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East African Pastoralism in Transition: Maasai, Boran, and Rendille Cases

Elliot Fratkin

Abstract. Pastoralist societies in East Africa (Kenya, Tanzania, Uganda) face more demands on their way of life than at any previous time. Population growth, loss of herding lands to farmers, ranchers, game parks, and urban growth, increased commoditization of the livestock economy, out-migration by poor pastoralists, and dislocations brought about by drought, famine, and civil war are increasing throughout the region. These problems are intensified as international development programs encourage privatization and individuation of formerly communally held resources. The examples of the Maasai, Boran, and Rendille of Kenya demonstrate that East African pastoralists are responding to the social, political, and economic challenges with increased economic diversification including agro-pastoralism, wage labor, and increased market integration. These changes result in increased social and economic stratification, urban migration, and diminished nutrition for women and children.

Résumé. Les sociétés pastorales de l'Afrique de l'Est (Kenya, Tanzanie, Ouganda) voient leur mode de vie soumis à des demandes plus impérieuses qu'à tout autre moment de leur histoire. La croissance démographique, la perte des terres d'élevage au profit des fermiers, des propriétaires des ranchs, des parcs d'attraction et du développement urbain, la commercialisation accrue de l'économie de bétail, l'émigration des éleveurs pauvres, et les bouleversements occasionnés par la sécheresse, la famine et la guerre civile augmentent dans toute la région. Ces problèmes s'intensifient alors que les programmes internationaux de développement encouragent la privatisation et l'individualisation des ressources autrefois mises en commun. L'exemple des Maasai, des Boran, et des Rendille au Kenya démontre que les

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éleveurs pastoralistes Est-Africains répondent aux défis sociaux, politiques et économiques par une plus grande diversification économique, comprenant l'agro-pastoralisme, les salaires à la tâche, et une plus grande intégration sur les marchés. Ces changements ont pour résultat l'accroissement de la stratification économique et sociale, la migration urbaine et l'appauvrissement de la nutrition chez les femmes et les enfants.

Over the past thirty years, East African livestock-keeping peoples have faced large challenges to their economies and traditional ways of life. In the savanna regions of southern Kenya and Tanzania, Maasai and other groups have lost land to expanding farming populations, private ranches, wheat estates, and the expansion of tourist game parks. National governments, lured by investments and aid from the international donor community, have increasingly privatized formerly communal lands, encouraging the expansion of export and local market agriculture including beef and dairy marketing. In the more arid regions of northern Kenya, northern Uganda, and southern Ethiopia, pastoral populations including Samburu, Pokot, Turkana, Rendille, Boran, and Karimojong have faced problems of drought and famine coupled with ethnic conflict and political insecurities, exacerbated by population growth and increased competition for range land and water resources. Interethnic fighting has increased in violence as automatic weapons from civil wars in Sudan, Ethiopia, and Somalia are increasingly acquired by pastoral tribesmen.

Despite these challenges, livestock pastoralism has been surprisingly resilient as pastoralists have shown a wide variety of adaptations to change, including periodic oscillation between pastoralism and farming, as well as hunting and gathering, and more recently, wage labor (Fratkin 1997; Little 1992; Spencer 1998). The future of East African pastoral societies is debated by a variety of actors including development and policy planners, social scientists, and pastoralist groups themselves. One view, articulated in the environmental journal *Ambio* (Steen 1994) and shared by many development planners and African governments, recommends abandoning pastoralism altogether and encouraging former herders to plant forage crops, cereals, and fodder to raise livestock in private and sedentary settings in order to better integrate into an urbanizing, market-based economy. An alternative view, articulated by some anthropologists and indigenous pastoralist associations, emphasizes the restoration and protection of traditional pastoral rights, including legal rights to water and pasture resources, guaranteed rights-of-way for herds to travel, rights to unhindered passage across international borders, recognition of pastoralist knowledge of water, pasture, and herd management, an end of propaganda to sedentarize, and the right to run their own local affairs (Baxter 1993; Hogg 1992; Maa Devel-

opment Association 1996). A middle ground, which I share, proposes integrating pastoralist practices with contemporary realities of population growth, increased market integration, and the need to produce agricultural crops as well as livestock. Recommendations for improved economic integration include the promotion of grazing management schemes, fodder storage, improvement of water resources, veterinary improvements, and the development of banking and credit associations for pastoralists (Coppock 1993).

This article looks at particular problems faced by East African pastoral societies including demographic growth, land degradation, privatization of rangeland, urban migration, and political conflict. It focuses on three case examples of Maasai, Boran, and Rendille, and demonstrates the variety of social and economic strategies pursued by pastoralist populations in light of the increased pressures on their production systems.

Livestock-Keeping Peoples of East Africa

Africa contains one-half of the world's pastoral peoples; thirteen million Africans are predominately pastoral and another nine million are agro-pastoral, keeping large numbers of livestock while practicing agriculture (Galaty & Johnson 1990; Jahnke 1982). Pastoralists are people whose livelihood depends mainly on the raising of domestic animals including cattle, camels, goats, sheep, and donkeys, which are used for milk, meat, transport, and trade. Pastoralists occupy savanna, semi-arid, or arid deserts where rain-fed agriculture is precarious, and they include well-known African populations such as Tuareg, Fulani (Fulbe, Peul), Bedouin, Somali, Nuer, and Maasai. Pastoralists typically occupy large tracts of communally shared land and utilize kinship ties for mutual herding and defense. Their herds are often large and in poor condition, but hardy enough to survive periodic drought and sparse vegetation. Many pastoralists practice some agriculture, particularly of maize, millet, or in Ethiopia, teff; they may also supplement their pastoral diets with wild plants, game, and fish. Some pastoral societies, such as the Tuareg of the western Sahara, engage in long-distance trade.

In East Africa, pastoralists occupy 70 percent of the total land of Kenya, 50 percent of Tanzania, and 40 percent of Uganda. But their populations are numerically small (fewer than 1.5 million of Kenya's 30 million, Tanzania's 35 million, and Uganda's 23 million people), and they find themselves politically disempowered and economically marginalized in national polities that are dominated by people from agricultural communities. Pastoralist groups of East Africa include cattle-keeping Maasai (300,000 in southern Kenya and 150,000 in northern Tanzania), Samburu (75,000), Turkana (200,000), Boran and Orma (75,000), and Karimojong, Dodoth, Teso, and Jie peoples in Uganda (total about 200,000). Camel-keeping pas-

toralists occupy the drier regions of northeastern Kenya, Southern Ethiopia, and Somalia and include Afro-Asiatic-speaking Gabra (25,000), Rendille (25,000), and pastoral Somali (about 1 million of Somalia's 6.5 million people). In addition, many agricultural groups in East Africa raise large herds of cattle, including Kalenjin speakers (Nandi, Kipsigi, Pokot) in western Kenya and Bantu-speaking BaAankole in western Uganda and Tutsi in Rwanda and Burundi (see map, following page).

