fertility Survey (1977-1978), the Kenya Contraceptive Prevalence Survey (1984), and the Kenya Demographic and Health Survey (1988-1989), reported in Brass and Jolly 1993) and

discussed at the National Academy of Science August 1993 Conference on the Population Dynamics of Sub-Saharan Africa. Note the variation in population growth between individual districts. If one accepts the decennial growth rate of Kenya at 3.34% and uniform fertility and mortality rates throughout each district (a big 'if', as demographic data on particular pastoral populations are poor and unspecified in the National Academy findings), changes in the growth rates of individual districts show variations that must be attributed primarily to in and out migration.

For example, Nairobi's population grew 4.86% while neighboring rural Kiambu and Murang'a Districts grew only 2.87% and 2.67%, suggesting high urban migration. Migration is not only to large cities, as there also exists high rural to rural migration. The Maasai areas of Kajiado and Narok Districts grew at astonishing rates of 5.64% and 6.49%, due both to increases in Maasai population and immigration of agricultural populations into formerly pastoral lands. Similarly, Laikipia and Nakuru Districts, formerly Maasai lands but now settled by Kikuyu farmers, grew 4.56% and 5.00% respectively.

Maasai. The 1950's was a period of unparalleled growth in human and livestock populations throughout Kenya, brought about by above-average rainfall as well as by improvements in human health care, rangeland conservation, agricultural production, and veterinary services. In the Maasai area, Kajiado District's population grew from 22,000 in 1948 to 86,000 in 1969, and to 149,000 in 1979, an average 3.5% growth annually, primarily as Kikuyu and Kamba agriculturalists migrated onto Maasai lands to escape the overcrowding of the central highlands. In 1962 the Maasai constituted 78% of Kajiado District's population; in 1979 they

were less than 63% (Campbell 1986). Similar processes of rural immigration of agriculturalists to semi-arid lands are also occurring in Samburu District (3.92% growth in ten years) and Laikipiak (4.56%). Larger than average growth rates are also reported in Nakuru (5.0%), Uasin Gishu (3.8%) and Trans-Nzoia (4.16%), primarily of Kikuyu and Kalenjin farmers who today are locked into deadly conflict over occupation of these Rift Valley Province districts.

While agricultural growth and immigration are acting most strongly on Maasai pastoral regions of Kenya's south, a different situation is occurring in the pastoral regions of Kenya's arid north. These districts are characterized by very low population densities (less than 3 people per square km), with low population increases between 1979 and 1989 in some districts (Turkana at +2.25%, Marsabit +2.64%, Mandera +1.49) or negative growth in other Districts (Garissa -.40% and Wajir -1.06%). These low or negative growth rates imply out-migration, as it is unlikely pastoral populations have significantly lower fertility or mortality than other areas in Kenya. Demographic surveys among pastoralists are few, but Roth (1993) reports a Rendille fertility rate of 6.04 in non-sepaade populations (sepaade are Rendille women who delay marriage age every third generation); and Brainard (1981) reports fertility rates of 7.2 for nomadic Turkana and 5.5 for settled Turkana. Only Isiolo District reports high population growth (4.87%) between 1979 and 1989, which can be attributed to immigration of Somali pastoralists from Wajir District, displacing Boran pastoralists (Hogg 1990).

High population growth has put pressure on pastoral lands in several ways. In southern Kenya, agriculturalists in Kisii, Siaya, Kericho, Nakuru, and Machakos Districts have expanded

onto Maasai lands in Kajiado and Narok Districts. Although these areas represent important dry season resources for Maasai cattle, they are inferior and marginal lands for agricultural production. In better-watered regions of Maasailand, pastoral lands are being transformed into enclosed livestock ranches or wheat farms, owned either by powerful members of the pastoralist community (as in Kajiado and Samburu Districts) or by non-pastoral entrepreneurs, as in Narok and Laikipiak districts. Further pressure is occurring as Kenya's national game parks and reserves expand, most of which lie in pastoral regions. The expansion of game parks can be seen as an indirect consequence of population growth, as tourism, Kenya's leading foreign exchange earner, provides revenues to help pay for social services that now account for more than 50% of Kenya's annual budget (World Bank 1992).