Diet and Nutrition

Unlike commercial ranchers who raise a limited number of animals solely for market offtake in confined areas, pastoralists rely on their herds for daily subsistence. Pastoralist diets consist of milk, meat, and blood obtained from their animals, and cereals either grown or obtained from trading their animals. Milk and milk products account for 60 to 65 percent of the dietary energy of Maasai, Turkana, and Rendille, consumed mainly in wet seasons, while meat (usually from goats and sheep), blood (tapped from living animals), and cereals are consumed as the dry season sets in and milk yields diminish (Galvin 1992; Sellen 1996). Herds are typically 66 percent milk-providing females, while neutered males are raised for meat consumption and traditional and market exchange. There is considerable variation among pastoralists in livestock productivity, owing mainly to different ecological and environmental resources. Where Boran and Turkana of northern Kenya have an average of 3.5 to 3.7 TLUs per person (a tropical livestock unit equals 1 cow, 0.8 camel, and 11 goats and sheep), Maasai in Kenyan group ranches have 13.4 TLUs per person (Galvin et al. 1994). Larger herds imply larger offtake for trade; wealthier Maasai in group ranches sell over 12 percent of their cattle annually (Zaal & Dietz 1999), while Turkana sell less than 4 percent of their herds, mainly small stock (Galvin et al. 1994). These animals are typically sold to purchase grains in the dry season, unfortunately a period during which their condition is poor and prices are low. Among all pastoralists, caloric intake is low, ranging from 1000 kcal per day among Maasai to 1400 kcal among Turkana. Pastoralists generally have low body mass indices (wt/ht²), reflecting chronic energy deficiencies (Galvin et al. 1994). Pastoralists also have deficiencies in iron and vitamins A and C, but their protein consumption is higher than that of most agriculturalists, with levels of 44.9 grams per person per day reported among Maasai (Sellen 1996). Despite the nutritional hardships of pastoral diets, they are sufficient to allow pastoralists to survive in arid lands too marginal to support agriculture (Little & Leslie 1997). Populations that abandon livestock-keeping for life in towns or farms often suffer worse nutritional hardships, particularly the loss of protein from milk and meat, resulting in greater malnutrition, especially for children (Nathan et al. 1996).

Pastoralists of Africa

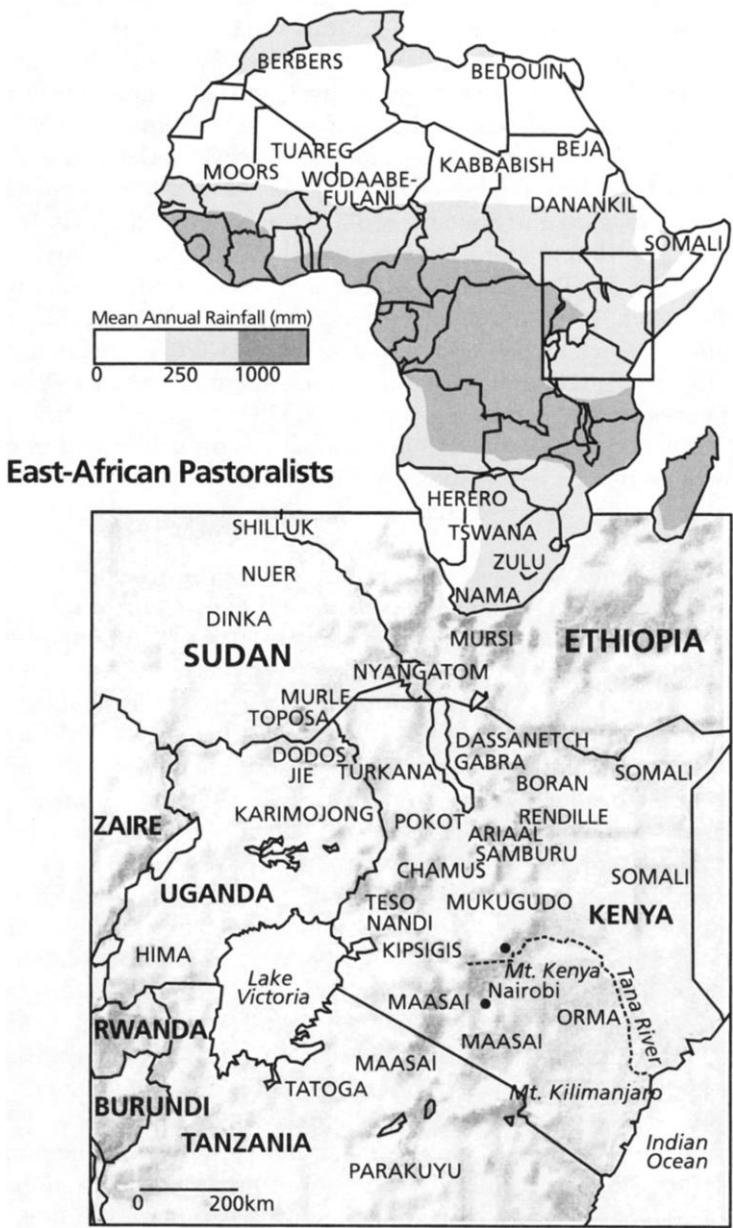


Figure 1: Pastoralists of Africa and East Africa

Problems of East African Pastoralists

Whereas pastoralists politically dominated their agricultural neighbors in the nineteenth century (cf. Waller 1985), this situation was reversed both during colonial and postindependence rule when African governments were led by peoples from more populous agricultural communities often hostile to pastoralist concerns. In the early twentieth century, the Maasai were pushed off of 60 percent of their lands by British and German settlers, while Menelik II in Ethiopia led campaigns against nomadic Boran (also called Oromo or Galla) and Somali peoples, appropriating their lands and asserting political domination. During the colonial period (1900–1963), pastoralists in Kenya, Tanganyika, and Uganda were bounded in administrative districts that restricted their movements. They were also prohibited from selling livestock in settler-dominated markets. Following independence, both ecological conditions and political relations deteriorated following extensive droughts between 1968 and 1973 in northeast Africa. The overthrow of Haile Selassie in 1973 in Ethiopia was brought about in part by famine and demands for food, leading to political movements by Oromo and Ogaden Somalis against both Selassie and his successor, Mengistu.

During the 1960s and 1970s, Western aid and international development agencies initiated programs in East African countries to improve livestock production and market integration of pastoralists. A guiding philosophy of these programs was Garret Hardin's (1968) "tragedy of the commons," which held that traditional pastoral practices of individual owners utilizing communally shared pastures were wasteful and inherently degrading to the environment. Local governments were encouraged to curtail pastoral livestock production on communally held lands and promote private ranching of beef and dairy resources, as private landowners were assumed to better conserve their resources. As one World Bank consultant wrote, "As with crops, so with livestock, existing African methods differ little in essentials from those practiced from time immemorial, and lead to a combination of low yields and deterioration of the land" (quoted in Hodgson 1999:226). Whereas "ranching associations" and "group ranches" were initially encouraged by the United States Agency for International Development (USAID) among the Maasai of Tanzania and Kenya, by the 1980s privatization of the range into individual holdings was promoted as a solution to poverty and environmental degradation.

Traditional pastoral production demands mobility, the *sine qua non* of dryland cattle keeping, yet the actions of governments curtailed mobility through alienation of land, demarcation of grazing boundaries, and mechanization of bore holes, which encouraged pastoral sedentarization. Moreover, governments displaced local authority over range and water use, decreased effectiveness of sanctions, and facilitated manipulation by the wealthy and influential (Brokensha & Little 1988).

Social scientists and rangeland ecologists questioned the tragedy of the commons model, as arid lands are typically unstable and pastoral practices, including mobility, herd diversity, and household production based on a limited number of laborers, acted as measures against overgrazing (Coughenour et al. 1985; Ellis & Swift 1988; Scoones 1994). Moreover, pastoralists seek to expand their herds, not out of an irrational love of cattle, but because herders typically lose over half their animals during periodic drought, a situation that has occurred every five to six years in the past three decades in East Africa. Nevertheless, these criticisms fell on deaf ears (cf. Dyson-Hudson 1991; Goldschmidt 1981), and pastoralists were encouraged to “modernize” and abandon traditional herding practices. By the 1980s, East Africa’s livestock sector was worse off than at any point in history, despite investments of about \$1 billion between 1970 and 1984. Economists attributed this failure to growing human and livestock populations and depleting resources (Simpson & Sullivan 1984), development officers blamed “conservative” herding practices, and pastoralists such as the Maasai felt betrayed and threatened by new ranching associations and grazing restrictions (Hodgson 1999).

Placing blame aside, we need to look at several recent developments that have contributed to pressures on pastoral production in East Africa:

1. Population Growth. Kenya, Tanzania, and Uganda have among the world’s highest population growth rates (2.1 percent, 2.9 percent, and 2.9 percent annual increase, respectively), attributed to high total fertility rates (4.7 in Kenya, 5.6 in Tanzania, 6.9 in Uganda) coupled with declines in child mortality. (Fertility rates have been declining, however, and the rapid spread of HIV/AIDS has resulted in high mortality among young adults and declining life expectancies—48 years for males in Kenya, 52 in Tanzania, and 42 in Uganda [Population Reference Bureau 2000]). High population growth has affected rural as well as urban areas, where farmers increasingly move onto less productive lands to raise their farms and families. Furthermore, pastoralists such as Maasai have increased farm cultivation, leading to a loss of pasture and water resources. In the more arid North, where agriculture is possible only in isolated highlands, population growth in both herds and humans has brought about increased competition with pastoral neighbors for pasture and water, leading to recent armed attacks between Turkana and Pokot, Boran and Rendille, Turkana and Samburu, and Somali and Boran (*Daily Nation* 1999).

The growth of human and livestock populations in East Africa’s pastoral areas, although modest, has direct consequences for land management and resource use in these arid regions. This is particularly so around permanent water and dry season grazing resources, which are located in more populated highlands and are attracting sedentarizing populations. The concentration of populations directly contributes to economic transformations and political conflict in these regions.

2. Drought and Famine. “Drought is a part of [Africa’s] climate, and not apart from it,” writes the climatologist Michael Glantz (1987:38), and pastoralists more than other populations have historically adapted to conditions of low and erratic rainfall, patchy resources, and recurrent drought. Whereas drought is a climatic event, famine refers to widespread starvation and usually is brought about by political dislocations, including civil war. Drought in Africa increased dramatically in the second half of the last century, particularly in the Sahelian countries (Senegal, Mauritania, Mali, Niger, Nigeria, Chad, and Sudan) between 1968 and 1973, and in the Horn of Africa (Ethiopia, Eritrea, Somalia, Djibouti, and northern Kenya) during the years 1960–61, 1968–69, 1974–76, 1979–81, 1991–93, and in 1996. Famines occurred mainly in Ethiopia and Sudan during their civil wars of the 1980s, and in Somalia in the 1990s. During these periods, herders lost up to 80 percent of their small stock and half of their cattle, both to starvation and to infectious diseases that attack the weakened herds, particularly after rains resume.

Whereas pastoralists responded in the past to drought and famine with mobility or temporary migration to hunting and gathering or farming societies, today pastoralists have new options, including migration to towns for wage labor, migration to famine relief centers, and wholesale adoption of agriculture. However, urban or farming alternatives do not provide pastoral émigrés with the same levels of food and well-being as pastoral life styles do (Fratkin et al. 1999).

3. Loss of Common Property Resources. Whereas livestock among most East African pastoralists constitutes individual or family property, access to land (for pasture, water, minerals, and security) is usually shared by territorial or kinship groups (i.e., land is held in common as a communal resource) or it is considered common property open to all. Ignoring traditional land tenure in favor of individual tenure rights, Kenya, Tanzania, and Uganda have encouraged the privatization of communal lands, following policies encouraged by international donor organizations including the World Bank and USAID. For example, following the establishment of “ranching associations” in Tanzania and “group ranches” among Maasai in Kenya in the 1960s and 1970s, the Kenya government is now promoting private and individual titles, leading to a scramble for land similar to the one that took place in the U.S. West in the nineteenth century (Galaty 1994). In the 1980s the Tanzanian government, with assistance from the Canadian International Development Agency (CIDA), developed large parastatal NAFCO wheat estates around Mount Hanang, displacing Barabaig herders from 100,000 hectares of their land. Although the Barabaig won a meager financial compensation in court for loss of their customary lands (\$1,200 awarded to six individuals), they were not able to regain their lands (Lane 1996).