Population growth has also pressured pastoral resources in northern Kenya, although not in the same way as in the south. Despite low population densities in the north, even small levels of growth will affect resource use and access to land. For example, Rendille populations grew from around 5,000 people in 1920 to over 24,000 in 1984, with cattle herds tripling and small stock increasing 72% between 1932 and 1984 (Table 2). Although average household herd size declined, absolute numbers increased placing more pressure on grazing, particularly on dry season resources. During the same period, Rendille lost 87% of their herding range (from 57,600 km² to 8000 km²), mainly to expansion of Turkana and Boran populations and to imposition of tribal grazing boundaries, discussed below (Sobania 1988:238).

The growth of human and livestock populations in Kenya's pastoral regions,

although modest, has had direct consequences for land management and resource use in these arid regions. This is particularly so for dry season grazing resources, usually located in more populated highlands, and for permanent water sources, which are increasingly attracting sedentary populations. So, although population growth may be low for pastoral districts as a whole, it is differentially distributed with large concentrations around key watering, grazing, and urban locations. The concentration of populations directly contributes to economic transformations and political conflict in these regions.

Land and property rights

Discussion of pastoralist property rights has focused traditionally, for obvious reasons, on livestock rather than land. Animals are defined as property of individuals or households, providing not only daily subsistence foods but representing a form of wealth that is used for exchange (including bridewealth) as well as inheritable property. Land may assume the characteristic of individuated property in the case of agropastoralists, who may define rights to land for crop production, but for pastoralists land is usually considered communal property providing pasture, water, minerals, and security necessary for livestock production. Communal property is not the same as common property: communal tenure is held by a particular social group, and newcomers must ask for access to pasture, water and salt licks (Ndagala 1990:179. Livestock, water, and access to pasture are at the core of social relations of pastoralist society (Baxter 1990:iii). As Dahl and Megerssa (1990) show among the Boran, rights to wells are held by patrilineal groups but individuals are expected to provide well access to affines and mem-

bers of the complementary moiety, reflecting basic cultural principles of solidarity and respect, descent and marriage ties.

Ignoring traditional concepts of land tenure in favor of capitalist tenure rights, the Kenyan government has encouraged the privatization of communal lands since Independence in 1963, developing group ranch policies among Maasai in the 1960s and more recently the individuation of private title to ranchers and wheat farmers in Narok, Kajiado and Samburu Districts. Following Independence, the Kenyan government began to allocate individual sections of land (usually those with the best pasture and permanent water) to progressive (and pro-KANU) Maasai, including school teachers, livestock entrepreneurs, shopkeepers, and government officials, the new "big men" (ilaiguenak kitok) (Galaty 1981:81). "Group ranches" followed, as the government realized much of Maasailand was too poor to subdivide into individual plots. Maasai reluctantly agreed to the group ranch adjudication (following the Groups Representatives Act of 1968), affirming that formal and legal tenure of communal resources was the best protection against individuation and increasing migration of farmers onto Maasai lands. The droughts of 1968 and 1971 showed the fragility of group ranch boundaries as different Maasai groups herded their animals on land occupied by kin or stock associates. By the 1980s, however, individuals gained control of better watered regions, particularly of the Mau escarpment in Narok District which increasingly was transformed into commercial wheat farms (Galaty 1992; Holland 1987).

Privatization of communal grazing lands is nothing new in Kenya, of course; it was the fundamental land pol-

icy of the British colonial government which moved Maasai herders away from much of the central Rift Valley (to Kajiado and Narok Districts), as settlers appropriated rich grazing lands in what are now Laikipia, Nakuru and Uasin Gishu Districts. While Nandi, Kipsigis, and Kikuyu farmers lost much of their agricultural lands to the settlers, they, rather than the Maasai, gained the former Maasai lands after independence. In Maasailand, mobile herders faced increasing restrictions on their lands by the definition of group ranch boundaries and restrictions on herding livestock in the national game parks and reserves, of which the largest (Amboseli, Mara Masai, Tsavo) are located in Maasai areas.

Furthermore, Maasai in the 1970s and 1980s saw substantial increases in large-scale commercial farming and ranching in their areas. On the Mau Escarpment of Narok District, for example, 320,000 hectares of land were sold, leased, or rented between 1980-1985 to large estates producing wheat and barley (Holland 1987). As Galaty (1981) argued, it is not so much cattle but rather land that is being monopolized among Maasai, land having now become the most important resource in Maasailand.

Samburu. A similar process is currently underway in Samburu District in Kenya's north central region. Samburu District underwent experiments in grazing blocks following Independence in 1961, when 31% (or 6400 km²) of the best pasture in the district was demarcated for limited grazing. The formation of group ranches soon followed, despite attempts by Samburu elders to collectively curse anyone participating in the schemes. In 1970 the Kenyan government established a land adjudication office in Maralal, which issued group and later individual land titles on the Leroghi plateau between

1972 and 1975. Land was entrusted to the Samburu County Council who stipulated which families could use the ranches; furthermore, cattle numbers were limited and small-stock denied access to these lands altogether, forcing poorer Samburu families (who had larger small-stock herds) to move towards the Lbarta lowlands near Baragoi (Fumigalli 1978; Perlov 1983). During the 1970s and 1980s the Samburu group ranches were subdivided into individual holdings; as among Maasai, the Samburu county councillors were among the first to receive individually titled sections of land, which ranged from 100 to 2400 hectares.

Today, the Leroghi plateau has been transformed from a predominantly subsistence livestock economy to a mixed economy of commercial ranching and wheat estates, with poorer Samburu pastoralists moving off the Leroghi Plateau east towards Wamba (where they must circumvent the Samburu Game Park) or north towards Baragoi, where they must contend with increasing numbers of Turkana pastoralists. Many young Samburu are migrating to larger urban areas in search of low paying watchmen jobs, uncertain if they can return to the livestock economy (Sperling 1987).

Northern Kenya. The individuation of land rights has not occurred with the same intensity in northern Kenya (i.e. Turkana, Marsabit, Isiolo, Wajir, or Mandera Districts), in part because these are highly underpopulated regions (e.g. Marsabit District with a population of 96,216 (in 1979) or 1.2 persons/km², with very low annual rainfall of 250-600 mm). Nevertheless, certain areas of high agricultural potential including Marsabit Mountain and the Hurri Hills in Marsabit District and the Uaso Nyiru River in Isiolo District, are currently experiencing a movement towards indi-

viduation and entitlement of land. On Marsabit Mountain near the district capital, agricultural schemes which began as famine-relief projects in the 1970s have blossomed into highly populated areas of irrigated farms and orchards. Settled Boran and Rendille communities at Songa and Gudras, communities of several thousand people, produce kale, maize, and charcoal for the urban residents of Marsabit town, the district capital, while sedentary Ariaal Rendille of Karare, a community of 2,000, provides Marsabit with milk and beef. The mountain's population constitutes over ten percent of the district's 100,000 people, and it will continue to grow in the next decade.

Concentrated population growth in the north has placed new stresses on available grazing and water resources. When I last visited the area in 1992, the Marsabit County Council had begun issuing land titles along the Marsabit road while simultaneously fighting to prevent the Ministry of Wildlife and Tourism from expanding the boundaries of the Marsabit National Reserve, which contains some of Kenya's largest elephants. Most seriously, physical conflict broke out between settled Boran and Rendille over access to mechanized water sources (boreholes, pumps) on Marsabit mountain, while simultaneously drought-stricken Gabra were raiding (with automatic weapons) Rendille herds grazing on the mountainside. It is the increase in armed violence throughout Kenya that most seriously affects land tenure.