In addition to land loss to agriculture, pastoralists have lost large areas of land to national game parks including Amboseli, Mara Masai, Tsavo, and Samburu Parks in Kenya and the Serengeti, Ngorongoro Crater, and Mkomazi in Tanzania (Brockington 1999; Homewood 1995). These examples are described in more detail below.

4. Commoditization, Sedentarization, and Urban Migration. Pastoralists have increasingly shifted their economy from subsistence production (producing mainly milk for the household consumption) to commercial production (producing beef and dairy products for sale both to domestic and export markets). The sale of livestock is not new to pastoralists. Tanzanian Maasai were trading livestock for grain with neighboring Arusha in the mid-nineteenth century (Spear 1997), and Maasai have typically sold 8 to 10 percent of their cattle to purchase grains and other commodities since the 1930s (Zaal & Dietz 1999). However, both demands and opportunities for market sales of livestock (particularly for beef to feed growing urban populations) have increased substantially in the past twenty-five years. Although the “caloric terms of trade” (CToT) have declined in recent years with increasing maize prices (due to structural adjustment policies ending price supports), today one steer exchanged on the market can bring in four to six times the caloric worth of maize in drought years, and eight to seventeen times the amount in wet years (i.e., a steer with a consumable weight of 100 kg yielding 230,000 kcal sells for 8000 K. sh., buying approximately 800 kg of maize yielding 2,300,000 kcal). Milk sold enjoys a similar advantage to maize (six to ten times the value) in CToT (Zaal & Dietz 1999).

Increased commoditization of the livestock economy has led to a growing polarization of pastoralists into haves and have-nots, particularly in Maasai areas that are close to urban markets. In the Ol Karkar group ranch in Kajiado District, Kenya, the top third of households in 1999 owned over thirty-five TLUs per person, mostly in cattle, while the bottom third had less than seven TLUs, mostly in small stock (Zaal & Dietz 1999). This economic differentiation is also occurring among Boran, Rendille, and other pastoralists becoming integrated into the market economy. While those households with large livestock herds remain committed to the pastoral economy, poor pastoralists either work for wealthier kinsmen, adopt agriculture, or migrate to towns in search of low-paying jobs, working as watchmen, maids or prostitutes (Fratkin 1998; Talle 1988).

5. Political Turmoil and Civil War. Current problems of ethnic conflict throughout Africa have not escaped East Africa, although they have not reached the high levels recently experienced in Rwanda, Sudan, and Somalia. Nevertheless, the arid regions of northern Kenya and Uganda and southern Ethiopia and Sudan have been poorly administered by both colo-

nial and contemporary regimes, and pastoralist peoples have long histories of raids and counterraids against each other. Both Gabra and Boran fled south from Ethiopia during 1914–15 to escape control from Amharic warlords, while Somalis were divided into five different countries (Kenya, British Somaliland, Italian Somaliland, French Djibouti, and Ethiopia). Pastoralists from Sudan, including Karimojong, Turkana, and Teso, pushed south into Uganda and Kenya, finding themselves in conflict with each other and their respective colonial masters. Turkana fought the British in 1916, and Karimojong rebelled against both British and independent Ugandan regimes. During the 1930s the British set up tribal grazing areas in both Uganda and Kenya, with the intention of keeping competing groups apart. But today Karimojong armed with automatic weapons continue to resist Ugandan rule, Turkana find themselves in armed conflict with Pokot and Samburu, and Samburu and Rendille fight against Gabra, Boran, and Somali, who also raid each other. National police occasionally bring order to these regions, but as with the 1996 killing of a Kenyan District Commissioner by Turkana raiders, government forces are often incapable of tracking down cattle rustlers or policing broad, roadless areas.

Pastoral Development Interventions

International development agencies have played an increasingly active role among pastoral populations in East Africa, although they are far from a unified group. Bilateral assistance has focused primarily on economic development, including USAID involvement in the Maasai group ranches in Kenya and Tanzania and CIDA's support of government-run wheat estates in Tanzania. Germany's development corporation GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit) was a major donor to UNESCO's Integrated Project in Arid Lands in northern Kenya, and Scandinavian countries have focused on health and education, and in the case of Norway, a disastrous attempt to develop commercial fishing among Turkana nomads in the 1970s. Nongovernmental organizations (NGOs) have been most active in local and small-scale development programs, including adult literacy and irrigation projects run by the religious organizations World Vision and Food for the Hungry and the Catholic Relief Agency's large-scale support of famine-relief efforts in northern Kenya and Uganda. Nonreligious NGOs including Oxfam and CARE have developed animal restocking programs as well as programs in tree planting and fuel conservation. In addition, the United Nations agencies FAO, UNHCR, WHO, and UNEP engage in health, education, and famine relief projects (Fratkin 1992).

Development policies aimed at pastoralists have undergone several transformations. Under colonial rule, policies began as small-scale efforts to improve water supplies, improve breeds, and establish fixed or rotation-

al grazing. In the 1960s and 1970s, governments attempted to transform localized subsistence pastoralism into market-oriented commercial ranching on a national scale. Large-scale assistance was provided by the World Bank and bilateral agencies as fixed-term interventions, usually for highly capitalized infrastructural projects including roads, slaughter houses, railway transport, mechanized bore holes, dipping facilities, and feed lots, planned by outside technical experts for implementation by national government officers. As with the Maasai in Kenya, these projects also supported privatization and individuation of common herding lands (Hodgson 1999).

These government interventions, ostensibly for economic development and for improving range management and livestock, have been largely unsuccessful and frequently disastrous. As Swift (1991:34) writes,

Land degradation, where it is taking place, has not been halted and has sometimes increased, livestock productivity has not grown although economic inequality has, and vulnerability to food insecurity and loss of tenure rights has increased. Faced with the failure of their policies, many major donors have stopped investing in livestock projects, and some now argue for a policy of benign neglect towards the dry areas on the grounds that little can be done there. During this same period, anthropologists and others have documented the rich array of customary institutions regulating resource use in African pastoral societies. However, there have been few attempts to base modern policies of resource conservation and management on customary ways of doing things. There are clearly many difficulties in doing this, but the failure of alternative policies suggests at least that this option should be tried.

Three examples from Kenya—the Maasai, Boran, and Rendille—illustrate how the processes and pressures of drought and famine, land loss, commoditization, sedentarization, and political conflict are unfolding among pastoralist societies in East Africa.

The Appropriation of Maasai Land

In the nineteenth century, Maasailand stretched in an hourglass shape from northern Kenya down the broad plains of the Rift Valley to the Maasai Steppe of northern Tanzania. Never a single political entity, the Maasai are composed of a dozen independent groups including the Kisongo of Tanzania, and Purko, Loita, and Matapato of Kenya. Colonial intrusion cut Maasai land in half with an international boundary between British Kenya and German Tanganyika in 1885. Treaties in 1904 and 1911 allowed the British to push the Kenyan Maasai south of the Mombassa–Uganda railroad (which passes through Nairobi) onto a single reserve in southern Kenya later administered as Kajiado and Narok Districts. Just as European settlers

took the most fertile agricultural lands from the Kikuyu and Kalenjin, the Maasai lost their prime water and grazing lands for European ranches, particularly near Nairobi around the Ngong Hills and Lakes Naivasha and Nakuru (Spear & Waller 1993).

Confined to 35,000 km² in Kenya and 60,000 km² in Tanzania (60 percent of their precolonial range), the Maasai were further restricted from grazing their cattle in the large game reserves created by the British, including the Serengeti Park and Ngorongoro Crater in Tanzania in 1954 and the Nairobi, Amboseli, Tsavo, Masai Mara, and Samburu National Parks in Kenya (1948–64) (Homewood & Rodgers 1987). Following independence in Kenya in 1963, the Maasai faced competition for land from poor farmers moving off the highland as populations increased dramatically in the 1950s due to improved medical care and above average rainfall. In the Maasai area of Kajiado District in southern Kenya, for example, the population grew from 22,000 (1948) to 86,000 (1969) to 149,000 (1979) to 250,000 (1989), yielding an average annual growth of 3.5 percent. While some of this growth has reflected natural increase among Maasai, most has been due to migration by Kikuyu and Kamba farmers onto Maasai lands as they sought to escape the overcrowding of the central highlands. In 1962 the Maasai constituted 78 percent of Kajiado District's population, but today they are less than half. Much of this land has been leased, rented, or sold outright by Maasai owners, who can no longer graze their animals on their former lands (Campbell 1993).

The ability of Maasai to transfer land individually is a recent phenomenon. In traditional Maasai society, no individual "owned" grazing or water resources; all members of the *oloshon* (territorial section) shared land and water in a given area. Following independence, the Kenyan government began to allocate individual sections of land (usually those with the best pasture and permanent water) to influential members of the community in the belief that individual ranches would better contribute to the national livestock market and would set an example for other Maasai. But few Maasai benefited from the early privatization, nor did they keep their animals from grazing on the private ranches. In 1968, with support from USAID and the World Bank, Kenya proposed "group ranches" that conferred formal and legal land tenure on a community of co-residents. The Maasai in general accepted the group ranch concept as a way to prevent continuing agricultural encroachment on their land and to acquire legal tenure that would enable them to qualify for loans and the development of bore holes and cattle dips. In the 1980s, again with encouragement from the World Bank and its structural adjustment programs, Kenya titled much of the common land in the semi-arid regions to individual owners, usually in 5 to 10 hectare plots for small holders growing maize and other market crops. There has been a virtual stampede of land claims, especially in the Maasai areas of Kajiado and Narok Districts, as farmers as well as Maasai themselves rush to claim title to some land, lest they lose it all. The process of

privatizing land in individual hands has led to permanent loss of common grazing lands through sales to non-Maasai and commercial ventures (Galaty 1992).

In Tanzania, more severe policies were carried out under the socialist policy of *ujamaa* villagization, which led to the burning of Maasai *engangs* (homesteads), confiscation of cattle, and forced movement of populations into "livestock villages" that controlled grazing and water resources (Hodgson 2001). Between 1969 and 1979, USAID and the World Bank funded the Maasai Livestock and Range Management Project, whose \$23 million budget created cattle dips, dams, wells, and roads designed to increase livestock productivity and encourage the Maasai to sell more animals and beef. The project did not result in any substantial increase in livestock sales (at least not in Tanzania, although livestock were smuggled into Kenya for higher prices), and the water and road development contributed to large numbers of immigrant farmers as in Kenya. Pastures quickly became overgrazed as they were forced onto marginal lands or concentrated near the bore holes. Predicting disaster, USAID finally terminated the project in 1979. Although USAID blamed the Maasai for their unwillingness to participate in either the implementation or maintenance of the project's components, the Maasai for their part were satisfied with their improved access to water, veterinary dips, and ranching associations, but not the influx of farmers on their land (Hodgson 1999).

Because of their high savanna productivity suitable for grain agriculture, pastoral lands in southern Kenya and northern Tanzania have been targets for large-scale commercial ranch and farm enterprises. Since 1980, hundreds of thousands of hectares of land have been sold to land speculators and farmers in Narok District, Kenya, where the rich and arable land of the Mau Escarpment is now producing commercial wheat and barley. More recently, Maasai in Kajiado District have seen water from Mt. Kilimanjaro diverted to commercial greenhouses growing flowers for the European market.

In addition to losing land to ranchers and farmers, pastoralists have seen their mobility reduced drastically by the expansion of national game parks. Tourist revenues now provide Kenya with 45 percent and Tanzania with 30 percent of their GDP, and in terms of government influence, international conservation groups rival major corporations and international donors. National governments and their international consultants from environmental groups, following Hardin's tragedy-of-the-commons thesis, blamed domestic cattle for overgrazing and reducing wildlife populations, and Maasai and other herders have been banned from most game parks. In 1959 in Tanzania (then British-ruled Tanganyika), Maasai agreed to abandon the rich plains of the Serengeti National Park (14,760 km²) in exchange for grazing privileges on the external slopes of the Ngorongoro Conservation Area (8,292 km²), but they were prohibited from practicing any cultivation in the area (Shivji & Kapinga 1998). Today the Maasai pas-

toral economy is on the verge of collapse in the Ngorongoro area. Furthermore, the nutritional status of local Maasai, particularly of children, is declining to the point of malnutrition, and without cultivating some maize, they will not be able to survive in the Ngorongoro Conservation Area (McCabe et al. 1992). A Maasai elder complained about the impact of new restrictions:

"As the saying goes, 'Always close a goat's eyes before slitting its throat.' This is similar to what has been happening to us. We have died not just by violence, but by ignorance. . . . The Serengeti agreement said we could move to the highlands and have water supplies. Now that they have succeeded in removing us from Serengeti, they enclose the craters. This is the trend that is threatening us. We approve of absolutely nothing in this plan. This land is our land. The maps used to say 'Maasailand,' not United Nations land. No one can be disinherited from the soil and the trees of his birth. We are not interested in this relief food. It is neither enough nor sustainable. They only smear a little oil on your lips, then they let you go and die. What we demand for the health of our children is subsistence cultivation. . . . If anything is unclear, don't agree. Refuse, even if they threaten to shoot you. Even if they bribe you, don't accept. That money is neither your father nor mother. You should only agree to what is healthy to your people's livelihood. Money has spoiled the world." (Translated by Ndipapa Ole Ikayo, quoted in Ball 1997)

The Boran: The Effects of Civil War

The Boran of Kenya illustrate tragically how political strife and repression have led directly to impoverishment, loss of livelihood, and famine among pastoral peoples. The Boran (population 75,000) are part of the larger Oromo-speaking population of Ethiopia who first entered northern Kenya and the Juba River valley of Somalia in the sixteenth century during a Boran expansion (Schlee 1989). Between 1880 and 1900, large numbers of cattle-herding Boran moved en masse into the Wajir area of northeastern Kenya to escape oppression and forced recruitment by Amharic soldiers expanding the Abyssinian empire of Menelik II. Repeatedly attacked by resident Somalis in Wajir, the Boran were removed by the British to their present location along the Uaso Nyiru River near Isiolo town, where in 1934 a Somali-Boran line was drawn and Isiolo and Wajir Districts were created by the British to keep the two warring groups separated (Hogg 1990). Throughout the twentieth century, Boran from southern Ethiopia continued to migrate into northern Marsabit District, herding cattle and settling around the highland towns of Moyale and Marsabit to find jobs in road building and farming. Whereas Isiolo Boran converted to Islam, the northern Boran kept their traditional religion and *gada* age organization (Oba 1990).

During the colonial era in Kenya, many Boran were successful cattle pastoralists who traded their surplus animals to predominately Somali shopkeepers who marketed beef for growing urban populations and as livestock to European ranchers. As among Somali and Maasai, this increased commoditization of the livestock economy led to the emergence of a new class of "pastoral elite" composed of livestock entrepreneurs, traders, and government headmen and officials. In addition, many Boran adopted agriculture, growing maize and sorghum in the highlands of the Boran plateau in southern Ethiopia and on Mount Marsabit.

The Boran's fortunes turned dramatically following the independence movements of the early 1960s. While Jomo Kenyatta and other nationalist leaders struggled for Kenyan independence from Britain, Somali and other Muslim populations of the North sought to unite with a greater Somali Republic. In 1962 Britain held a plebiscite in the North, where Somali and Muslim Boran from Isiolo, fearing rule by a Christian and Bantu-speaking government, voted to join the new Somalia Republic. However, in March 1963, without consulting the Somalia government, the British announced their decision to make the Northern Frontier District a seventh province in Kenya in order to create a military buffer against Ethiopia and Somalia. Local opposition was swift. Somalis, and their Waso Boran and Sakuye allies in Isiolo, boycotted the Kenyan national elections, after which their political party (the Northern Peoples Progressive Party, or NPPP) was outlawed by President Kenyatta. The Kenyan Somalis called for secession and began armed insurrection which included the mining of roads in Marsabit, Wajir, and Garissa Districts. Non-Muslim Boran, as well as Rendille, Samburu, and Gabra pastoralists, remained loyal to the Kenya government and faced raids by local Somalis. The secession activists became known as *shifita* (from the Amharic word for *bandit*) (Hjort 1979).

The *shifita* secession movement, like that of Biafra secession in Nigeria at the same time, received no support from other African countries (with the exception of Somalia), as the newly formed governments feared fragmentation of their newly won borders. Northern Kenyan guerrillas fought units from the Kenya army and police throughout the 1960s, mining major roads with sophisticated explosives, attacking government officials and missionaries, and halting the economy in many parts of the North. The Kenya government responded with force, aided by British air support stationed in Nanyuki. Muslim populations, including Somali, Sakuye, and Waso Boran, were settled in fifteen "strategic villages" enclosed by barbed wire. Camel herds were shot as "supporting the enemy," and residents found a mile outside the villages were considered *shifita* and arrested or shot (Hogg 1990).

The Waso Boran, concentrated around Isiolo town, were particularly brutalized. The government made large confiscations of their animals whenever a lorry was mined on the roads, and most Boran herds were irreversibly decimated. Between 1963 and 1970, Boran in Isiolo District lost 95 percent of their camels (which reduced them from 200,000 to 6,000), 90

percent of their small stock (from 500,000 to 38,000), and 7 percent of their cattle (from 150,000 to 140,000). Over time, support for the secession declined and emergency restrictions were lifted in 1969 (Hogg 1990).

By 1971, the Boran were in a state of genuine starvation, surviving only by means of the massive famine relief of the Catholic Relief Services, which fed 16,000 Boran in Isiolo alone. Prolonged drought between 1971 and 1973 and again from 1982 to 1984 led to an increase in wage labor and attempts at farming. By 1984 an estimated 40 percent of the Boran and related Sakuye population of Isiolo District lived in poverty conditions in or around the administrative townships, eking out livings as charcoal burners, firewood gatherers, paid herders, night watchmen, or prostitutes. On the whole, forced sedentarization and urbanization for the Boran has meant impoverishment and proletarianization as low-paid wage workers. Traditional social channels of reciprocity, stock loans, and reliance on kin have all but disappeared, and the Waso Boran remain one of the most destitute populations in Kenya (Hogg 1986).

Throughout the 1980s and 1990s, Boran adopted farming and increasingly demarcated and privatized formerly communal lands. On the Kenya Ethiopian border, 200 km² of land has been enclosed for farming, with millet, maize, and teff raised for fodder, home consumption, and sale (Oba 1990).