Political insecurity and the resurgence of warfare

The most recent threat to pastoral land tenure in northern Kenya is the dramatic increase in warfare and armed raiding between competing pastoralist

groups. In 1992, sustained armed conflict occurred between the Pokot and Turkana, Gabra and Rendille, Gabra and Dasenech, and Somalis and Boran. While these conflicts are not new, they have reached a heightened level due to both the large number of automatic weapons (AK-47s and M-16s acquired from soldiers fleeing the civil wars in Somalia, Sudan, and Ethiopia) and the Kenyan government's inability (or refusal) to stop the violence.

Much of the ethnic conflict in Kenya in the past year revolved around the national elections, held in December, 1992; conflict especially occurred in agricultural regions of the Rift Valley Province between Kalenjin supporters of President Moi and their Kikuyu and Luo opponents. In central Kenyan violence as well as the inter-pastoralist warfare in the north, the police and army have followed a policy of slow response or non-intervention. (President Moi is saying, essentially, "if you want multiparty elections, this is what you will get — tribal war and the breakup of Kenya. We need a strong KANU party.")

Two cases serve to illustrate the effect of political insecurity and warfare among pastoralists on land tenure and access to grazing: the Waso Boran of Isiolo District and the Rendille of Marsabit District.

Boran. The Boran are cattle pastoralists numbering about 30,000 (21,392 in 1979 census) in Kenya and over 250,000 in southern Ethiopia (where they are known as Oromo, or derogatorily as Galla). Many Boran migrated from Ethiopia into northern Kenya at the end of the 19th century to escape exploitation by Amharic and Tigrean soldiers of Menelik II's Abyssinian empire, settling around Mt. Marsabit with small groups migrating south to the Uaso Nyiru River and east to the Tana River. Forced off the Tana by expanding Somalis, many

more Boran moved to the Uaso Nyiru River where by 1920 they had become the dominant group in Isiolo District. The British drew the Somali-Galla Line in 1934, separating Wajir from Isiolo Districts, and the Boran concentrated around Isiolo as they were restricted from grazing in Samburu, Wajir, or Meru Districts. While northern Kenyan Boran retained their traditional religion or converted to Christianity, those who settled in Isiolo (known as Waso Boran) converted to Islam, influenced by Somalis with whom they retained an ambiguous and often competitive relationship (Hogg 1990; Hjort 1979).

When the British held a referendum in 1962, polling residents of the Northern Frontier District on whether they wished to remain in Kenya or join a new Somalia, the Waso Boran and related Sakuye sided with the Somalis in seeking secession, while the northern Boran sided with non-Muslim Samburu and Rendille, voting to stay in Kenya. The referendum was ignored following Kenyan independence in 1963, leading to a pro-Somalia uprising in December 1963 that led to seven years of violence known as the 'shifta war'. (Shifta is Amharic for "bandit".) Much of the violence involved the mining of roads and raiding of livestock, particularly from Rendille, Samburu, Ariaal, and Northern Boran; the Kenyan army retaliated with severe repression of the Somali and Waso Boran areas, confiscating (or killing) their livestock and enclosing pastoralists in "strategic hamlets" (Waso Boran were confined to three villages of Garba Tula, Merti, and Mado Gashe near Isiolo).

The end of the shifta hostilities in 1969 coincided with a period of extensive drought (1968-1971), during which time the Waso Boran lost 95% of their camels, 90% of their small stock, and much of their cattle (Hogg [1990] says

7% while Baxter argues the majority of animals were lost). By 1982, 40% of the Boran lived in poverty conditions in or near the small towns of Isiolo District, eking out a living as charcoal burners, paid herders, night watchmen, or prostitutes (Hogg 1985). Some have been able to start their own shops, although Hjort's (1979:124-34) study of Isiolo town showed that only one in fifty shops are owned by Boran, the remainder primarily by Somali, Meru or Indians. Currently, Boran are losing grazing lands along the Uaso Nyiru River to Somalis immigrating from Wajir District. Somalis, who constituted less than 10% of Isiolo's population in the 1940s, were by 1980 35% of the district (Hogg 1990). This has led to Boran demands that they be allowed to impose their own grazing blocks in attempts to restrict further Somali immigration. Furthermore, the majority of Isiolo Boran are now sedentarized farmers, practising the dryland farming techniques of former Konso and Sidamo neighbours in Ethiopia, and growing grains primarily to feed their livestock (Oba 1990:42).

Rendille. Rendille have also changed their herding practices in response to competition with other pastoralists. Historically, Rendille (pop. 24,000) were specialized camel and small stock pastoralists who herded their animals in the Kaisut and Chalbi Deserts between Mt. Marsabit and Lake Turkana. Following large losses to smallpox at the end of the 19th century, as well as incursions on Rendille lands by Turkana and Boran, the Rendille increasingly found their herding range restricted, particularly in the Lake Turkana — Mt. Kulal region. British colonialists further restricted their range through imposition of "tribal grazing areas" in 1919, which separated Rendille, Boran and Gabra, forcing these groups to concentrate around fixed water

points: the Rendille in the Kaisut Desert (around Kargi), the Gabra in the Chalbi Desert (around Maikona and North Horr), the Boran on Mt. Marsabit, and the Turkana and Samburu in their own areas west and south of Lake Turkana (formerly Rudolf). The Dasenech were forced out of Kenya altogether and into Ethiopia (Sobania 1988).

During the 1930s and 1940s, many Rendille settled around small towns (Laisamis and Archer's Post), herding their animals in distant fora managed by warriors and adolescents. These towns grew after Kenyan Independence in 1963, particularly as Western missions, including the Catholic Church, established churches, schools, and dispensaries in Marsabit and Samburu Districts. The local infrastructure created by these missions enabled the district to respond quickly to the droughts of 1968-1971, 1976 and 1984, and mission stations at Korr, Kargi, and Laisamis grew into small towns, as hundreds of Rendille families settled to receive famine-relief foods distributed by the church. By 1985, over half of the Rendille were permanently settled in or near these towns, escaping both drought and increasing raids with Boran, Somali, Turkana, and Gabra populations (Fratkin 1992).

Since 1973, several thousand Rendille have moved to Marsabit Mountain to take up irrigated agriculture, particularly in the large community of Songa (pop. 2,000) established by the National Christian Council of Kenya (NCKK). Those Rendille remaining in the pastoral camel economy have increasingly moved close to towns, particularly Korr and Kargi, as they face increased livestock raids by neighboring Boran, Somali, Turkana, and Gabra.

While Rendille have periodically faced attacks by livestock raiding neighbours, particularly Turkana and Boran,

as well as extensive raids by Somalis during the shifta war, these have until recently been low level raiding, accomplished primarily with spears and a few rifles. However, raiding during the summer of 1992 was particularly intense as Gabra, who had lost over 50% of their camels to drought that year, raided Rendille, Dasenech, Boran, and even Somali herds, using automatic rifles obtained from Ethiopia. Raids that formerly injured one or two people now claimed dozens of lives. The threat of continued violence through armed raiding continues in northern Kenya, an area not well policed by a government that is focusing on larger problems in the south.

Conclusions

Pastoral land tenure throughout Kenya is directly affected by population growth, manifested in the expansion of agricultural populations onto pastoral lands in the south, and competition with other pastoral populations in the north searching for greener, and safer, pastures. The demographic pressures on pastoral land use are more those of migration of incoming populations rather than high fertility rates per se. In addition, there is a steady outmigration of poor pastoralists from the pastoral districts to towns and cities in search of wage paying jobs. In addition to demographic pressure, changes in economic production from pastoralism to sedentary agriculture has pronounced consequences for pastoral land tenure and access to grazing and water. In the better-watered Maasai areas of the south and the Leroghi Plateau of Samburu District, pastoral lands are rapidly becoming individuated and titled property is falling into the hands of private ranchers or commercial farmers, some of whom are Maasai or Samburu elite. Poorer Maa-

sai and Samburu pastoralists who do not hold titled land are driven off these lands and must face competition with Kikuyu and Kamba farmers, as well as expanding game parks. Urban migration of Samburu, Rendille and Maasai seeking wage labor, particularly to Nairobi, is increasing as the pastoral livestock economy contracts.