Following a seven-year project among Boran of southern Ethiopia, the International Livestock Center for Africa (ILCA) concluded that human populations were growing faster than livestock, whose reproductive and dairy productivity were declining due to increasing competition for forage. The ILCA predicted in 1993 that in the absence of any development intervention, the Boran would face increasing food energy deficits approaching declines of 60 percent by the end of the century, leading in turn to permanent and expanding efforts to cultivate, increased offtake of cattle to buy grain, increased out-migration of young men leading to key labor shortages, increased wealth stratification, a growing population of peri-urban poor dependent on dairy sales for survival, and, significantly, decline in the maintenance of traditional rights and responsibilities (Coppock 1993).

The Rendille: Surviving Drought and Development

The Rendille in Marsabit District, northern Kenya, demonstrate another factor that has been impinging on pastoralists: Drought and famine have led to the rapid settling of poor pastoralists in towns and agriculturally productive regions. The Rendille are a population of 25,000 made up of low-land dwelling keepers of camel and small stock and highland cattle keepers called Ariaal, who are bilingual in Rendille and Samburu. Marsabit District is Kenya's largest but least populated area. Annual rainfall is less than

250 mm in the lowlands and 800 mm in the highlands of Mt. Marsabit and the Ndoto Mountains. Formerly, the Rendille lived in large seminomadic settlements of fifty houses or more in the broad desert lowland below Mt. Marsabit, subsisting by means of their camels, which were kept primarily for milk, and their small numbers of goats and sheep, which were sold or traded. In the wet season, one camel could provide ten liters of milk daily, and Rendille and Ariaal depended on their livestock for 70 percent of their wet-season calories (Fratkin 1998; Spencer 1973).

Under British colonial rule, northern Kenyan pastoralists including Rendille, Samburu, Turkana, and Boran were confined to specific "tribal grazing areas" and prohibited from moving onto another group's lands. Many older Rendille today assert that the colonial boundary controls reduced the raiding and periodic killings over water and pasture, events which have reemerged today. Nevertheless, the Rendille herding range was reduced from 57,600 km² to 8,000 km², while the human population grew from about 8,000 to 13,000 between 1960 and 1980 (Sobania 1988).

Following the droughts of 1968–73, many Rendille settled near small trading towns and police posts in the district, including Laisamis, Archer's Post, and Marsabit town. Catholic and Protestant missions began long-term famine distribution efforts and agricultural schemes for destitute nomads, creating the "famine-relief towns" of Kargi and Korr at watering holes in the Kaisut Desert and agricultural schemes for Nasikakwe and Songa on Marsabit Mountain (Fratkin 1991; Smith 1998). In the last fifteen years, these small towns have grown dramatically, and today about 30 percent of the Rendille population are permanently settled.

From 1975 to 1985, the Rendille and Ariaal became targets of a large multilateral project, UNESCO's Integrated Project in Arid Lands (IPAL), which emerged from the 1977 Conference on Desertification and engaged in both scientific research and development efforts. The European donors with IPAL viewed pastoral practices as responsible for overgrazing and land degradation, and they implemented projects aimed at reducing herd size by encouraging more livestock marketing. Funded mainly by Germany's GTZ, IPAL poured \$1.8 million into Marsabit District to create roads, livestock auction sites, wells and pumps, and water catchments, and to improve veterinary care. Despite these measures, neither Rendille nor Ariaal increased their livestock offtake above 10 percent of their herds, which were sold mainly to purchase foods during dry seasons when milk supplies ran low. In 1985, the IPAL project folded and the improvements fell into disuse (Fratkin 1991; Little 1994; O'Leary 1990).

GTZ continued their mission in Marsabit District until 1995, during which time they concentrated on improving agricultural conditions on Marsabit Mountain while abandoning their livestock production program in the pastoral lowlands. Increasing numbers of Rendille and Boran were moving to Marsabit Mountain to adopt agriculture, particularly in response to prolonged droughts of 1982–84, 1992, and 1996. Marsabit town, which

had had a population of 300 in 1936, grew to 4,000 in 1974 and today has a population of 30,000 people, almost a quarter of the district's population. Ethnic conflict has increased in the past decade, particularly between Boran and Rendille farmers, who regularly experience armed attacks on the roads from the agricultural communities to the town center. In addition to engaging in conflict on the mountain, Rendille have faced attacks by Gabra, Turkana, and Somalis raiding camels in the lowlands. The situation is complicated by the larger national political situation, in which the present Kenyan government seems to tolerate, if not encourage, ethnic tensions as a means of maintaining its power.

Between 1990 and 1997 my colleagues and I conducted surveys in five Rendille communities, ranging from fully pastoral to agricultural to famine-relief towns, in order to assess the effects of commoditization and sedentarization on well-being, measured in terms of maternal and child health and nutrition (Fratkin et al. 1999; Nathan et al. 1996). Comparing annual livestock sales data from the famine-relief center of Korrr (n. households = 145) with those of the Ariaal Rendille highland community of Karare (n. households = 251), we found that residents of Korrr, who kept camels and small stock in distant herding camps and sold mainly goats for local consumption, earned one-third the income of highland residents of Karare on Marsabit Mountain, who sold cattle and milk products for both local and national markets.

We also assessed market integration over time for nomadic Rendille, represented by the Ariaal Rendille community of Lewogoso Lukumai, for whom we collected data on livestock ownership and transactions from 1976 to 1996. In 1976, Lewogoso pastoralists sold 11 percent of their cattle and 14 percent of small stock. In 1985, following the severe famine of 1982–84, sales dropped to 8 percent of cattle and 5 percent of small stock. In 1996, Lewogoso sold 26 percent of their cattle and 21 percent of their small stock, a 100 percent increase in cattle sold since 1976. These increased livestock sales, as well as increased prices for animals, raised average Lewogoso household incomes dramatically, from \$175 in 1976 and \$182 in 1985 to \$655 in 1996 (all standardized in 1996 dollars).

The last figure is far in excess of the average livestock sale values recorded in 1995 for sedentary communities of Korrr and Karare. We attribute this dramatic increase in offtake largely to the high costs of maize, health care, and school fees. These costs increased 300 percent between 1976 and 1996, in no small part due to World Bank structural adjustment policies ending price supports. Ariaal Rendille pastoralists sold proportionally larger numbers of their animals in response to greater cash needs, but they may also have done so in response to greater animal surpluses, particularly of small stock in 1996. The ability of nomadic pastoralists to increase their herd size may be related to the out-migration of poorer pastoralists from the livestock economy, allowing fewer pastoral households greater grazing opportunities.