While northern pastoralists also face some agricultural development and game park encroachment, their major problem is political insecurity and competition with other pastoralists groups over grazing resources. While these conflicts reflect older animosities, warfare today is carried out by men armed with automatic weapons resulting in greater numbers of fatalities, particularly of children and adolescents herding livestock in isolated herding camps. I do not believe pastoralists are doomed, but they must obtain legal tenure or protected rights to communal land and physical security from attack if their systems of social and economic practice are to remain viable.

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Table 1: Population growth in Kenya (1979-1989).

<i>Provincial/District Population Intercensal Density</i>					
	1979 (thous)	1989 (thous)	growth rate (%)	km ² 1979	km ² 1989
Nairobi	828	1,346	4.86	1,211	1,968
Central					
Kiambu	686	914	2.87	280	373
Kirinyaga	291	388	2.88	203	270
Muranga	648	846	2.67	262	342
Nyeri	486	613	2.32	148	187
Nyandarua	233	349	4.04	66	99
Total	2,344	3,110	2.83	178	236
Coast					
Kilifi	431	611	3.49	35	49
Kwale	288	384	2.88	35	47
Lamu	42	57	3.05	6	9
Mombasa	341	467	3.14	1,624	2,224
Taita Taveta	148	202	3.11	9	12
Tana River	92	129	3.38	2	3
Total	1,342	1,850	3.21	16	22
Eastern					
Embu	263	358	3.08	97	132
Isiolo	43	70	4.87	2	3
Kitui	464	640	3.22	16	22
Machakos	1,023	1,393	3.09	72	98
Marsabit	96	125	2.64	1	2
Meru	830	1,138	3.16	84	115

Table 1 cont.: Population growth in Kenya (1979-1989).

<i>Provincial/District Population Intercensal Density</i>					
	1979 (thous)	1989 (thous)	growth rate (%)	km ² 1979	km ² 1989
Total	2,719	3,724	3.15	18	24
Northeastern					
Garissa	129	124	-0.40	3	3
Mandera	106	123	1.49	4	5
Wajir	139	125	-1.06	2	2
Total	374	372	-0.05	3	3
Nyanza					
Kisii	870	1,146	2.76	396	522
Kisumu	482	674	3.35	232	324
Siaya	475	643	3.03	187	254
South Nyanza	818	1,095	2.95	143	192
Total	2,645	3,558	2.97	211	284
Rift Valley					
Kajiado	149	262	5.64	6	10
Kericho	633	859	3.05	107	176
Laikipia	135	213	4.56	31	45
Nakuru	523	862	5.00	30	57
Nandi	299	440	3.86	74	104
Narok	210	402	6.49	8	11
Baringo	204	286	3.38	14	25
Elgeyo M'kwet	149	212	3.53	233	316
Samburu	77	114	3.92	4	5
Trans-Nzoia	260	394	4.16	105	160
Turkana	143	179	2.25	2	3
Uasin Gishu	301	440	3.80	80	116
West Pokot	159	231	3.74	31	46
Total	3,242	4,894	4.12	19	29
Western					
Bungoma	504	731	3.72	164	238
Busia	298	423	3.50	183	260
Kakamega	1,031	1,389	2.98	293	395
Total	1,833	2,543	3.27	223	309
Nat'L Total	15,327	21,397	3.34	27	38

Table 2: Rendille human and livestock population growth, Marsabit District.

Year	Human pop	Small-stock	Camels	cattle
1920	5,474			
1932	7,250	384,352	51,355	8,653
1942	7,395			
1954	10,500			
1979	21,794			
1984	24,501	533,355	47,870	26,821

Source O'Leary (1990:76) Referenced