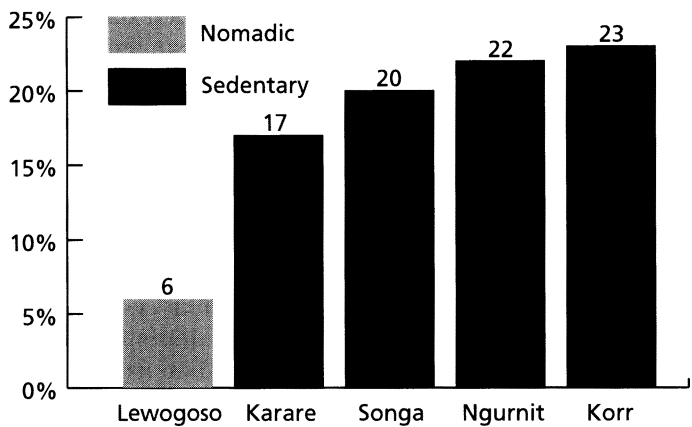


Figure 2: Percentage Malnourished by Community

Recently we published results recording anthropometrics, nutrition, and morbidity data for children and their mothers at three of the five study sites: Korr, Ngrunit, and Lewogoso (Fratkin et al. 1999). These constitute cross-sectional data gathered at the same point of the annual cycle over three years and include both “normal” years of about 500 mm of rain and a “drought” year during which total rainfall was less than 250 mm. The lack of rainfall translates into decreased forage production, reduced milk production, and low levels of fat and protein consumption at a time of increased human activity associated with longer distances to take animals to find graze and water.

It was our working hypothesis that commoditization or agriculture under sedentary conditions would alleviate drought stress by providing a more consistent diet through purchases or production of grain. We were wrong. We calculated the percentage of children who were malnourished, defined as falling below two negative standard deviations from the median values of the reference population for the World Health Organization (1983) reference standards for the age-independent measurement of weight-for-height. Results show far fewer cases of child malnutrition in the nomadic pastoral Ariaal community of Lewogoso than in any of the other, sedentary communities.

As shown in the table above, all sedentary communities (Karare, Songa, Korr, and Ngrunit) show far higher levels of malnutrition than the pastoral community of Lewogoso. There were no significant differences among communities with respect to morbidity data, represented by maternal reports of the number of days their children were ill with respiratory infections, fevers, and/or diarrhea in the past two weeks. What clearly dif-

ferentiates the nomadic from the sedentary communities is the higher consumption of milk; children in Lewogoso consumed on average over ten times the amount of milk (3.2 versus 0.3 cups) consumed by children in the agricultural community of Songa.

We interpret these results as showing that even in a drought year, access to their camel herds provides nomadic Rendille children with ample amounts of protein-rich milk in order to continue satisfactory rates of growth. In contrast, children's diet in sedentary Rendille communities reflects the separation of households from their livestock, which are herded at some distance from these centers. Although containing adequate carbohydrates and fats, children's diets in the sedentary communities are uniformly poor in protein, and consequently the children fail to maintain adequate growth. Rather than showing the expected improvement with sedentarization, child nutrition and growth patterns are worse in comparison with the pastoral communities subsisting on livestock products.

Conclusion and Recommendations

East African pastoralists face major problems of land loss and restrictions brought about by demographic pressures of growing populations (of farmers, herders, domestic livestock, and wildlife), expansion of commercial ranches, wheat estates, and game parks, and increased political insecurity and ethnic conflict. Among Maasai, land loss and increased commercial activity has led to an increased polarization between rich and poor pastoralists, with a wealthy few able to purchase land titles and cattle, and many poor and landless Maasai ending up as herding laborers or migrants to urban areas. In the more arid regions of northern Kenya, Uganda, and southern Ethiopia, pastoral populations such as the Boran and Rendille face increased ethnic conflict and competition for pasture, water, and farmlands. Nevertheless, these northern pastoralists are following in the direction of the Maasai toward increased agro-pastoralism, commoditization of their economy, and sedentarization.

Our studies of the Rendille demonstrate that the settling of pastoralists leads to declines in women and children's health and nutrition, even with the adoption of agriculture. On a positive side, the growth of farms and towns provides an outlet for population growth in the pastoral areas, as well as a market source for increased livestock offtake, which helps conserve pastoral resources and provide regular calories in grains. In addition, there are benefits of sedentarization, including access to health care, famine relief foods, educational opportunities, and police protection, all of which provide physical security against famine and conflict.

Despite its risks, livestock pastoralism continues to offer a viable food production strategy for people living in arid regions of Africa. While many pastoralists are adopting cultivation and settling in or near towns, the

majority of pastoralists among Maasai, Boran, and Rendille continue to subsist on traditional pastoral production of their livestock herds. Development agencies and national governments should seek ways to improve pastoralist production that build on pastoralists' knowledge and practices. In particular, this means ensuring access to widely held pastures, improving market conditions for livestock, and acknowledging the importance of cultivation to pastoral livelihoods.

The International Centre on Livestock in Africa (Coppock 1993) recommends several concrete measures for improving pastoral production:

1. Promotion of grazing management schemes tailored to meet needs of specific communities
2. Forage production and storage for local grasses
3. Improved management of cultivated fields
4. Improved availability and distribution of veterinary medicines
5. Promotion of herd diversification to include more small stock and camels
6. Promotion of local grain storage funded by livestock sales
7. Improvement of water resources through construction of wells and ponds, with heavy machinery paid for by community livestock sales
8. Access to foreign exchange to support acquisition of fuel, spare parts, chemicals and veterinary inputs
9. Allocation of appropriate sites to be used for sustainable cultivation and charcoal production
10. Risk management of livestock in the form of simple savings accounts and employment on public works projects during droughts
11. The creation of reasonably staffed and equipped range development offices

To these I would add that pastoralists must be assured their legal rights to, and protection of, their communally shared resources. Included in this should be an accommodation with wildlife interests, allowing pastoralists access to customary resources located within national game parks as well as benefits from the tourism revenues accrued by these parks (Western 1994). Finally, pastoralists should not be treated as a monolithic cultural type opposed to cultivation, as agriculture has historically played a crucial role in providing grains during periods of low livestock productivity. Livestock pastoralism remains an important adaptation to the grasslands of East Africa; the ability of pastoralists to survive in the future depends on the actions of national governments as well as the agency of pastoral peoples and their advocates.

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